

Arconic Spectrochemical Reference Materials

09/22/2020

SS 1000 AJ

Certified Date: 03/06/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1000	AJ	Si	0.00008	0.00005
		Fe	0.00000	0.00005
		Cu	0.00003	0.00003
		Mn	0.00000	0.00003
		Mg	0.00005	0.00003
		Cr	0.00003	0.00003
		Ni	0.00000	0.00003
		Zn	0.00002	0.00003
		Ti	0.00001	0.00003
		Ag	0.00000	0.00003
		As	(0.00000)	
		B	0.00002	0.00003
		Be	0.00000	0.00003
		Bi	0.00002	0.00003
		Ca	0.00001	0.00003
		Cd	0.00000	0.00003
		Co	0.00000	0.00003
		Ga	0.00000	0.00003
		Li	0.00000	0.00003
		Na	0.00002	0.00003
		P	(0.00004)	
		Pb	0.00003	0.00003
		Sb	(0.00000)	
		Sc	(0.00000)	
		Sn	0.00002	0.00003
		Sr	0.00000	0.00003
		V	0.00001	0.00003
		Zr	0.00000	0.00003

SS 1000 AK

Certified Date: 03/06/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1000	AK	Si	0.00021	0.00005
		Fe	0.00015	0.00005
		Cu	0.00003	0.00003
		Mn	0.00000	0.00003
		Mg	0.00007	0.00003
		Cr	0.00003	0.00003
		Ni	0.00001	0.00003
		Zn	0.00004	0.00003
		Ti	0.00001	0.00003
		Ag	0.00000	0.00003
		As	(0.00000)	
		B	0.00002	0.00003
		Be	0.00000	0.00003
		Bi	0.00002	0.00003
		Ca	0.00001	0.00003
		Cd	0.00000	0.00003
		Co	0.00002	0.00003
		Ga	0.00001	0.00003
		Li	0.00000	0.00003
		Na	0.00000	0.00003
		P	(0.00004)	
		Pb	0.00002	0.00003
		Sb	(0.00000)	
		Sc	(0.00001)	
		Sn	0.00001	0.00003
		Sr	0.00000	0.00003
		V	0.00000	0.00003
		Zr	0.00000	0.00003

SS 1000 AL

Certified Date: 03/06/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1000	AL	Si	0.00021	0.00005
		Fe	0.00015	0.00005
		Cu	0.00003	0.00003
		Mn	0.00000	0.00003
		Mg	0.00007	0.00003
		Cr	0.00003	0.00003
		Ni	0.00001	0.00003
		Zn	0.00004	0.00003
		Ti	0.00001	0.00003
		Ag	0.00000	0.00003
		As	(0.00000)	
		B	0.00002	0.00003
		Be	0.00000	0.00003
		Bi	0.00002	0.00003
		Ca	0.00001	0.00003
		Cd	0.00000	0.00003
		Co	0.00002	0.00003
		Ga	0.00001	0.00003
		Li	0.00000	0.00003
		Na	0.00000	0.00003
		P	(0.00004)	
		Pb	0.00002	0.00003
		Sb	(0.00000)	
		Sc	(0.00001)	
		Sn	0.00001	0.00003
		Sr	0.00000	0.00003
		V	0.00000	0.00003
		Zr	0.00000	0.00003

Arconic Spectrochemical Reference Materials

09/22/2020

WA 1000 AL

Certified Date: 12/20/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-1000	AL	Si	0.101	0.004
		Fe	0.0972	0.0015
		Cu	0.0105	0.0004
		Mn	0.0105	0.0004
		Mg	0.0101	0.0005
		Cr	0.0103	0.0004
		Ni	0.0102	0.0004
		Zn	0.0101	0.0004
		Ti	0.0106	0.0004
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0096	0.0004
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0002	0.0002
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0005)	
		Pb	0.0110	0.0008
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0104	0.0006
		Sr	0.0000	0.0002
		V	0.0097	0.0004
		Zr	0.0001	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WA 1000 AM

Certified Date: 12/20/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-1000	AM	Si	0.101	0.004
		Fe	0.0972	0.0015
		Cu	0.0105	0.0004
		Mn	0.0105	0.0004
		Mg	0.0101	0.0005
		Cr	0.0103	0.0004
		Ni	0.0102	0.0004
		Zn	0.0101	0.0004
		Ti	0.0106	0.0004
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0096	0.0004
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0002	0.0002
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0005)	
		Pb	0.0110	0.0008
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0104	0.0006
		Sr	0.0000	0.0002
		V	0.0097	0.0004
		Zr	0.0001	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WA 1000 AN

Certified Date: 03/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-1000	AN	Si	0.101	0.002
		Fe	0.104	0.002
		Cu	0.0107	0.0004
		Mn	0.0102	0.0004
		Mg	0.0101	0.0005
		Cr	0.0106	0.0004
		Ni	0.0097	0.0004
		Zn	0.0101	0.0004
		Ti	0.0094	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0102	0.0004
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0002	0.0002
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0002)	
		Pb	0.0102	0.0004
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0103	0.0007
		Sr	0.0000	0.0002
		V	0.0098	0.0004
		Zr	0.0000	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WA 1000 AP

Certified Date: 03/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-1000	AP	Si	0.101	0.002
		Fe	0.104	0.002
		Cu	0.0107	0.0004
		Mn	0.0102	0.0004
		Mg	0.0101	0.0005
		Cr	0.0106	0.0004
		Ni	0.0097	0.0004
		Zn	0.0101	0.0004
		Ti	0.0094	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0102	0.0004
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0002	0.0002
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0002)	
		Pb	0.0102	0.0004
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0103	0.0007
		Sr	0.0000	0.0002
		V	0.0098	0.0004
		Zr	0.0000	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WB 1000 AJ

Certified Date: 10/12/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-1000	AJ	Si	0.098	0.002
		Fe	0.101	0.002
		Cu	0.0303	0.0005
		Mn	0.0320	0.0005
		Mg	0.0303	0.0005
		Cr	0.0301	0.0005
		Ni	0.0297	0.0006
		Zn	0.0298	0.0005
		Ti	0.0304	0.0005
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0298	0.0005
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0202	0.0004
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0003)	
		Pb	0.0300	0.0005
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.029	0.002
		Sr	0.0000	0.0002
		V	0.0202	0.0005
		Zr	0.0009	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WB 1000 AK

Certified Date: 02/25/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-1000	AK	Si	0.101	0.002
		Fe	0.100	0.002
		Cu	0.031	0.002
		Mn	0.0318	0.0005
		Mg	0.0308	0.0005
		Cr	0.0301	0.0005
		Ni	0.0289	0.0004
		Zn	0.0294	0.0009
		Ti	0.0300	0.0006
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.031	0.001
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0205	0.0006
		Li	0.00000	0.00005
		Na	0.00005	0.00005
		P	(0.0000)	
		Pb	0.031	0.001
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.030	0.002
		Sr	0.0000	0.0002
		V	0.0209	0.0007
		Zr	0.0004	0.0002

WB 1000 AL

Certified Date: 02/25/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-1000	AL	Si	0.101	0.002
		Fe	0.100	0.002
		Cu	0.031	0.002
		Mn	0.0318	0.0005
		Mg	0.0308	0.0005
		Cr	0.0301	0.0005
		Ni	0.0289	0.0004
		Zn	0.0294	0.0009
		Ti	0.0300	0.0006
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.031	0.001
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0205	0.0006
		Li	0.00000	0.00005
		Na	0.00005	0.00005
		P	(0.0000)	
		Pb	0.031	0.001
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.030	0.002
		Sr	0.0000	0.0002
		V	0.0209	0.0007
		Zr	0.0004	0.0002

WC 1000 AG

Certified Date: 12/10/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WC-1000	AG	Si	0.102	0.002
		Fe	0.108	0.003
		Cu	0.0796	0.0009
		Mn	0.0802	0.0009
		Mg	0.0790	0.0015
		Cr	0.0801	0.0009
		Ni	0.0729	0.0009
		Zn	0.0799	0.0009
		Ti	0.0782	0.0009
		Ag	0.0000	0.0002
		As	0.0001	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0726	0.0012
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0200	0.0005
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0000)	
		Pb	0.067	0.002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.081	0.002
		Sr	0.0002	0.0002
		V	0.0387	0.0006
		Zr	0.0005	0.0002

WC 1000 AH

Certified Date: 12/10/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WC-1000	AH	Si	0.102	0.002
		Fe	0.108	0.003
		Cu	0.0796	0.0009
		Mn	0.0802	0.0009
		Mg	0.0790	0.0015
		Cr	0.0801	0.0009
		Ni	0.0729	0.0009
		Zn	0.0799	0.0009
		Ti	0.0782	0.0009
		Ag	0.0000	0.0002
		As	0.0001	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0726	0.0012
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0200	0.0005
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0000)	
		Pb	0.067	0.002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.081	0.002
		Sr	0.0002	0.0002
		V	0.0387	0.0006
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WD 1000 Y

Certified Date: 11/13/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WD-1000	Y	Si	0.0040	0.0004
		Fe	0.0042	0.0004
		Cu	0.0042	0.0004
		Mn	0.0040	0.0004
		Mg	0.0041	0.0004
		Cr	0.0044	0.0004
		Ni	0.0039	0.0004
		Zn	0.0042	0.0004
		Ti	0.0040	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0041	0.0004
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0042	0.0004
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0006)	
		Pb	0.0040	0.0004
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0039	0.0004
		Sr	0.0000	0.0002
		V	0.0042	0.0004
		Zr	0.0000	0.0002

WE 1000 AG

Certified Date: 06/16/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WE-1000	AG	Si	0.0096	0.0004
		Fe	0.0103	0.0004
		Cu	0.0102	0.0004
		Mn	0.0100	0.0004
		Mg	0.0103	0.0004
		Cr	0.0109	0.0004
		Ni	0.0101	0.0004
		Zn	0.0104	0.0004
		Ti	0.0100	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0098	0.0004
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0100	0.0004
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0001)	
		Pb	0.0100	0.0008
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0099	0.0004
		Sr	0.0000	0.0002
		V	0.0057	0.0004
		Zr	0.0000	0.0002

WE 1000 AH

Certified Date: 08/13/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WE-1000	AH	Si	0.0114	0.0004
		Fe	0.0108	0.0004
		Cu	0.0100	0.0004
		Mn	0.0086	0.0004
		Mg	0.0102	0.0004
		Cr	0.0104	0.0004
		Ni	0.0097	0.0004
		Zn	0.0108	0.0004
		Ti	0.0101	0.0004
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0100	0.0004
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0099	0.0004
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0003)	
		Pb	0.0104	0.0006
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0101	0.0005
		Sr	0.0000	0.0002
		V	0.0109	0.0004
		Zr	0.0000	0.0002

WE 1000 AJ

Certified Date: 08/13/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WE-1000	AJ	Si	0.0114	0.0004
		Fe	0.0108	0.0004
		Cu	0.0100	0.0004
		Mn	0.0086	0.0004
		Mg	0.0102	0.0004
		Cr	0.0104	0.0004
		Ni	0.0097	0.0004
		Zn	0.0108	0.0004
		Ti	0.0101	0.0004
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0100	0.0004
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0099	0.0004
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0003)	
		Pb	0.0104	0.0006
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0101	0.0005
		Sr	0.0000	0.0002
		V	0.0109	0.0004
		Zr	0.0000	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 1020 B

Certified Date: 08/06/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1020	B	Si	0.080	0.003
		Fe	0.150	0.003
		Cu	0.0002	0.0002
		Mn	0.0011	0.0002
		Mg	0.0003	0.0002
		Cr	0.0003	0.0002
		Ni	0.0018	0.0003
		Zn	0.0021	0.0004
		Ti	0.0033	0.0004
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0144	0.0004
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	(0.0000)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0114	0.0004
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 1020 C

Certified Date: 08/06/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1020	C	Si	0.080	0.003
		Fe	0.150	0.003
		Cu	0.0002	0.0002
		Mn	0.0011	0.0002
		Mg	0.0003	0.0002
		Cr	0.0003	0.0002
		Ni	0.0018	0.0003
		Zn	0.0021	0.0004
		Ti	0.0033	0.0004
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0144	0.0004
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	(0.0000)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0114	0.0004
		Zr	0.0006	0.0002

SS 1050 DF

Certified Date: 03/25/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1050	DF	Si	0.119	0.005
		Fe	0.302	0.006
		Cu	0.0400	0.0008
		Mn	0.0003	0.0002
		Mg	0.0003	0.0002
		Cr	0.0002	0.0002
		Ni	0.0001	0.0002
		Zn	0.0001	0.0002
		Ti	0.0002	0.0002
		Ag	0.0011	0.0004
		As	0.0068	0.0009
		B	0.0000	0.0002
		Be	0.0011	0.0004
		Bi	0.0011	0.0004
		Ca	0.0000	0.0002
		Cd	0.0010	0.0004
		Co	0.0010	0.0004
		Ga	0.0202	0.0005
		Li	0.00000	0.00003
		Na	0.00000	0.00003
		P	0.0001	0.0002
		Pb	0.0000	0.0002
		Sb	0.0012	0.0004
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0013	0.0004
		V	0.0090	0.0006
		Zr	0.0013	0.0004

SS 1050 DH

Certified Date: 03/25/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1050	DH	Si	0.119	0.005
		Fe	0.300	0.006
		Cu	0.0400	0.0008
		Mn	0.0003	0.0002
		Mg	0.0003	0.0002
		Cr	0.0001	0.0002
		Ni	0.0001	0.0002
		Zn	0.0001	0.0002
		Ti	0.0002	0.0002
		Ag	0.0010	0.0004
		As	0.0085	0.0006
		B	0.0001	0.0002
		Be	0.0005	0.0002
		Bi	0.0011	0.0004
		Ca	0.0000	0.0002
		Cd	0.0013	0.0004
		Co	0.0010	0.0004
		Ga	0.0202	0.0005
		Li	0.00000	0.00003
		Na	0.00000	0.00003
		P	0.0001	0.0002
		Pb	0.0000	0.0002
		Sb	0.0012	0.0004
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0013	0.0004
		V	0.0100	0.0007
		Zr	0.0013	0.0004

SS 1050 DK

Certified Date: 08/20/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1050	DK	Si	0.120	0.003
		Fe	0.301	0.005
		Cu	0.0398	0.0006
		Mn	0.0006	0.0002
		Mg	0.0003	0.0002
		Cr	0.0004	0.0002
		Ni	0.0016	0.0002
		Zn	0.0010	0.0002
		Ti	0.0027	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0198	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0000)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0101	0.0004
		Zr	0.0003	0.0002

SS 1050 DL

Certified Date: 08/20/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1050	DL	Si	0.120	0.003
		Fe	0.298	0.005
		Cu	0.0397	0.0006
		Mn	0.0006	0.0002
		Mg	0.0003	0.0002
		Cr	0.0004	0.0002
		Ni	0.0016	0.0002
		Zn	0.0011	0.0002
		Ti	0.0027	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0199	0.0004
		Li	0.00000	0.00005
		Na	0.00006	0.00005
		P	(0.0000)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0101	0.0004
		Zr	0.0003	0.0002

SS 1050 DM

Certified Date: 08/20/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1050	DM	Si	0.120	0.003
		Fe	0.298	0.005
		Cu	0.0397	0.0006
		Mn	0.0006	0.0002
		Mg	0.0003	0.0002
		Cr	0.0004	0.0002
		Ni	0.0016	0.0002
		Zn	0.0011	0.0002
		Ti	0.0027	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0199	0.0004
		Li	0.00000	0.00005
		Na	0.00006	0.00005
		P	(0.0000)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0101	0.0004
		Zr	0.0003	0.0002

SS 1050 DN

Certified Date: 08/20/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1050	DN	Si	0.120	0.003
		Fe	0.297	0.005
		Cu	0.0394	0.0007
		Mn	0.0006	0.0002
		Mg	0.0003	0.0002
		Cr	0.0005	0.0002
		Ni	0.0016	0.0002
		Zn	0.0012	0.0002
		Ti	0.0028	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0004	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0198	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0000)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0100	0.0004
		Zr	0.0003	0.0002

SS 1050 DP

Certified Date: 08/20/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1050	DP	Si	0.120	0.003
		Fe	0.297	0.005
		Cu	0.0394	0.0007
		Mn	0.0006	0.0002
		Mg	0.0003	0.0002
		Cr	0.0005	0.0002
		Ni	0.0016	0.0002
		Zn	0.0012	0.0002
		Ti	0.0028	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0004	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0198	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0000)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0100	0.0004
		Zr	0.0003	0.0002

SS 1075 FB

Certified Date: 05/30/2013

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1075	FB	Si	0.0684	0.0009
		Fe	0.120	0.009
		Cu	0.0007	0.0002
		Mn	0.0008	0.0002
		Mg	0.0003	0.0002
		Cr	0.0000	0.0002
		Ni	0.0001	0.0002
		Zn	0.0003	0.0002
		Ti	0.0007	0.0002
		Ag	0.0031	0.0004
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.0015	0.0004
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0033	0.0004
		Co	0.0030	0.0004
		Ga	0.0198	0.0006
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0001	0.0002
		Pb	0.0001	0.0002
		Sb	0.0035	0.0006
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0044	0.0005
		V	0.0313	0.0008
		Zr	0.0032	0.0004

SS 1075 FC

Certified Date: 11/23/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1075	FC	Si	0.068	0.003
		Fe	0.112	0.005
		Cu	0.0005	0.0002
		Mn	0.0008	0.0002
		Mg	0.0002	0.0002
		Cr	0.0000	0.0002
		Ni	0.0001	0.0002
		Zn	0.0003	0.0002
		Ti	0.0007	0.0002
		Ag	0.0030	0.0004
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0015	0.0004
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0031	0.0004
		Co	0.0032	0.0004
		Ga	0.0194	0.0008
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0006)	
		Pb	0.0001	0.0002
		Sb	0.0012	0.0004
		Sc	(0.0000)	
		Sn	0.0000	0.0002
		Sr	0.0033	0.0004
		V	0.0322	0.0006
		Zr	0.0031	0.0004

SS 1075 FF

Certified Date: 11/23/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1075	FF	Si	0.068	0.003
		Fe	0.121	0.006
		Cu	0.0005	0.0002
		Mn	0.0009	0.0002
		Mg	0.0003	0.0002
		Cr	0.0000	0.0002
		Ni	0.0001	0.0002
		Zn	0.0005	0.0002
		Ti	0.0007	0.0002
		Ag	0.0030	0.0004
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0015	0.0004
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0031	0.0004
		Co	0.0032	0.0004
		Ga	0.0194	0.0008
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0007)	
		Pb	0.0001	0.0002
		Sb	0.0030	0.0004
		Sc	(0.0000)	
		Sn	0.0000	0.0002
		Sr	0.0032	0.0004
		V	0.0318	0.0006
		Zr	0.0033	0.0004

SS 1075 FG

Certified Date: 11/23/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1075	FG	Si	0.068	0.003
		Fe	0.124	0.005
		Cu	0.0005	0.0002
		Mn	0.0008	0.0002
		Mg	0.0003	0.0002
		Cr	0.0000	0.0002
		Ni	0.0001	0.0002
		Zn	0.0003	0.0002
		Ti	0.0006	0.0002
		Ag	0.0030	0.0004
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0014	0.0004
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0030	0.0004
		Co	0.0032	0.0004
		Ga	0.0194	0.0008
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0006)	
		Pb	0.0001	0.0002
		Sb	0.0030	0.0004
		Sc	(0.0000)	
		Sn	0.0000	0.0002
		Sr	0.0034	0.0004
		V	0.0301	0.0006
		Zr	0.0030	0.0004

SS 1075 FH

Certified Date: 11/23/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1075	FH	Si	0.068	0.003
		Fe	0.124	0.005
		Cu	0.0005	0.0002
		Mn	0.0008	0.0002
		Mg	0.0003	0.0002
		Cr	0.0000	0.0002
		Ni	0.0001	0.0002
		Zn	0.0003	0.0002
		Ti	0.0006	0.0002
		Ag	0.0030	0.0004
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0014	0.0004
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0030	0.0004
		Co	0.0032	0.0004
		Ga	0.0194	0.0008
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0006)	
		Pb	0.0001	0.0002
		Sb	0.0030	0.0004
		Sc	(0.0000)	
		Sn	0.0000	0.0002
		Sr	0.0034	0.0004
		V	0.0301	0.0006
		Zr	0.0030	0.0004

SS 1100 GE

Certified Date: 01/24/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1100	GE	Si	0.182	0.009
		Fe	0.501	0.007
		Cu	0.152	0.003
		Mn	0.0420	0.0006
		Mg	0.0301	0.0005
		Cr	0.0005	0.0002
		Ni	0.0038	0.0004
		Zn	0.0800	0.0009
		Ti	0.0199	0.0006
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0205	0.0005
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0103	0.0004
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WA 1100 X

Certified Date: 10/04/2013

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-1100	X	Si	0.120	0.005
		Fe	0.280	0.007
		Cu	0.199	0.005
		Mn	0.0764	0.0009
		Mg	0.050	0.003
		Cr	0.0002	0.0002
		Ni	0.0027	0.0005
		Zn	0.0205	0.0006
		Ti	0.0401	0.0009
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00001	0.00003
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0204	0.0004
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0003	0.0002
		Pb	0.0007	0.0003
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0109	0.0005
		Zr	0.0010	0.0003

Arconic Spectrochemical Reference Materials

09/22/2020

WB 1100 AD

Certified Date: 08/28/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-1100	AD	Si	0.221	0.005
		Fe	0.602	0.009
		Cu	0.099	0.002
		Mn	0.0235	0.0004
		Mg	0.0101	0.0004
		Cr	0.0008	0.0002
		Ni	0.0017	0.0002
		Zn	0.040	0.001
		Ti	0.0094	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0003	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0197	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0104	0.0004
		Zr	0.0004	0.0002

WB 1100 AE

Certified Date: 08/28/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-1100	AE	Si	0.221	0.005
		Fe	0.602	0.009
		Cu	0.099	0.002
		Mn	0.0235	0.0004
		Mg	0.0101	0.0004
		Cr	0.0008	0.0002
		Ni	0.0017	0.0002
		Zn	0.040	0.001
		Ti	0.0094	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0003	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0197	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0104	0.0004
		Zr	0.0004	0.0002

SS 1188 DX

Certified Date: 04/17/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1188	DX	Si	0.038	0.002
		Fe	0.065	0.003
		Cu	0.0001	0.0002
		Mn	0.0050	0.0004
		Mg	0.0102	0.0006
		Cr	0.0003	0.0002
		Ni	0.0018	0.0004
		Zn	0.0098	0.0004
		Ti	0.0099	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0194	0.0008
		Li	0.00000	0.00005
		Na	0.00005	0.00005
		P	(0.0000)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0106	0.0004
		Zr	0.0002	0.0002

SS 1188 DY

Certified Date: 04/17/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1188	DY	Si	0.038	0.002
		Fe	0.065	0.003
		Cu	0.0001	0.0002
		Mn	0.0050	0.0004
		Mg	0.0102	0.0006
		Cr	0.0003	0.0002
		Ni	0.0018	0.0004
		Zn	0.0098	0.0004
		Ti	0.0099	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0194	0.0008
		Li	0.00000	0.00005
		Na	0.00005	0.00005
		P	(0.0000)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0106	0.0004
		Zr	0.0002	0.0002

SS 1188 DZ

Certified Date: 04/18/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1188	DZ	Si	0.039	0.002
		Fe	0.058	0.002
		Cu	0.0001	0.0002
		Mn	0.0052	0.0004
		Mg	0.0104	0.0006
		Cr	0.0003	0.0002
		Ni	0.0019	0.0004
		Zn	0.0101	0.0004
		Ti	0.0097	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0193	0.0007
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0099	0.0004
		Zr	0.0003	0.0002

SS 1188 EA

Certified Date: 04/18/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-1188	EA	Si	0.039	0.002
		Fe	0.058	0.002
		Cu	0.0001	0.0002
		Mn	0.0052	0.0004
		Mg	0.0104	0.0006
		Cr	0.0003	0.0002
		Ni	0.0019	0.0004
		Zn	0.0101	0.0004
		Ti	0.0097	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0193	0.0007
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0099	0.0004
		Zr	0.0003	0.0002

WA 1199 BP

Certified Date: 12/30/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-1199	BP	Si	0.0020	0.0004
		Fe	0.0019	0.0004
		Cu	0.0011	0.0003
		Mn	0.0010	0.0003
		Mg	0.0012	0.0003
		Cr	0.0011	0.0003
		Ni	0.0011	0.0003
		Zn	0.0009	0.0003
		Ti	0.0010	0.0003
		Ag	0.0010	0.0003
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.0005	0.0002
		Bi	0.0011	0.0004
		Ca	0.0000	0.0002
		Cd	0.0010	0.0004
		Co	0.0011	0.0004
		Ga	0.0011	0.0004
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0001)	
		Pb	0.0029	0.0004
		Sb	0.0030	0.0004
		Sc	(0.0000)	
		Sn	0.0012	0.0004
		Sr	0.0000	0.0002
		V	0.0010	0.0003
		Zr	0.0010	0.0003

SS 2011 BG

Certified Date: 09/13/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2011	BG	Si	0.298	0.005
		Fe	0.545	0.008
		Cu	5.52	0.08
		Mn	0.0429	0.0006
		Mg	0.040	0.001
		Cr	0.0412	0.0006
		Ni	0.0380	0.0006
		Zn	0.100	0.002
		Ti	0.0023	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.496	0.007
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0197	0.0004
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	(0.0001)	
		Pb	0.503	0.008
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0098	0.0004
		Zr	0.0007	0.0002

SS 2011 BH

Certified Date: 09/13/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2011	BH	Si	0.298	0.005
		Fe	0.538	0.008
		Cu	5.52	0.08
		Mn	0.0388	0.0006
		Mg	0.040	0.001
		Cr	0.0376	0.0006
		Ni	0.0382	0.0006
		Zn	0.100	0.002
		Ti	0.0024	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.474	0.007
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0197	0.0004
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	(0.0000)	
		Pb	0.455	0.007
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0099	0.0004
		Zr	0.0007	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WA 2011 M

Certified Date: 01/10/2012

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-2011	M	Si	0.194	0.007
		Fe	0.685	0.006
		Cu	4.88	0.04
		Mn	0.053	0.003
		Mg	0.0205	0.0006
		Cr	0.057	0.003
		Ni	0.0203	0.0009
		Zn	0.142	0.006
		Ti	0.0028	0.0004
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.60	0.01
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.020	0.001
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0003	0.0002
		Pb	0.402	0.005
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0108	0.0008
		Zr	0.0009	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WA 2011 N

Certified Date: 07/12/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-2011	N	Si	0.200	0.005
		Fe	0.697	0.009
		Cu	4.90	0.07
		Mn	0.0625	0.0009
		Mg	0.0213	0.0004
		Cr	0.0606	0.0009
		Ni	0.0192	0.0006
		Zn	0.146	0.004
		Ti	0.0026	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.589	0.009
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0198	0.0004
		Li	0.00000	0.00005
		Na	0.00003	0.00005
		P	(0.0000)	
		Pb	0.366	0.007
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0103	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WA 2011 P

Certified Date: 07/12/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-2011	P	Si	0.200	0.005
		Fe	0.697	0.009
		Cu	4.90	0.07
		Mn	0.0625	0.0009
		Mg	0.0213	0.0004
		Cr	0.0606	0.0009
		Ni	0.0192	0.0006
		Zn	0.146	0.004
		Ti	0.0026	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.589	0.009
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0198	0.0004
		Li	0.00000	0.00005
		Na	0.00003	0.00005
		P	(0.0000)	
		Pb	0.366	0.007
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0103	0.0004
		Zr	0.0005	0.0002

WB 2011 P

Certified Date: 02/19/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-2011	P	Si	0.395	0.006
		Fe	0.245	0.005
		Cu	5.99	0.09
		Mn	0.0183	0.0004
		Mg	0.061	0.002
		Cr	0.0205	0.0006
		Ni	0.0560	0.0009
		Zn	0.0503	0.0008
		Ti	0.0027	0.0004
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.385	0.006
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0190	0.0005
		Li	0.00000	0.00005
		Na	0.00012	0.00005
		P	(0.0000)	
		Pb	0.565	0.009
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0100	0.0004
		Zr	0.0008	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

WB 2011 R

Certified Date: 02/19/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-2011	R	Si	0.395	0.006
		Fe	0.245	0.005
		Cu	5.99	0.09
		Mn	0.0183	0.0004
		Mg	0.061	0.002
		Cr	0.0205	0.0006
		Ni	0.0560	0.0009
		Zn	0.0503	0.0008
		Ti	0.0027	0.0004
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.385	0.006
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0190	0.0005
		Li	0.00000	0.00005
		Na	0.00012	0.00005
		P	(0.0000)	
		Pb	0.565	0.009
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0100	0.0004
		Zr	0.0008	0.0004

SS 2014 CA

Certified Date: 08/09/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2014	CA	Si	0.972	0.009
		Fe	0.490	0.007
		Cu	4.42	0.07
		Mn	0.796	0.009
		Mg	0.543	0.008
		Cr	0.0435	0.0009
		Ni	0.0378	0.0006
		Zn	0.122	0.002
		Ti	0.0285	0.0005
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0004
		Li	0.00000	0.00005
		Na	0.00004	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	0.0001	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0107	0.0004
		Zr	0.0007	0.0002

SS 2014 CB

Certified Date: 08/09/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2014	CB	Si	0.972	0.009
		Fe	0.490	0.007
		Cu	4.42	0.07
		Mn	0.796	0.009
		Mg	0.543	0.008
		Cr	0.0435	0.0009
		Ni	0.0378	0.0006
		Zn	0.122	0.002
		Ti	0.0285	0.0005
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0004
		Li	0.00000	0.00005
		Na	0.00004	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	0.0001	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0107	0.0004
		Zr	0.0007	0.0002

SS 2017 AB

Certified Date: 08/08/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2017	AB	Si	0.588	0.009
		Fe	0.433	0.006
		Cu	3.97	0.06
		Mn	0.600	0.009
		Mg	0.591	0.009
		Cr	0.0495	0.0007
		Ni	0.0283	0.0004
		Zn	0.0689	0.0009
		Ti	0.0299	0.0008
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0210	0.0005
		Li	0.00000	0.00005
		Na	0.00006	0.00005
		P	(0.0002)	
		Pb	0.0001	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0125	0.0004
		Zr	0.0007	0.0002

WA 2017 K

Certified Date: 11/20/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-2017	K	Si	0.740	0.009
		Fe	0.623	0.009
		Cu	3.47	0.05
		Mn	0.400	0.006
		Mg	0.74	0.02
		Cr	0.0200	0.0004
		Ni	0.057	0.002
		Zn	0.0302	0.0008
		Ti	0.049	0.002
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0193	0.0005
		Li	0.00000	0.00005
		Na	0.00012	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0105	0.0004
		Zr	0.0006	0.0002

WA 2017 L

Certified Date: 11/20/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-2017	L	Si	0.740	0.009
		Fe	0.623	0.009
		Cu	3.47	0.05
		Mn	0.400	0.006
		Mg	0.74	0.02
		Cr	0.0200	0.0004
		Ni	0.057	0.002
		Zn	0.0302	0.0008
		Ti	0.049	0.002
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0193	0.0005
		Li	0.00000	0.00005
		Na	0.00012	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0105	0.0004
		Zr	0.0006	0.0002

SS 2018 M

Certified Date: 06/08/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2018	M	Si	0.68	0.02
		Fe	0.40	0.01
		Cu	4.17	0.09
		Mn	0.0514	0.0008
		Mg	0.650	0.009
		Cr	0.0502	0.0008
		Ni	2.08	0.04
		Zn	0.122	0.003
		Ti	0.038	0.002
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0507	0.0009
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0196	0.0004
		Li	0.00000	0.00005
		Na	0.00003	0.00005
		P	(0.0000)	
		Pb	0.051	0.003
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0108	0.0004
		Zr	0.0009	0.0003

SS 2018 N

Certified Date: 06/08/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2018	N	Si	0.68	0.02
		Fe	0.40	0.01
		Cu	4.17	0.09
		Mn	0.0514	0.0008
		Mg	0.650	0.009
		Cr	0.0502	0.0008
		Ni	2.08	0.04
		Zn	0.122	0.003
		Ti	0.038	0.002
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0507	0.0009
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0196	0.0004
		Li	0.00000	0.00005
		Na	0.00003	0.00005
		P	(0.0000)	
		Pb	0.051	0.003
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0108	0.0004
		Zr	0.0009	0.0003

SS 2024 EL

Certified Date: 12/06/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2024	EL	Si	0.200	0.003
		Fe	0.341	0.005
		Cu	4.66	0.07
		Mn	0.640	0.009
		Mg	1.59	0.02
		Cr	0.0596	0.0009
		Ni	0.0376	0.0006
		Zn	0.099	0.002
		Ti	0.0292	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0200	0.0004
		Li	0.00000	0.00005
		Na	0.00019	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0098	0.0004
		Zr	0.0008	0.0002

SS 2024 EM

Certified Date: 12/06/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2024	EM	Si	0.200	0.003
		Fe	0.341	0.005
		Cu	4.66	0.07
		Mn	0.640	0.009
		Mg	1.59	0.02
		Cr	0.0596	0.0009
		Ni	0.0376	0.0006
		Zn	0.099	0.002
		Ti	0.0292	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0200	0.0004
		Li	0.00000	0.00005
		Na	0.00019	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0098	0.0004
		Zr	0.0008	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WA 2024 E

Certified Date: 09/10/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-2024	E	Si	0.301	0.005
		Fe	0.295	0.005
		Cu	3.99	0.06
		Mn	0.703	0.009
		Mg	1.58	0.02
		Cr	0.0595	0.0009
		Ni	0.0374	0.0006
		Zn	0.0596	0.0009
		Ti	0.0287	0.0009
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0010	0.0002
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0201	0.0007
		Li	0.00000	0.00005
		Na	0.0002	0.0002
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0110	0.0005
		Zr	0.0006	0.0002

WA 2024 F

Certified Date: 09/10/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-2024	F	Si	0.301	0.005
		Fe	0.295	0.005
		Cu	3.99	0.06
		Mn	0.703	0.009
		Mg	1.58	0.02
		Cr	0.0595	0.0009
		Ni	0.0374	0.0006
		Zn	0.0596	0.0009
		Ti	0.0287	0.0009
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0010	0.0002
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0201	0.0007
		Li	0.00000	0.00005
		Na	0.0002	0.0002
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0110	0.0005
		Zr	0.0006	0.0002

WB 2024 E

Certified Date: 10/07/1991

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-2024	E	Si	0.29	0.01
		Fe	0.36	0.02
		Cu	5.03	0.13
		Mn	0.71	0.02
		Mg	1.63	0.04
		Cr	0.064	0.003
		Ni	0.041	0.002
		Zn	0.26	0.01
		Ti	0.032	0.002
		Be	0.0050	0.0004

WE 2024 C

Certified Date: 07/05/1989

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WE-2024	C	Si	0.46	0.02
		Fe	0.20	0.008
		Cu	4.56	0.08
		Mn	0.46	0.02
		Mg	1.61	0.04
		Cr	0.11	0.005
		Ni	0.020	0.001
		Zn	0.25	0.01
		Ti	0.012	0.001
		Be	0.007	0.0003

WF 2024 D

Certified Date: 05/25/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WF-2024	D	Si	0.148	0.004
		Fe	0.432	0.006
		Cu	4.67	0.07
		Mn	0.803	0.009
		Mg	1.60	0.03
		Cr	0.0206	0.0004
		Ni	0.0653	0.0008
		Zn	0.0302	0.0009
		Ti	0.058	0.002
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0021	0.0002
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0132	0.0004
		Li	0.00000	0.00005
		Na	0.00005	0.00005
		P	(0.0004)	
		Pb	0.0007	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0003	0.0002
		Sr	0.0000	0.0002
		V	0.0113	0.0004
		Zr	0.0019	0.0002

SS 2025 F

Certified Date: 01/05/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2025	F	Si	0.773	0.009
		Fe	0.531	0.008
		Cu	4.59	0.07
		Mn	0.803	0.009
		Mg	0.051	0.002
		Cr	0.0429	0.0006
		Ni	0.0382	0.0009
		Zn	0.100	0.002
		Ti	0.029	0.003
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0115	0.0004
		Li	0.00000	0.00005
		Na	0.00003	0.00005
		P	(0.0001)	
		Pb	0.0001	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0074	0.0004
		Zr	0.0011	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 2025 G

Certified Date: 01/05/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2025	G	Si	0.773	0.009
		Fe	0.531	0.008
		Cu	4.59	0.07
		Mn	0.803	0.009
		Mg	0.051	0.002
		Cr	0.0429	0.0006
		Ni	0.0382	0.0009
		Zn	0.100	0.002
		Ti	0.029	0.003
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0115	0.0004
		Li	0.00000	0.00005
		Na	0.00003	0.00005
		P	(0.0001)	
		Pb	0.0001	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0074	0.0004
		Zr	0.0011	0.0002

SS 2117 S

Certified Date: 04/21/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2117	S	Si	0.493	0.004
		Fe	0.39	0.01
		Cu	2.56	0.04
		Mn	0.049	0.001
		Mg	0.297	0.005
		Cr	0.0305	0.0009
		Ni	0.029	0.002
		Zn	0.0498	0.0007
		Ti	0.0195	0.0007
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00001	0.00003
		Bi	0.0000	0.0002
		Ca	0.00003	0.00003
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0194	0.0009
		Li	0.00000	0.00003
		Na	0.00005	0.00003
		P	0.0005	0.0002
		Pb	0.0006	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.00005	0.00003
		V	0.0112	0.0006
		Zr	0.0015	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 2117 T

Certified Date: 10/19/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2117	T	Si	0.495	0.007
		Fe	0.404	0.007
		Cu	2.56	0.03
		Mn	0.0508	0.0008
		Mg	0.304	0.005
		Cr	0.0304	0.0009
		Ni	0.0294	0.0004
		Zn	0.0488	0.0007
		Ti	0.0209	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0217	0.0006
		Li	0.00000	0.00005
		Na	0.00004	0.00005
		P	(0.0002)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0126	0.0004
		Zr	0.0006	0.0002

SS 2219 AF

Certified Date: 08/25/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2219	AF	Si	0.146	0.005
		Fe	0.194	0.006
		Cu	6.27	0.09
		Mn	0.292	0.005
		Mg	0.018	0.002
		Cr	0.0104	0.0009
		Ni	0.0098	0.0006
		Zn	0.0297	0.0009
		Ti	0.055	0.003
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0141	0.0005
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	0.0004	0.0002
		Pb	0.0007	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0003	0.0002
		Sr	0.0001	0.0002
		V	0.125	0.007
		Zr	0.176	0.007

SS 2219 AH

Certified Date: 11/16/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2219	AH	Si	0.155	0.006
		Fe	0.208	0.006
		Cu	6.30	0.09
		Mn	0.281	0.005
		Mg	0.0216	0.0008
		Cr	0.0104	0.0005
		Ni	0.0100	0.0004
		Zn	0.0299	0.0005
		Ti	0.059	0.002
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0152	0.0004
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	(0.0000)	
		Pb	0.0007	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.123	0.004
		Zr	0.179	0.005

Arconic Spectrochemical Reference Materials

09/22/2020

SS 2219 AJ

Certified Date: 11/16/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2219	AJ	Si	0.155	0.006
		Fe	0.208	0.006
		Cu	6.30	0.09
		Mn	0.281	0.005
		Mg	0.0216	0.0008
		Cr	0.0104	0.0005
		Ni	0.0100	0.0004
		Zn	0.0299	0.0005
		Ti	0.059	0.002
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0152	0.0004
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	(0.0000)	
		Pb	0.0007	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.123	0.004
		Zr	0.179	0.005

Arconic Spectrochemical Reference Materials

09/22/2020

SS 2324 R

Certified Date: 04/11/2013

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2324	R	Si	0.051	0.003
		Fe	0.044	0.002
		Cu	4.14	0.09
		Mn	0.47	0.01
		Mg	1.49	0.02
		Cr	0.0099	0.0006
		Ni	0.0090	0.0006
		Zn	0.0096	0.0006
		Ti	0.0108	0.0009
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0193	0.0006
		Li	0.0000	0.0002
		Na	0.0001	0.0002
		P	0.0002	0.0002
		Pb	0.0004	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.010	0.001
		Zr	0.0009	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 2324 Y

Certified Date: 04/16/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2324	Y	Si	0.051	0.001
		Fe	0.050	0.001
		Cu	4.24	0.06
		Mn	0.498	0.007
		Mg	1.50	0.02
		Cr	0.0101	0.0004
		Ni	0.0090	0.0004
		Zn	0.0095	0.0004
		Ti	0.0080	0.0008
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00003	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0197	0.0005
		Li	0.00000	0.00005
		Na	0.00029	0.00005
		P	(0.0000)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0097	0.0004
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 2324 Z

Certified Date: 04/16/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2324	Z	Si	0.051	0.001
		Fe	0.050	0.001
		Cu	4.24	0.06
		Mn	0.498	0.007
		Mg	1.50	0.02
		Cr	0.0101	0.0004
		Ni	0.0090	0.0004
		Zn	0.0095	0.0004
		Ti	0.0080	0.0008
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00003	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0197	0.0005
		Li	0.00000	0.00005
		Na	0.00029	0.00005
		P	(0.0000)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0097	0.0004
		Zr	0.0006	0.0002

SS 2618 AG

Certified Date: 02/26/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2618	AG	Si	0.198	0.003
		Fe	1.20	0.02
		Cu	2.17	0.04
		Mn	0.0526	0.0009
		Mg	1.58	0.03
		Cr	0.0010	0.0002
		Ni	1.09	0.02
		Zn	0.049	0.002
		Ti	0.0736	0.0009
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0004	0.0002
		Ga	0.0207	0.0004
		Li	0.00000	0.00005
		Na	0.00010	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0099	0.0004
		Zr	0.0010	0.0002

SS 2618 AH

Certified Date: 02/26/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2618	AH	Si	0.198	0.003
		Fe	1.20	0.02
		Cu	2.17	0.04
		Mn	0.0526	0.0009
		Mg	1.58	0.03
		Cr	0.0010	0.0002
		Ni	1.09	0.02
		Zn	0.049	0.002
		Ti	0.0736	0.0009
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0004	0.0002
		Ga	0.0207	0.0004
		Li	0.00000	0.00005
		Na	0.00010	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0099	0.0004
		Zr	0.0010	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 2724 A

Certified Date: 03/28/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-2724	A	Si	0.0383	0.0008
		Fe	0.0532	0.0006
		Cu	4.31	0.04
		Mn	0.604	0.006
		Mg	1.48	0.03
		Cr	0.0000	0.0002
		Ni	0.0002	0.0002
		Zn	0.0645	0.0009
		Ti	0.0190	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0103	0.0004
		Li	0.00001	0.00005
		Na	0.00000	0.00005
		P	(0.0006)	
		Pb	0.0000	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0000	0.0002
		Sr	0.0000	0.0002
		V	0.0118	0.0004
		Zr	0.104	0.003

Arconic Spectrochemical Reference Materials

09/22/2020

LI 2055 A

Certified Date: 09/25/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-2055	A	Si	0.039	0.002
		Fe	0.0495	0.0008
		Cu	3.60	0.05
		Mn	0.289	0.004
		Mg	0.367	0.006
		Cr	0.0004	0.0002
		Ni	0.0034	0.0004
		Zn	0.499	0.009
		Ti	0.0488	0.0008
		Ag	0.43	0.01
		As	(0.0001)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0001	0.0002
		Co	0.0001	0.0002
		Ga	0.0110	0.0004
		Li	1.20	0.04
		Na	0.0002	0.0002
		P	(0.0001)	
		Pb	0.0008	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0004	0.0002
		Sr	0.0002	0.0002
		V	0.0076	0.0004
		Zr	0.102	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 2060 A

Certified Date: 09/16/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-2060	A	Si	0.0423	0.0006
		Fe	0.0369	0.0006
		Cu	3.97	0.06
		Mn	0.307	0.005
		Mg	Notes	0.01
		Cr	0.0004	0.0002
		Ni	0.0015	0.0004
		Zn	0.404	0.006
		Ti	0.0464	0.0007
		Ag	0.278	0.004
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0108	0.0004
		Li	0.755	0.012
		Na	0.0002	0.0002
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0107	0.0004
		Zr	0.0107	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

LI 2070 A

Certified Date: 09/27/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-2070	A	Si	0.0610	0.0009
		Fe	0.0763	0.0009
		Cu	3.18	0.06
		Mn	0.298	0.004
		Mg	0.218	0.004
		Cr	0.0005	0.0002
		Ni	0.0016	0.0002
		Zn	0.312	0.006
		Ti	0.0449	0.0007
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0104	0.0004
		Li	1.17	0.02
		Na	0.0002	0.0002
		P	(0.0000)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0106	0.0006
		Zr	0.102	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 2095 A

Certified Date: 10/08/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-2095	A	Si	0.059	0.001
		Fe	0.0721	0.0009
		Cu	4.20	0.06
		Mn	0.129	0.003
		Mg	0.457	0.007
		Cr	0.0004	0.0002
		Ni	0.0015	0.0002
		Zn	0.138	0.003
		Ti	0.0438	0.0006
		Ag	0.420	0.006
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0098	0.0004
		Li	1.07	0.02
		Na	0.00017	0.00005
		P	(0.0000)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0109	0.0004
		Zr	0.110	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 2097 A

Certified Date: 08/10/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-2097	A	Si	0.060	0.003
		Fe	0.071	0.002
		Cu	2.79	0.06
		Mn	0.350	0.005
		Mg	0.144	0.003
		Cr	0.0004	0.0002
		Ni	0.0015	0.0003
		Zn	0.178	0.004
		Ti	0.071	0.002
		Ag	0.0023	0.0004
		As	(0.0001)	
		B	0.0004	0.0002
		Be	0.0000	0.0002
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0102	0.0004
		Li	1.46	0.04
		Na	0.0004	0.0002
		P	(0.0000)	
		Pb	0.0009	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0002	0.0002
		V	0.0128	0.0006
		Zr	0.126	0.003

Arconic Spectrochemical Reference Materials

09/22/2020

LI 2097 B

Certified Date: 08/10/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-2097	B	Si	0.060	0.003
		Fe	0.072	0.002
		Cu	2.77	0.06
		Mn	0.350	0.005
		Mg	0.142	0.003
		Cr	0.0004	0.0002
		Ni	0.0015	0.0003
		Zn	0.178	0.004
		Ti	0.071	0.002
		Ag	0.0023	0.0004
		As	(0.0001)	
		B	0.0003	0.0002
		Be	0.0000	0.0002
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0102	0.0004
		Li	1.46	0.04
		Na	0.0004	0.0002
		P	(0.0000)	
		Pb	0.0009	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0002	0.0002
		V	0.0128	0.0007
		Zr	0.126	0.003

Arconic Spectrochemical Reference Materials

09/22/2020

LI 2097 C

Certified Date: 08/10/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-2097	C	Si	0.060	0.003
		Fe	0.072	0.002
		Cu	2.78	0.06
		Mn	0.340	0.005
		Mg	0.150	0.003
		Cr	0.0004	0.0002
		Ni	0.0015	0.0003
		Zn	0.178	0.004
		Ti	0.070	0.002
		Ag	0.0023	0.0004
		As	(0.0001)	
		B	0.0002	0.0002
		Be	0.0000	0.0002
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0103	0.0004
		Li	1.48	0.04
		Na	0.0004	0.0002
		P	(0.0000)	
		Pb	0.0010	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0003	0.0002
		V	0.0128	0.0007
		Zr	0.124	0.004

Arconic Spectrochemical Reference Materials

09/22/2020

LI 2097 D

Certified Date: 08/10/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-2097	D	Si	0.060	0.003
		Fe	0.071	0.002
		Cu	2.78	0.06
		Mn	0.340	0.005
		Mg	0.149	0.003
		Cr	0.0004	0.0002
		Ni	0.0015	0.0003
		Zn	0.178	0.004
		Ti	0.072	0.002
		Ag	0.0022	0.0004
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0000	0.0002
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0102	0.0004
		Li	1.48	0.04
		Na	0.0004	0.0002
		P	(0.0000)	
		Pb	0.0010	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0003	0.0002
		V	0.0130	0.0006
		Zr	0.126	0.004

Arconic Spectrochemical Reference Materials

09/22/2020

LI 2099 A

Certified Date: 09/20/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-2099	A	Si	0.0243	0.0004
		Fe	0.0379	0.0006
		Cu	2.63	0.04
		Mn	0.295	0.004
		Mg	0.273	0.004
		Cr	0.0005	0.0002
		Ni	0.0015	0.0002
		Zn	0.690	0.009
		Ti	0.0491	0.0007
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0103	0.0004
		Li	1.72	0.03
		Na	0.00022	0.00005
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0114	0.0004
		Zr	0.0948	0.0009

Arconic Spectrochemical Reference Materials

09/22/2020

LI 2195 A

Certified Date: 08/25/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-2195	A	Si	0.054	0.004
		Fe	0.0792	0.0015
		Cu	3.93	0.06
		Mn	0.135	0.002
		Mg	0.457	0.007
		Cr	0.0006	0.0002
		Ni	0.0023	0.0003
		Zn	0.150	0.004
		Ti	0.0487	0.0007
		Ag	0.388	0.006
		As	(0.0001)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0005	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0049	0.0005
		Li	1.05	0.02
		Na	0.0002	0.0002
		P	(0.0001)	
		Pb	0.0006	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0041	0.0005
		Zr	0.123	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 2199 A

Certified Date: 09/06/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-2199	A	Si	0.023	0.002
		Fe	0.0352	0.0005
		Cu	2.58	0.04
		Mn	0.301	0.005
		Mg	0.201	0.003
		Cr	0.0006	0.0002
		Ni	0.0004	0.0002
		Zn	0.550	0.008
		Ti	0.048	0.002
		Ag	0.0001	0.0002
		As	(0.0001)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0003	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0050	0.0004
		Li	1.63	0.02
		Na	0.0002	0.0002
		P	(0.0001)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0000	0.0002
		Sr	0.0001	0.0002
		V	0.0065	0.0004
		Zr	0.0837	0.0009

Arconic Spectrochemical Reference Materials

09/22/2020

LI 2397 A

Certified Date: 09/18/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-2397	A	Si	0.0508	0.0008
		Fe	0.049	0.001
		Cu	2.72	0.04
		Mn	0.292	0.004
		Mg	0.0970	0.0009
		Cr	0.0003	0.0002
		Ni	0.0035	0.0005
		Zn	0.106	0.002
		Ti	0.054	0.002
		Ag	0.0028	0.0004
		As	(0.0001)	
		B	0.0002	0.0002
		Be	0.00002	0.00005
		Bi	0.0000	0.0002
		Ca	0.0003	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0108	0.0004
		Li	1.44	0.03
		Na	0.0002	0.0002
		P	(0.0000)	
		Pb	0.0007	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0003	0.0002
		Sr	0.0000	0.0002
		V	0.0082	0.0006
		Zr	0.123	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 2397 B

Certified Date: 09/18/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-2397	B	Si	0.0507	0.0009
		Fe	0.048	0.002
		Cu	2.72	0.04
		Mn	0.304	0.005
		Mg	0.087	0.002
		Cr	0.0002	0.0002
		Ni	0.0034	0.0004
		Zn	0.106	0.002
		Ti	0.0547	0.0009
		Ag	0.0028	0.0004
		As	(0.0001)	
		B	0.0002	0.0002
		Be	0.00002	0.00005
		Bi	0.0000	0.0002
		Ca	0.0003	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0106	0.0004
		Li	1.41	0.03
		Na	0.0002	0.0002
		P	(0.0000)	
		Pb	0.0006	0.0002
		Sb	(0.0001)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0081	0.0006
		Zr	0.123	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 8090 B

Certified Date: 07/27/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-8090	B	Si	0.056	0.003
		Fe	0.122	0.003
		Cu	1.34	0.04
		Mn	0.0202	0.0004
		Mg	0.90	0.01
		Cr	0.0014	0.0002
		Ni	0.0017	0.0003
		Zn	0.124	0.003
		Ti	0.047	0.002
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0003	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0150	0.0004
		Li	2.36	0.04
		Na	0.0006	0.0002
		P	(0.0000)	
		Pb	0.0008	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0002	0.0002
		V	0.0071	0.0004
		Zr	0.103	0.003

Arconic Spectrochemical Reference Materials

09/22/2020

LI 8090 C

Certified Date: 07/27/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-8090	C	Si	0.056	0.003
		Fe	0.121	0.003
		Cu	1.34	0.04
		Mn	0.0202	0.0004
		Mg	0.90	0.01
		Cr	0.0014	0.0002
		Ni	0.0015	0.0003
		Zn	0.125	0.003
		Ti	0.047	0.002
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0003	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0148	0.0004
		Li	2.33	0.04
		Na	0.0006	0.0002
		P	(0.0000)	
		Pb	0.0008	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0002	0.0002
		V	0.0071	0.0004
		Zr	0.103	0.003

Arconic Spectrochemical Reference Materials

09/22/2020

SS 3003 JR

Certified Date: 02/13/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-3003	JR	Si	0.199	0.003
		Fe	0.496	0.009
		Cu	0.148	0.002
		Mn	1.23	0.02
		Mg	0.0315	0.0005
		Cr	0.0006	0.0002
		Ni	0.0022	0.0004
		Zn	0.0789	0.0009
		Ti	0.0210	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0201	0.0004
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0001)	
		Pb	0.0012	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0100	0.0004
		Zr	0.0006	0.0002

SS 3003 JT

Certified Date: 02/13/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-3003	JT	Si	0.197	0.003
		Fe	0.500	0.011
		Cu	0.147	0.002
		Mn	1.23	0.02
		Mg	0.0313	0.0005
		Cr	0.0006	0.0002
		Ni	0.0022	0.0004
		Zn	0.0789	0.0009
		Ti	0.0204	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0202	0.0004
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0001)	
		Pb	0.0010	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0097	0.0004
		Zr	0.0007	0.0002

SS 3003 JU

Certified Date: 02/13/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-3003	JU	Si	0.197	0.003
		Fe	0.500	0.011
		Cu	0.147	0.002
		Mn	1.23	0.02
		Mg	0.0313	0.0005
		Cr	0.0006	0.0002
		Ni	0.0022	0.0004
		Zn	0.0789	0.0009
		Ti	0.0204	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0202	0.0004
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0001)	
		Pb	0.0010	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0097	0.0004
		Zr	0.0007	0.0002

WA 3003 AU

Certified Date: 07/14/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-3003	AU	Si	0.402	0.006
		Fe	0.648	0.012
		Cu	0.0904	0.0009
		Mn	0.967	0.009
		Mg	0.011	0.001
		Cr	0.0308	0.0006
		Ni	0.0291	0.0004
		Zn	0.0505	0.0008
		Ti	0.0290	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0011	0.0002
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0011	0.0002
		Co	0.0001	0.0002
		Ga	0.0197	0.0004
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0002)	
		Pb	0.0066	0.0005
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0108	0.0005
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WB 3003 AF

Certified Date: 04/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-3003	AF	Si	0.151	0.005
		Fe	0.298	0.004
		Cu	0.206	0.006
		Mn	1.54	0.02
		Mg	0.050	0.001
		Cr	0.0005	0.0002
		Ni	0.0019	0.0002
		Zn	0.0211	0.0004
		Ti	0.0080	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0004	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0031	0.0004
		Co	0.0001	0.0002
		Ga	0.0200	0.0005
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0000)	
		Pb	0.0210	0.0005
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0095	0.0004
		Zr	0.0006	0.0002

WB 3003 AG

Certified Date: 04/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-3003	AG	Si	0.151	0.005
		Fe	0.298	0.004
		Cu	0.206	0.006
		Mn	1.54	0.02
		Mg	0.050	0.001
		Cr	0.0005	0.0002
		Ni	0.0019	0.0002
		Zn	0.0211	0.0004
		Ti	0.0080	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0004	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0031	0.0004
		Co	0.0001	0.0002
		Ga	0.0200	0.0005
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0000)	
		Pb	0.0210	0.0005
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0095	0.0004
		Zr	0.0006	0.0002

SS 3004 HN

Certified Date: 06/04/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-3004	HN	Si	0.179	0.007
		Fe	0.493	0.009
		Cu	0.153	0.006
		Mn	1.26	0.03
		Mg	1.11	0.03
		Cr	0.0005	0.0002
		Ni	0.0052	0.0004
		Zn	0.0499	0.0008
		Ti	0.0196	0.0009
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0201	0.0006
		Li	0.00000	0.00003
		Na	0.00004	0.00003
		P	0.0005	0.0002
		Pb	0.0017	0.0004
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0004	0.0002
		Sr	0.0000	0.0002
		V	0.0111	0.0006
		Zr	0.0017	0.0004

SS 3004 HX

Certified Date: 02/12/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-3004	HX	Si	0.180	0.003
		Fe	0.497	0.007
		Cu	0.148	0.003
		Mn	1.22	0.02
		Mg	1.09	0.02
		Cr	0.0006	0.0002
		Ni	0.0022	0.0004
		Zn	0.0498	0.0007
		Ti	0.0203	0.0006
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0207	0.0007
		Li	0.00000	0.00005
		Na	0.00006	0.00005
		P	(0.0001)	
		Pb	0.0012	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0105	0.0004
		Zr	0.0006	0.0002

SS 3004 HY

Certified Date: 02/12/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-3004	HY	Si	0.180	0.003
		Fe	0.495	0.007
		Cu	0.148	0.003
		Mn	1.24	0.02
		Mg	1.09	0.02
		Cr	0.0006	0.0002
		Ni	0.0022	0.0004
		Zn	0.0498	0.0007
		Ti	0.0205	0.0006
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0208	0.0007
		Li	0.00000	0.00005
		Na	0.00019	0.00005
		P	(0.0001)	
		Pb	0.0011	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0105	0.0004
		Zr	0.0006	0.0002

SS 3004 HZ

Certified Date: 02/12/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-3004	HZ	Si	0.180	0.003
		Fe	0.495	0.007
		Cu	0.148	0.003
		Mn	1.24	0.02
		Mg	1.09	0.02
		Cr	0.0006	0.0002
		Ni	0.0022	0.0004
		Zn	0.0498	0.0007
		Ti	0.0205	0.0006
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0208	0.0007
		Li	0.00000	0.00005
		Na	0.00019	0.00005
		P	(0.0001)	
		Pb	0.0011	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0105	0.0004
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WA 3004 AK

Certified Date: 10/17/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-3004	AK	Si	0.220	0.003
		Fe	0.588	0.009
		Cu	0.102	0.002
		Mn	1.05	0.03
		Mg	1.29	0.02
		Cr	0.0116	0.0004
		Ni	0.0106	0.0004
		Zn	0.148	0.002
		Ti	0.0010	0.0002
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0050	0.0005
		Ca	0.0000	0.0002
		Cd	0.0012	0.0004
		Co	0.0001	0.0002
		Ga	0.0194	0.0004
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0001)	
		Pb	0.0056	0.0004
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0099	0.0004
		Zr	0.0004	0.0002

WB 3004 G

Certified Date: 07/20/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-3004	G	Si	0.0997	0.0009
		Fe	0.384	0.006
		Cu	0.200	0.003
		Mn	1.45	0.02
		Mg	0.91	0.02
		Cr	0.022	0.001
		Ni	0.021	0.001
		Zn	0.0998	0.0009
		Ti	0.042	0.003
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0028	0.0003
		Ca	0.0000	0.0002
		Cd	0.0032	0.0003
		Co	0.0002	0.0002
		Ga	0.0197	0.0009
		Li	0.00000	0.00005
		Na	0.00004	0.00005
		P	(0.0004)	
		Pb	0.0209	0.0005
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0110	0.0004
		Zr	0.0017	0.0003

Arconic Spectrochemical Reference Materials

09/22/2020

SS 3005 AW

Certified Date: 04/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-3005	AW	Si	0.223	0.003
		Fe	0.608	0.009
		Cu	0.155	0.005
		Mn	1.20	0.02
		Mg	0.400	0.006
		Cr	0.0206	0.0008
		Ni	0.0099	0.0004
		Zn	0.0305	0.0007
		Ti	0.0165	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00006	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0153	0.0005
		Li	0.00000	0.00005
		Na	0.00008	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0096	0.0004
		Zr	0.0005	0.0002

SS 3005 AX

Certified Date: 04/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-3005	AX	Si	0.223	0.003
		Fe	0.608	0.009
		Cu	0.155	0.005
		Mn	1.20	0.02
		Mg	0.400	0.006
		Cr	0.0206	0.0008
		Ni	0.0099	0.0004
		Zn	0.0305	0.0007
		Ti	0.0165	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00006	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0153	0.0005
		Li	0.00000	0.00005
		Na	0.00008	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0096	0.0004
		Zr	0.0005	0.0002

SS 3102 L

Certified Date: 09/26/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-3102	L	Si	0.245	0.007
		Fe	0.448	0.008
		Cu	0.071	0.002
		Mn	0.179	0.004
		Mg	0.0200	0.0006
		Cr	0.0211	0.0006
		Ni	0.0198	0.0006
		Zn	0.0991	0.0009
		Ti	0.0197	0.0006
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0200	0.0006
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	0.0006	0.0002
		Pb	0.0014	0.0004
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0102	0.0008
		Zr	0.0021	0.0004

SS 3102 M

Certified Date: 10/23/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-3102	M	Si	0.244	0.004
		Fe	0.428	0.006
		Cu	0.070	0.002
		Mn	0.180	0.004
		Mg	0.0200	0.0004
		Cr	0.0218	0.0004
		Ni	0.0195	0.0004
		Zn	0.100	0.003
		Ti	0.0192	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0196	0.0004
		Li	0.00000	0.00005
		Na	0.00006	0.00005
		P	(0.0001)	
		Pb	0.0008	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0106	0.0004
		Zr	0.0005	0.0002

SS 3102 N

Certified Date: 10/23/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-3102	N	Si	0.244	0.004
		Fe	0.428	0.006
		Cu	0.070	0.002
		Mn	0.180	0.004
		Mg	0.0200	0.0004
		Cr	0.0218	0.0004
		Ni	0.0195	0.0004
		Zn	0.100	0.003
		Ti	0.0192	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0196	0.0004
		Li	0.00000	0.00005
		Na	0.00006	0.00005
		P	(0.0001)	
		Pb	0.0008	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0106	0.0004
		Zr	0.0005	0.0002

SS 3104 C

Certified Date: 08/27/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-3104	C	Si	0.251	0.004
		Fe	0.420	0.006
		Cu	0.200	0.003
		Mn	0.992	0.009
		Mg	1.21	0.02
		Cr	0.0155	0.0004
		Ni	0.0053	0.0004
		Zn	0.0106	0.0004
		Ti	0.0210	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0154	0.0004
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	(0.0002)	
		Pb	0.0001	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0013	0.0002
		Sr	0.0001	0.0002
		V	0.0150	0.0004
		Zr	0.0004	0.0002

SS 3104 D

Certified Date: 08/27/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-3104	D	Si	0.251	0.004
		Fe	0.420	0.006
		Cu	0.200	0.003
		Mn	0.992	0.009
		Mg	1.21	0.02
		Cr	0.0155	0.0004
		Ni	0.0053	0.0004
		Zn	0.0106	0.0004
		Ti	0.0210	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0154	0.0004
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	(0.0002)	
		Pb	0.0001	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0013	0.0002
		Sr	0.0001	0.0002
		V	0.0150	0.0004
		Zr	0.0004	0.0002

SS 3105 CW

Certified Date: 07/08/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-3105	CW	Si	0.197	0.004
		Fe	0.491	0.009
		Cu	0.150	0.002
		Mn	0.400	0.006
		Mg	0.497	0.007
		Cr	0.0506	0.0008
		Ni	0.0195	0.0004
		Zn	0.200	0.003
		Ti	0.0098	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0004	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0204	0.0004
		Li	0.00000	0.00005
		Na	0.00009	0.00005
		P	(0.0000)	
		Pb	0.0009	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0101	0.0004
		Zr	0.0007	0.0002

SS 3105 CX

Certified Date: 07/08/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-3105	CX	Si	0.197	0.004
		Fe	0.491	0.009
		Cu	0.150	0.002
		Mn	0.400	0.006
		Mg	0.497	0.007
		Cr	0.0506	0.0008
		Ni	0.0195	0.0004
		Zn	0.200	0.003
		Ti	0.0098	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0004	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0204	0.0004
		Li	0.00000	0.00005
		Na	0.00009	0.00005
		P	(0.0000)	
		Pb	0.0009	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0101	0.0004
		Zr	0.0007	0.0002

SS 4032 H

Certified Date: 01/25/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-4032	H	Si	12.2	0.2
		Fe	0.296	0.004
		Cu	0.898	0.009
		Mn	0.0307	0.0005
		Mg	1.09	0.02
		Cr	0.0497	0.0007
		Ni	0.893	0.009
		Zn	0.105	0.002
		Ti	0.0094	0.0004
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0004	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0007	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0189	0.0004
		Li	0.00000	0.00005
		Na	0.00010	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0211	0.0009
		V	0.0091	0.0004
		Zr	0.0008	0.0002

SS 4043 A

Certified Date: 06/02/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-4043	A	Si	5.19	0.07
		Fe	0.29	0.01
		Cu	0.0502	0.0009
		Mn	0.0213	0.0009
		Mg	0.0199	0.0007
		Cr	0.0264	0.0009
		Ni	0.0342	0.0009
		Zn	0.0304	0.0007
		Ti	0.0465	0.0009
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0096	0.0004
		Ca	0.0005	0.0002
		Cd	0.0001	0.0002
		Co	0.0002	0.0002
		Ga	0.0195	0.0009
		Li	0.00000	0.00005
		Na	0.00008	0.00004
		P	0.0006	0.0002
		Pb	0.0103	0.0009
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0102	0.0007
		Sr	0.0070	0.0007
		V	0.0152	0.0007
		Zr	0.0016	0.0004

SS 5005 BG

Certified Date: 11/02/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5005	BG	Si	0.155	0.004
		Fe	0.48	0.01
		Cu	0.061	0.002
		Mn	0.0315	0.0005
		Mg	0.839	0.009
		Cr	0.0212	0.0004
		Ni	0.0191	0.0004
		Zn	0.060	0.002
		Ti	0.0202	0.0004
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0006
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0107	0.0004
		Zr	0.0004	0.0002

SS 5005 BH

Certified Date: 11/02/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5005	BH	Si	0.155	0.004
		Fe	0.48	0.01
		Cu	0.061	0.002
		Mn	0.0315	0.0005
		Mg	0.839	0.009
		Cr	0.0212	0.0004
		Ni	0.0191	0.0004
		Zn	0.060	0.002
		Ti	0.0202	0.0004
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0006
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0107	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WA 5005 K

Certified Date: 04/23/2012

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-5005	K	Si	0.120	0.005
		Fe	0.562	0.006
		Cu	0.0315	0.0008
		Mn	0.0111	0.0005
		Mg	0.358	0.008
		Cr	0.0114	0.0007
		Ni	0.0097	0.0004
		Zn	0.0287	0.0005
		Ti	0.0101	0.0007
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0297	0.0009
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0075	0.0005
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0003	0.0002
		Pb	0.0298	0.0009
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0105	0.0009
		Sr	0.0000	0.0002
		V	0.0098	0.0006
		Zr	0.0008	0.0002

WB 5005 G

Certified Date: 11/24/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-5005	G	Si	0.0103	0.0004
		Fe	0.0100	0.0004
		Cu	0.0003	0.0002
		Mn	0.0003	0.0002
		Mg	0.786	0.009
		Cr	0.0000	0.0002
		Ni	0.0000	0.0002
		Zn	0.0026	0.0004
		Ti	0.0001	0.0002
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0147	0.0005
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	(0.0007)	
		Pb	0.0000	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0000	0.0002
		Sr	0.0000	0.0002
		V	0.0100	0.0005
		Zr	0.0000	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 5042 AA

Certified Date: 12/09/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5042	AA	Si	0.101	0.003
		Fe	0.229	0.003
		Cu	0.0298	0.0005
		Mn	0.296	0.004
		Mg	3.50	0.05
		Cr	0.0005	0.0002
		Ni	0.0015	0.0002
		Zn	0.0100	0.0004
		Ti	0.0202	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0148	0.0004
		Li	0.00000	0.00005
		Na	0.0003	0.0002
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0099	0.0004
		Zr	0.0003	0.0002

SS 5042 AB

Certified Date: 12/09/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5042	AB	Si	0.101	0.003
		Fe	0.229	0.003
		Cu	0.0298	0.0005
		Mn	0.296	0.004
		Mg	3.50	0.05
		Cr	0.0005	0.0002
		Ni	0.0015	0.0002
		Zn	0.0100	0.0004
		Ti	0.0202	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0148	0.0004
		Li	0.00000	0.00005
		Na	0.0003	0.0002
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0099	0.0004
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 5042 Z

Certified Date: 12/03/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5042	Z	Si	0.102	0.005
		Fe	0.233	0.006
		Cu	0.0304	0.0006
		Mn	0.307	0.005
		Mg	3.49	0.07
		Cr	0.0003	0.0002
		Ni	0.0029	0.0004
		Zn	0.0099	0.0004
		Ti	0.0190	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0150	0.0004
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0006)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0109	0.0004
		Zr	0.0008	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 5050 AM

Certified Date: 05/29/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5050	AM	Si	0.183	0.004
		Fe	0.458	0.007
		Cu	0.0500	0.0008
		Mn	0.0439	0.0006
		Mg	1.41	0.03
		Cr	0.0319	0.0006
		Ni	0.0292	0.0006
		Zn	0.0400	0.0007
		Ti	0.0204	0.0005
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0150	0.0006
		Li	0.00000	0.00005
		Na	0.00003	0.00005
		P	0.0002	0.0002
		Pb	0.0005	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0117	0.0004
		Zr	0.0010	0.0004

SS 5052 HF

Certified Date: 10/10/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5052	HF	Si	0.149	0.003
		Fe	0.198	0.004
		Cu	0.0588	0.0009
		Mn	0.0541	0.0008
		Mg	2.57	0.04
		Cr	0.248	0.004
		Ni	0.0477	0.0007
		Zn	0.0793	0.0009
		Ti	0.0098	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0201	0.0004
		Li	0.00000	0.00005
		Na	0.00028	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0103	0.0004
		Zr	0.0003	0.0002

SS 5052 HG

Certified Date: 10/10/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5052	HG	Si	0.149	0.003
		Fe	0.198	0.004
		Cu	0.0590	0.0009
		Mn	0.0533	0.0008
		Mg	2.58	0.04
		Cr	0.248	0.004
		Ni	0.0472	0.0007
		Zn	0.0795	0.0009
		Ti	0.0100	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0004
		Li	0.00000	0.00005
		Na	0.00043	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0106	0.0004
		Zr	0.0003	0.0002

SS 5052 HH

Certified Date: 10/10/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5052	HH	Si	0.149	0.003
		Fe	0.198	0.004
		Cu	0.0590	0.0009
		Mn	0.0533	0.0008
		Mg	2.58	0.04
		Cr	0.248	0.004
		Ni	0.0472	0.0007
		Zn	0.0795	0.0009
		Ti	0.0100	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0004
		Li	0.00000	0.00005
		Na	0.00043	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0106	0.0004
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WB 5052 W

Certified Date: 09/26/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-5052	W	Si	0.0806	0.0008
		Fe	0.290	0.006
		Cu	0.0205	0.0006
		Mn	0.102	0.004
		Mg	2.77	0.05
		Cr	0.150	0.004
		Ni	0.0294	0.0005
		Zn	0.0300	0.0006
		Ti	0.0304	0.0006
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0199	0.0006
		Li	0.00000	0.00005
		Na	0.00005	0.00005
		P	0.0005	0.0002
		Pb	0.0007	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0120	0.0005
		Zr	0.0012	0.0004

SS 5056 CF

Certified Date: 06/19/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5056	CF	Si	0.148	0.003
		Fe	0.194	0.003
		Cu	0.0787	0.0009
		Mn	0.100	0.002
		Mg	5.27	0.08
		Cr	0.110	0.003
		Ni	0.0462	0.0007
		Zn	0.0494	0.0009
		Ti	0.0102	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0199	0.0006
		Li	0.00000	0.00005
		Na	0.0002	0.0002
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0100	0.0004
		Zr	0.0005	0.0002

SS 5056 CG

Certified Date: 06/19/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5056	CG	Si	0.148	0.003
		Fe	0.194	0.003
		Cu	0.0787	0.0009
		Mn	0.100	0.002
		Mg	5.27	0.08
		Cr	0.110	0.003
		Ni	0.0462	0.0007
		Zn	0.0494	0.0009
		Ti	0.0102	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0199	0.0006
		Li	0.00000	0.00005
		Na	0.0002	0.0002
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0100	0.0004
		Zr	0.0005	0.0002

WA 5056 E

Certified Date: 10/26/2007

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-5056	E	Si	0.147	0.006
		Fe	0.191	0.008
		Cu	0.077	0.004
		Mn	0.096	0.004
		Mg	4.69	0.08
		Cr	0.110	0.005
		Ni	0.048	0.002
		Zn	0.048	0.002
		Ti	0.0026	0.0004
		Be	0.0001	0.0002
		Ga	0.020	0.001
		V	0.010	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

WB 5056 G

Certified Date: 12/03/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-5056	G	Si	0.146	0.006
		Fe	0.186	0.008
		Cu	0.0783	0.0009
		Mn	0.100	0.005
		Mg	5.78	0.09
		Cr	0.110	0.005
		Ni	0.0493	0.0006
		Zn	0.0498	0.0006
		Ti	0.0021	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.0032	0.0004
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0201	0.0005
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0005)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0104	0.0004
		Zr	0.0009	0.0002

WC 5056 G

Certified Date: 09/09/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WC-5056	G	Si	0.249	0.004
		Fe	0.388	0.006
		Cu	0.0113	0.0004
		Mn	0.0532	0.0008
		Mg	5.36	0.08
		Cr	0.200	0.003
		Ni	0.0206	0.0006
		Zn	0.0174	0.0004
		Ti	0.0031	0.0003
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0090	0.0004
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0007
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	(0.0004)	
		Pb	0.078	0.002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0098	0.0004
		Zr	0.0009	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 5082 T

Certified Date: 03/05/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5082	T	Si	0.122	0.003
		Fe	0.255	0.004
		Cu	0.0380	0.0012
		Mn	0.0429	0.0009
		Mg	4.25	0.06
		Cr	0.0402	0.0009
		Ni	0.0092	0.0004
		Zn	0.0391	0.0008
		Ti	0.0206	0.0008
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0144	0.0004
		Li	0.00001	0.00005
		Na	0.00015	0.00005
		P	(0.0001)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0094	0.0004
		Zr	0.0003	0.0002

SS 5082 U

Certified Date: 03/05/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5082	U	Si	0.122	0.003
		Fe	0.255	0.004
		Cu	0.0380	0.0012
		Mn	0.0429	0.0009
		Mg	4.25	0.06
		Cr	0.0402	0.0009
		Ni	0.0092	0.0004
		Zn	0.0391	0.0008
		Ti	0.0206	0.0008
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0144	0.0004
		Li	0.00001	0.00005
		Na	0.00015	0.00005
		P	(0.0001)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0094	0.0004
		Zr	0.0003	0.0002

SS 5083 CE

Certified Date: 02/04/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5083	CE	Si	0.153	0.004
		Fe	0.199	0.004
		Cu	0.0490	0.0007
		Mn	0.809	0.009
		Mg	4.47	0.07
		Cr	0.100	0.002
		Ni	0.0100	0.0004
		Zn	0.0496	0.0007
		Ti	0.0487	0.0009
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0200	0.0006
		Li	0.00000	0.00005
		Na	0.00023	0.00005
		P	(0.0000)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0110	0.0004
		Zr	0.0006	0.0002

SS 5083 CF

Certified Date: 02/04/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5083	CF	Si	0.153	0.004
		Fe	0.199	0.004
		Cu	0.0490	0.0007
		Mn	0.809	0.009
		Mg	4.47	0.07
		Cr	0.100	0.002
		Ni	0.0100	0.0004
		Zn	0.0496	0.0007
		Ti	0.0487	0.0009
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0200	0.0006
		Li	0.00000	0.00005
		Na	0.00023	0.00005
		P	(0.0000)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0110	0.0004
		Zr	0.0006	0.0002

SS 5154 AA

Certified Date: 09/19/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5154	AA	Si	0.150	0.004
		Fe	0.233	0.005
		Cu	0.0497	0.0006
		Mn	0.0330	0.0006
		Mg	3.57	0.05
		Cr	0.260	0.005
		Ni	0.0282	0.0006
		Zn	0.0499	0.0007
		Ti	0.0775	0.0009
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0147	0.0006
		Li	0.00000	0.00005
		Na	0.00011	0.00005
		P	0.0005	0.0002
		Pb	0.0009	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0003	0.0002
		Sr	0.0000	0.0002
		V	0.0133	0.0005
		Zr	0.0013	0.0004

SS 5182 GD

Certified Date: 10/29/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5182	GD	Si	0.151	0.003
		Fe	0.191	0.003
		Cu	0.0504	0.0008
		Mn	0.350	0.005
		Mg	4.59	0.07
		Cr	0.0305	0.0005
		Ni	0.0198	0.0004
		Zn	0.0490	0.0007
		Ti	0.0284	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0196	0.0004
		Li	0.00000	0.00005
		Na	0.0005	0.0002
		P	(0.0001)	
		Pb	0.0013	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0105	0.0004
		Zr	0.0004	0.0002

WA 5182 H

Certified Date: 09/12/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-5182	H	Si	0.201	0.004
		Fe	0.300	0.005
		Cu	0.0108	0.0004
		Mn	0.295	0.004
		Mg	4.81	0.07
		Cr	0.0512	0.0008
		Ni	0.0100	0.0004
		Zn	0.0200	0.0004
		Ti	0.0388	0.0007
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0006	0.0002
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0032	0.0004
		Co	0.0001	0.0002
		Ga	0.0203	0.0004
		Li	0.00000	0.00005
		Na	0.0004	0.0002
		P	(0.0001)	
		Pb	0.021	0.002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0111	0.0004
		Zr	0.0004	0.0002

WA 5182 J

Certified Date: 09/12/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-5182	J	Si	0.201	0.004
		Fe	0.300	0.005
		Cu	0.0108	0.0004
		Mn	0.295	0.004
		Mg	4.81	0.07
		Cr	0.0512	0.0008
		Ni	0.0100	0.0004
		Zn	0.0200	0.0004
		Ti	0.0388	0.0007
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0006	0.0002
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0032	0.0004
		Co	0.0001	0.0002
		Ga	0.0203	0.0004
		Li	0.00000	0.00005
		Na	0.0004	0.0002
		P	(0.0001)	
		Pb	0.021	0.002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0111	0.0004
		Zr	0.0004	0.0002

WB 5182 F

Certified Date: 01/06/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-5182	F	Si	0.077	0.004
		Fe	0.0820	0.0009
		Cu	0.0696	0.0009
		Mn	0.475	0.007
		Mg	4.46	0.07
		Cr	0.0110	0.0004
		Ni	0.0382	0.0006
		Zn	0.0994	0.0009
		Ti	0.0079	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0012	0.0003
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0010	0.0003
		Co	0.0001	0.0002
		Ga	0.0190	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0005)	
		Pb	0.0070	0.0004
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0003	0.0002
		Sr	0.0000	0.0002
		V	0.0108	0.0004
		Zr	0.0014	0.0003

Arconic Spectrochemical Reference Materials

09/22/2020

SS 5252 U

Certified Date: 08/28/2008

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5252	U	Si	0.029	0.002
		Fe	0.049	0.003
		Cu	0.039	0.002
		Mn	0.010	0.001
		Mg	2.47	0.05
		Cr	0.0001	0.0002
		Ni	0.0001	0.0002
		Zn	0.011	0.001
		Ti	0.021	0.001
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.019	0.001
		Hg	0.0000	0.0002
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0000	0.0002
		Pb	0.0000	0.0003
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0000	0.0002
		V	0.0001	0.0002
		Zr	0.0000	0.0002

SS 5357 G

Certified Date: 08/09/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5357	G	Si	0.0513	0.0008
		Fe	0.076	0.002
		Cu	0.0786	0.0009
		Mn	0.235	0.004
		Mg	1.09	0.02
		Cr	0.0108	0.0004
		Ni	0.0096	0.0004
		Zn	0.0202	0.0006
		Ti	0.0098	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0147	0.0004
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0003)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0105	0.0004
		Zr	0.0008	0.0002

SS 5454 AR

Certified Date: 04/10/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5454	AR	Si	0.150	0.003
		Fe	0.198	0.003
		Cu	0.0707	0.0012
		Mn	0.806	0.009
		Mg	2.78	0.04
		Cr	0.0995	0.0009
		Ni	0.0095	0.0004
		Zn	0.0488	0.0008
		Ti	0.0380	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0198	0.0004
		Li	0.00000	0.00005
		Na	0.00009	0.00005
		P	(0.0001)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0107	0.0004
		Zr	0.0005	0.0002

SS 5454 AS

Certified Date: 04/10/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5454	AS	Si	0.150	0.003
		Fe	0.198	0.003
		Cu	0.0707	0.0012
		Mn	0.806	0.009
		Mg	2.78	0.04
		Cr	0.0995	0.0009
		Ni	0.0095	0.0004
		Zn	0.0488	0.0008
		Ti	0.0380	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0198	0.0004
		Li	0.00000	0.00005
		Na	0.00009	0.00005
		P	(0.0001)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0107	0.0004
		Zr	0.0005	0.0002

WA 5454 H

Certified Date: 07/23/2010

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-5454	H	Si	0.079	0.004
		Fe	0.098	0.005
		Cu	0.020	0.001
		Mn	0.45	0.02
		Mg	2.47	0.05
		Cr	0.067	0.003
		Ni	0.030	0.002
		Zn	0.148	0.006
		Ti	0.018	0.001
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.0011	0.0004
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.020	0.001
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0003	0.0002
		Pb	0.0002	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0000	0.0002
		V	0.011	0.001
		Zr	0.0004	0.0002

SS 5456 AN

Certified Date: 04/11/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5456	AN	Si	0.154	0.004
		Fe	0.195	0.004
		Cu	0.0614	0.0009
		Mn	0.803	0.009
		Mg	5.16	0.08
		Cr	0.100	0.002
		Ni	0.0096	0.0004
		Zn	0.0494	0.0007
		Ti	0.0318	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0004
		Li	0.00000	0.00005
		Na	0.0002	0.0002
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0105	0.0004
		Zr	0.0005	0.0002

SS 5456 AP

Certified Date: 04/11/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5456	AP	Si	0.154	0.004
		Fe	0.195	0.004
		Cu	0.0614	0.0009
		Mn	0.803	0.009
		Mg	5.16	0.08
		Cr	0.100	0.002
		Ni	0.0096	0.0004
		Zn	0.0494	0.0007
		Ti	0.0318	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0004
		Li	0.00000	0.00005
		Na	0.0002	0.0002
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0105	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WA 5456 K

Certified Date: 10/30/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-5456	K	Si	0.103	0.005
		Fe	0.252	0.005
		Cu	0.0994	0.0009
		Mn	0.508	0.008
		Mg	5.47	0.08
		Cr	0.151	0.002
		Ni	0.0140	0.0007
		Zn	0.252	0.004
		Ti	0.0490	0.0007
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.0010	0.0002
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0207	0.0004
		Li	0.00000	0.00005
		Na	0.00010	0.00005
		P	(0.0000)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0113	0.0004
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WA 5456 L

Certified Date: 10/30/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-5456	L	Si	0.103	0.005
		Fe	0.252	0.005
		Cu	0.0994	0.0009
		Mn	0.508	0.008
		Mg	5.47	0.08
		Cr	0.151	0.002
		Ni	0.0140	0.0007
		Zn	0.252	0.004
		Ti	0.0490	0.0007
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.0010	0.0002
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0207	0.0004
		Li	0.00000	0.00005
		Na	0.00010	0.00005
		P	(0.0000)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0113	0.0004
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 5657 P

Certified Date: 08/14/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5657	P	Si	0.0406	0.0009
		Fe	0.0598	0.0009
		Cu	0.0389	0.0009
		Mn	0.0202	0.0005
		Mg	0.802	0.009
		Cr	0.0106	0.0004
		Ni	0.0096	0.0006
		Zn	0.0199	0.0005
		Ti	0.0097	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0138	0.0004
		Li	0.00000	0.00005
		Na	0.00017	0.00005
		P	(0.0000)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0098	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 5657 R

Certified Date: 08/14/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5657	R	Si	0.0406	0.0009
		Fe	0.0598	0.0009
		Cu	0.0389	0.0009
		Mn	0.0202	0.0005
		Mg	0.802	0.009
		Cr	0.0106	0.0004
		Ni	0.0096	0.0006
		Zn	0.0199	0.0005
		Ti	0.0097	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0138	0.0004
		Li	0.00000	0.00005
		Na	0.00017	0.00005
		P	(0.0000)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0098	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 5754 E

Certified Date: 03/17/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5754	E	Si	0.110	0.002
		Fe	0.215	0.003
		Cu	0.055	0.002
		Mn	0.344	0.005
		Mg	3.26	0.05
		Cr	0.0796	0.0009
		Ni	0.0016	0.0002
		Zn	0.0150	0.0004
		Ti	0.054	0.002
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0194	0.0004
		Li	0.00000	0.00005
		Na	0.0004	0.0002
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0097	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 5754 F

Certified Date: 03/17/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-5754	F	Si	0.110	0.002
		Fe	0.215	0.003
		Cu	0.055	0.002
		Mn	0.346	0.005
		Mg	3.26	0.05
		Cr	0.0809	0.0009
		Ni	0.0016	0.0002
		Zn	0.0150	0.0004
		Ti	0.047	0.002
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0194	0.0004
		Li	0.00000	0.00005
		Na	0.0004	0.0002
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0096	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WA 6000 Y

Certified Date: 08/08/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-6000	Y	Si	0.593	0.009
		Fe	0.306	0.005
		Cu	0.0976	0.0009
		Mn	0.0300	0.0005
		Mg	0.451	0.007
		Cr	0.0306	0.0005
		Ni	0.0279	0.0009
		Zn	0.0305	0.0009
		Ti	0.0306	0.0008
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0125	0.0005
		Li	0.00000	0.00005
		Na	0.00006	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0076	0.0004
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WB 6000 F

Certified Date: 02/24/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-6000	F	Si	0.592	0.009
		Fe	0.302	0.006
		Cu	0.099	0.005
		Mn	0.0310	0.0007
		Mg	0.608	0.009
		Cr	0.0303	0.0007
		Ni	0.0295	0.0009
		Zn	0.0298	0.0007
		Ti	0.0286	0.0009
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0134	0.0006
		Li	0.00000	0.00005
		Na	0.00006	0.00005
		P	0.0004	0.0002
		Pb	0.0009	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0003	0.0002
		Sr	0.0001	0.0002
		V	0.0112	0.0005
		Zr	0.0015	0.0004

WC 6000 J

Certified Date: 08/10/2000

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WC-6000	J	Si	0.60	0.02
		Fe	0.30	0.01
		Cu	0.099	0.005
		Mn	0.031	0.002
		Mg	0.76	0.02
		Cr	0.031	0.002
		Ni	0.030	0.002
		Zn	0.030	0.002
		Ti	0.030	0.002

WC 6000 K

Certified Date: 10/25/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WC-6000	K	Si	0.598	0.009
		Fe	0.294	0.005
		Cu	0.100	0.002
		Mn	0.0314	0.0005
		Mg	0.756	0.009
		Cr	0.0314	0.0005
		Ni	0.0307	0.0006
		Zn	0.031	0.001
		Ti	0.0295	0.0009
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0113	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0002)	
		Pb	0.0007	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0098	0.0004
		Zr	0.0014	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WD 6000 M

Certified Date: 03/09/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WD-6000	M	Si	0.587	0.008
		Fe	0.287	0.007
		Cu	0.0997	0.0009
		Mn	0.0313	0.0005
		Mg	0.939	0.009
		Cr	0.0316	0.0005
		Ni	0.0290	0.0004
		Zn	0.0293	0.0005
		Ti	0.0300	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0002	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0136	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0004)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0121	0.0004
		Zr	0.0015	0.0004

WF 6000 B

Certified Date: 10/23/1986

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WF-6000	B	Si	0.59	0.02
		Fe	0.31	0.01
		Cu	0.10	0.005
		Mn	0.032	0.002
		Mg	1.23	0.04
		Cr	0.029	0.002
		Ni	0.035	0.002
		Zn	0.037	0.002
		Ti	0.024	0.001

WH 6000 B

Certified Date: 07/02/1990

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WH-6000	B	Si	0.25	0.01
		Fe	0.31	0.01
		Cu	0.098	0.005
		Mn	0.030	0.002
		Mg	0.91	0.03
		Cr	0.032	0.002
		Ni	0.031	0.002
		Zn	0.030	0.002
		Ti	0.030	0.002

WJ 6000 G

Certified Date: 09/14/1989

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WJ-6000	G	Si	0.35	0.01
		Fe	0.30	0.01
		Cu	0.099	0.005
		Mn	0.030	0.002
		Mg	0.90	0.03
		Cr	0.033	0.002
		Ni	0.031	0.002
		Zn	0.031	0.002
		Ti	0.031	0.002

WK 6000 E

Certified Date: 03/26/1990

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WK-6000	E	Si	0.49	0.02
		Fe	0.31	0.01
		Cu	0.099	0.005
		Mn	0.031	0.002
		Mg	0.91	0.03
		Cr	0.034	0.002
		Ni	0.032	0.002
		Zn	0.032	0.002
		Ti	0.029	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

WL 6000 L

Certified Date: 06/08/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WL-6000	L	Si	0.690	0.009
		Fe	0.296	0.005
		Cu	0.102	0.002
		Mn	0.0302	0.0005
		Mg	0.905	0.009
		Cr	0.0312	0.0005
		Ni	0.0283	0.0007
		Zn	0.0300	0.0006
		Ti	0.0340	0.0009
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00009	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0154	0.0006
		Li	0.00000	0.00005
		Na	0.00017	0.00005
		P	(0.0000)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0099	0.0004
		Zr	0.0004	0.0002

WM 6000 E

Certified Date: 05/11/2007

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WM-6000	E	Si	0.87	0.03
		Fe	0.31	0.01
		Cu	0.100	0.005
		Mn	0.029	0.002
		Mg	0.92	0.03
		Cr	0.030	0.002
		Ni	0.031	0.002
		Zn	0.029	0.002
		Ti	0.031	0.002

WP 6000 D

Certified Date: 08/08/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WP-6000	D	Si	1.28	0.02
		Fe	0.291	0.007
		Cu	0.0990	0.0014
		Mn	0.0325	0.0005
		Mg	0.910	0.009
		Cr	0.0296	0.0005
		Ni	0.029	0.002
		Zn	0.0310	0.0006
		Ti	0.0264	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0124	0.0004
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0005)	
		Pb	0.0008	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0110	0.0004
		Zr	0.0017	0.0002

WR 6000 E

Certified Date: 01/04/1998

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WR-6000	E	Si	0.61	0.02
		Fe	0.26	0.01
		Cu	0.020	0.001
		Mn	0.082	0.004
		Mg	0.93	0.03
		Cr	0.015	0.001
		Ni	0.050	0.003
		Zn	0.079	0.004
		Ti	0.029	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

WS 6000 J

Certified Date: 04/12/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WS-6000	J	Si	0.592	0.009
		Fe	0.326	0.005
		Cu	0.0502	0.0008
		Mn	0.0204	0.0004
		Mg	0.903	0.009
		Cr	0.0298	0.0004
		Ni	0.0097	0.0004
		Zn	0.0404	0.0006
		Ti	0.105	0.002
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00003	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0133	0.0004
		Li	0.00000	0.00005
		Na	0.00006	0.00005
		P	(0.0006)	
		Pb	0.0011	0.0004
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0113	0.0004
		Zr	0.0017	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

WT 6000 S

Certified Date: 02/22/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WT-6000	S	Si	0.590	0.009
		Fe	0.139	0.004
		Cu	0.100	0.004
		Mn	0.0424	0.0008
		Mg	0.891	0.009
		Cr	0.0791	0.0009
		Ni	0.0334	0.0008
		Zn	0.0197	0.0004
		Ti	0.0100	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0130	0.0004
		Li	0.00000	0.00005
		Na	0.00011	0.00005
		P	(0.0004)	
		Pb	0.0006	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0114	0.0004
		Zr	0.0016	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

WU 6000 L

Certified Date: 05/28/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WU-6000	L	Si	0.601	0.009
		Fe	0.652	0.012
		Cu	0.180	0.003
		Mn	0.0413	0.0006
		Mg	0.910	0.009
		Cr	0.349	0.005
		Ni	0.0297	0.0004
		Zn	0.150	0.002
		Ti	0.0221	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00009	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0157	0.0004
		Li	0.00000	0.00005
		Na	0.0004	0.0002
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0101	0.0004
		Zr	0.0007	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WV 6000 T

Certified Date: 10/22/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WV-6000	T	Si	0.602	0.009
		Fe	0.801	0.015
		Cu	0.302	0.008
		Mn	0.156	0.004
		Mg	0.90	0.03
		Cr	0.137	0.004
		Ni	0.0112	0.0006
		Zn	0.0804	0.0008
		Ti	0.0972	0.0009
		Ag	0.0000	0.0001
		As	0.0000	0.0002
		B	0.0000	0.0001
		Be	0.00000	0.00003
		Bi	0.0001	0.0002
		Ca	0.0000	0.0001
		Cd	0.0000	0.0001
		Co	0.0003	0.0002
		Ga	0.013	0.001
		Li	0.00000	0.00005
		Na	0.00006	0.00005
		P	0.0005	0.0002
		Pb	0.0011	0.0004
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0003	0.0002
		Sr	0.0000	0.0002
		V	0.0128	0.0006
		Zr	0.0016	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

WW 6000 H

Certified Date: 02/24/2010

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WW-6000	H	Si	0.60	0.02
		Fe	0.51	0.02
		Cu	0.45	0.02
		Mn	0.085	0.004
		Mg	0.92	0.03
		Cr	0.25	0.01
		Ni	0.054	0.003
		Zn	0.039	0.002
		Ti	0.051	0.003
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.011	0.001
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0001	0.0002
		Pb	0.0010	0.0005
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0071	0.0006
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WW 6000 K

Certified Date: 11/20/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WW-6000	K	Si	0.602	0.009
		Fe	0.493	0.009
		Cu	0.449	0.007
		Mn	0.085	0.002
		Mg	0.898	0.009
		Cr	0.249	0.004
		Ni	0.0463	0.0007
		Zn	0.0400	0.0007
		Ti	0.0519	0.0008
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0154	0.0007
		Li	0.00000	0.00005
		Na	0.00034	0.00005
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0105	0.0004
		Zr	0.0007	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WX 6000 M

Certified Date: 08/19/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WX-6000	M	Si	0.415	0.008
		Fe	0.196	0.004
		Cu	0.0288	0.0005
		Mn	0.0204	0.0004
		Mg	0.658	0.009
		Cr	0.314	0.005
		Ni	0.0104	0.0006
		Zn	0.0200	0.0004
		Ti	0.0108	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0004	0.0002
		Be	0.00002	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0055	0.0004
		Li	0.00000	0.00005
		Na	0.00013	0.00005
		P	(0.0000)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0000	0.0002
		V	0.0057	0.0004
		Zr	0.0004	0.0002

WZ 6000 P

Certified Date: 12/08/2011

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WZ-6000	P	Si	0.397	0.008
		Fe	0.151	0.006
		Cu	0.0299	0.0005
		Mn	0.0104	0.0009
		Mg	0.699	0.006
		Cr	0.0000	0.0002
		Ni	0.0000	0.0002
		Zn	0.0001	0.0002
		Ti	0.0002	0.0002
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0000	0.0002
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0001	0.0002
		Pb	0.0000	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0000	0.0002
		V	0.0048	0.0004
		Zr	0.0002	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6005 C

Certified Date: 07/24/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6005	C	Si	0.742	0.009
		Fe	0.145	0.004
		Cu	0.0102	0.0004
		Mn	0.0071	0.0004
		Mg	0.516	0.008
		Cr	0.0599	0.0009
		Ni	0.0015	0.0003
		Zn	0.0297	0.0005
		Ti	0.0472	0.0007
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0199	0.0004
		Li	0.00000	0.00005
		Na	0.00022	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0161	0.0004
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6005 D

Certified Date: 07/24/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6005	D	Si	0.742	0.009
		Fe	0.145	0.004
		Cu	0.0102	0.0004
		Mn	0.0071	0.0004
		Mg	0.516	0.008
		Cr	0.0599	0.0009
		Ni	0.0015	0.0003
		Zn	0.0297	0.0005
		Ti	0.0472	0.0007
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0199	0.0004
		Li	0.00000	0.00005
		Na	0.00022	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0161	0.0004
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6010 X

Certified Date: 03/07/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6010	X	Si	0.99	0.02
		Fe	0.247	0.004
		Cu	0.316	0.005
		Mn	0.330	0.005
		Mg	0.799	0.009
		Cr	0.0423	0.0006
		Ni	0.0279	0.0005
		Zn	0.121	0.003
		Ti	0.0284	0.0006
		Ag	0.0002	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0197	0.0004
		Li	0.00000	0.00005
		Na	0.00005	0.00005
		P	(0.0000)	
		Pb	0.0007	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0110	0.0004
		Zr	0.0005	0.0002

SS 6014 A

Certified Date: 06/08/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6014	A	Si	0.613	0.009
		Fe	0.258	0.006
		Cu	0.101	0.005
		Mn	0.131	0.005
		Mg	0.653	0.009
		Cr	0.0210	0.0005
		Ni	0.0032	0.0004
		Zn	0.0796	0.0009
		Ti	0.0695	0.0009
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0004
		Li	0.00000	0.00005
		Na	0.00004	0.00005
		P	0.0006	0.0002
		Pb	0.0005	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.189	0.004
		Zr	0.0010	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6014 B

Certified Date: 02/14/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6014	B	Si	0.612	0.009
		Fe	0.254	0.004
		Cu	0.0998	0.0009
		Mn	0.131	0.002
		Mg	0.650	0.009
		Cr	0.0203	0.0004
		Ni	0.0020	0.0004
		Zn	0.0788	0.0009
		Ti	0.0709	0.0009
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0004
		Li	0.00000	0.00005
		Na	0.00017	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.174	0.003
		Zr	0.0005	0.0002

SS 6014 C

Certified Date: 02/14/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6014	C	Si	0.612	0.009
		Fe	0.254	0.004
		Cu	0.0998	0.0009
		Mn	0.131	0.002
		Mg	0.650	0.009
		Cr	0.0203	0.0004
		Ni	0.0020	0.0004
		Zn	0.0788	0.0009
		Ti	0.0709	0.0009
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0004
		Li	0.00000	0.00005
		Na	0.00017	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.174	0.003
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WA 6014 A

Certified Date: 06/15/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-6014	A	Si	0.89	0.03
		Fe	0.184	0.005
		Cu	0.0600	0.0009
		Mn	0.0606	0.0009
		Mg	0.549	0.0009
		Cr	0.0305	0.0006
		Ni	0.0031	0.0004
		Zn	0.118	0.005
		Ti	0.101	0.005
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0198	0.0005
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	0.0005	0.0002
		Pb	0.0005	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.051	0.003
		Zr	0.0011	0.0004

WB 6014 A

Certified Date: 06/17/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-6014	A	Si	0.497	0.008
		Fe	0.214	0.005
		Cu	0.150	0.005
		Mn	0.100	0.005
		Mg	0.600	0.009
		Cr	0.0396	0.0006
		Ni	0.0033	0.0004
		Zn	0.0600	0.0009
		Ti	0.0482	0.0007
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0002	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0203	0.0006
		Li	0.00000	0.00005
		Na	0.00003	0.00005
		P	0.0006	0.0002
		Pb	0.0005	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.062	0.003
		Zr	0.0009	0.0002

SS 6016 B

Certified Date: 10/16/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6016	B	Si	1.22	0.02
		Fe	0.258	0.004
		Cu	0.098	0.003
		Mn	0.100	0.003
		Mg	0.445	0.006
		Cr	0.0528	0.0008
		Ni	0.0014	0.0002
		Zn	0.101	0.003
		Ti	0.0652	0.0009
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0194	0.0004
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0118	0.0004
		Zr	0.0005	0.0002

SS 6016 C

Certified Date: 10/16/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6016	C	Si	1.22	0.02
		Fe	0.258	0.004
		Cu	0.098	0.003
		Mn	0.100	0.003
		Mg	0.445	0.006
		Cr	0.0528	0.0008
		Ni	0.0014	0.0002
		Zn	0.101	0.003
		Ti	0.0652	0.0009
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0194	0.0004
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0118	0.0004
		Zr	0.0005	0.0002

SS 6022 L

Certified Date: 09/07/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6022	L	Si	0.894	0.009
		Fe	0.124	0.003
		Cu	0.072	0.002
		Mn	0.0749	0.0009
		Mg	0.598	0.009
		Cr	0.0303	0.0006
		Ni	0.0018	0.0002
		Zn	0.100	0.002
		Ti	0.0400	0.0009
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0146	0.0004
		Li	0.00000	0.00005
		Na	0.00011	0.00005
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0115	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6053 K

Certified Date: 03/06/2003

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6053	K	Si	0.69	0.02
		Fe	0.32	0.01
		Cu	0.049	0.003
		Mn	0.020	0.001
		Mg	1.21	0.04
		Cr	0.26	0.01
		Ni	0.030	0.002
		Zn	0.049	0.003
		Ti	0.033	0.002
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.011	0.001
		Hg	0.0000	0.0002
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0003	0.0002
		Pb	0.0002	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.010	0.001
		Zr	0.0009	0.0002

SS 6061 ND

Certified Date: 02/26/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6061	ND	Si	0.636	0.009
		Fe	0.347	0.005
		Cu	0.294	0.007
		Mn	0.0520	0.0008
		Mg	0.99	0.02
		Cr	0.232	0.003
		Ni	0.0468	0.0008
		Zn	0.0783	0.0016
		Ti	0.0391	0.0007
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0200	0.0004
		Li	0.00000	0.00005
		Na	0.00021	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0096	0.0004
		Zr	0.0006	0.0002

SS 6061 NE

Certified Date: 02/26/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6061	NE	Si	0.636	0.009
		Fe	0.347	0.005
		Cu	0.294	0.007
		Mn	0.0520	0.0008
		Mg	0.99	0.02
		Cr	0.232	0.003
		Ni	0.0468	0.0008
		Zn	0.0783	0.0016
		Ti	0.0391	0.0007
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0200	0.0004
		Li	0.00000	0.00005
		Na	0.00021	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0096	0.0004
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WA 6061 BF

Certified Date: 01/30/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-6061	BF	Si	0.589	0.009
		Fe	0.348	0.008
		Cu	0.294	0.004
		Mn	0.0527	0.0008
		Mg	1.00	0.02
		Cr	0.0500	0.0008
		Ni	0.048	0.002
		Zn	0.117	0.002
		Ti	0.0500	0.0009
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0196	0.0006
		Li	0.00000	0.00005
		Na	0.00011	0.00005
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0105	0.0004
		Zr	0.0005	0.0002

SS 6063 YH

Certified Date: 09/27/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6063	YH	Si	0.472	0.007
		Fe	0.253	0.004
		Cu	0.0597	0.0009
		Mn	0.0196	0.0004
		Mg	0.648	0.009
		Cr	0.0197	0.0004
		Ni	0.0191	0.0004
		Zn	0.0494	0.0008
		Ti	0.0284	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0198	0.0004
		Li	0.00000	0.00005
		Na	0.00024	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0104	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6063 YL

Certified Date: 08/25/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6063	YL	Si	0.474	0.007
		Fe	0.254	0.004
		Cu	0.0602	0.0009
		Mn	0.0213	0.0004
		Mg	0.650	0.009
		Cr	0.0202	0.0004
		Ni	0.0204	0.0004
		Zn	0.0501	0.0008
		Ti	0.0331	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00005	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0203	0.0004
		Li	0.00000	0.00005
		Na	0.00006	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0098	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6063 YM

Certified Date: 08/25/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6063	YM	Si	0.474	0.007
		Fe	0.254	0.004
		Cu	0.0602	0.0009
		Mn	0.0213	0.0004
		Mg	0.650	0.009
		Cr	0.0202	0.0004
		Ni	0.0204	0.0004
		Zn	0.0501	0.0008
		Ti	0.0331	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00005	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0203	0.0004
		Li	0.00000	0.00005
		Na	0.00006	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0098	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6063 YN

Certified Date: 08/25/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6063	YN	Si	0.475	0.007
		Fe	0.257	0.004
		Cu	0.0599	0.0009
		Mn	0.0208	0.0004
		Mg	0.649	0.009
		Cr	0.0202	0.0004
		Ni	0.0191	0.0004
		Zn	0.0498	0.0008
		Ti	0.0316	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00006	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0004
		Li	0.00000	0.00005
		Na	0.00020	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0100	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6063 YP

Certified Date: 08/25/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6063	YP	Si	0.475	0.007
		Fe	0.257	0.004
		Cu	0.0599	0.0009
		Mn	0.0208	0.0004
		Mg	0.649	0.009
		Cr	0.0202	0.0004
		Ni	0.0191	0.0004
		Zn	0.0498	0.0008
		Ti	0.0316	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00006	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0004
		Li	0.00000	0.00005
		Na	0.00020	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0100	0.0004
		Zr	0.0004	0.0002

SS 6063 YR

Certified Date: 08/25/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6063	YR	Si	0.476	0.007
		Fe	0.251	0.004
		Cu	0.0591	0.0009
		Mn	0.0220	0.0004
		Mg	0.649	0.009
		Cr	0.0201	0.0004
		Ni	0.0195	0.0004
		Zn	0.0503	0.0008
		Ti	0.0326	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00005	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0201	0.0004
		Li	0.00000	0.00005
		Na	0.00013	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0100	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6063 YS

Certified Date: 08/25/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6063	YS	Si	0.476	0.007
		Fe	0.251	0.004
		Cu	0.0591	0.0009
		Mn	0.0220	0.0004
		Mg	0.649	0.009
		Cr	0.0201	0.0004
		Ni	0.0195	0.0004
		Zn	0.0503	0.0008
		Ti	0.0326	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00005	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0201	0.0004
		Li	0.00000	0.00005
		Na	0.00013	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0100	0.0004
		Zr	0.0004	0.0002

WA 6063 D

Certified Date: 06/05/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-6063	D	Si	0.450	0.008
		Fe	0.180	0.003
		Cu	0.0101	0.0004
		Mn	0.0314	0.0005
		Mg	0.477	0.007
		Cr	0.0004	0.0002
		Ni	0.0016	0.0002
		Zn	0.0014	0.0002
		Ti	0.0121	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0138	0.0004
		Li	0.00000	0.00005
		Na	0.00012	0.00005
		P	(0.0000)	
		Pb	0.0006	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0001	0.0002
		V	0.0098	0.0004
		Zr	0.0007	0.0002

WA 6063 E

Certified Date: 06/05/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-6063	E	Si	0.450	0.008
		Fe	0.180	0.003
		Cu	0.0101	0.0004
		Mn	0.0314	0.0005
		Mg	0.477	0.007
		Cr	0.0004	0.0002
		Ni	0.0016	0.0002
		Zn	0.0014	0.0002
		Ti	0.0121	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0138	0.0004
		Li	0.00000	0.00005
		Na	0.00012	0.00005
		P	(0.0000)	
		Pb	0.0006	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0001	0.0002
		V	0.0098	0.0004
		Zr	0.0007	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6066 AG

Certified Date: 03/20/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6066	AG	Si	1.46	0.02
		Fe	0.350	0.006
		Cu	0.967	0.009
		Mn	0.900	0.009
		Mg	1.19	0.02
		Cr	0.0300	0.0006
		Ni	0.0276	0.0009
		Zn	0.101	0.002
		Ti	0.0297	0.0005
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0193	0.0004
		Li	0.00000	0.00005
		Na	0.00011	0.00005
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0101	0.0004
		Zr	0.0007	0.0002

SS 6066 AH

Certified Date: 03/20/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6066	AH	Si	1.46	0.02
		Fe	0.350	0.006
		Cu	0.967	0.009
		Mn	0.900	0.009
		Mg	1.19	0.02
		Cr	0.0300	0.0006
		Ni	0.0276	0.0009
		Zn	0.101	0.002
		Ti	0.0297	0.0005
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0193	0.0004
		Li	0.00000	0.00005
		Na	0.00011	0.00005
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0101	0.0004
		Zr	0.0007	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6066 AJ

Certified Date: 03/20/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6066	AJ	Si	1.47	0.02
		Fe	0.350	0.006
		Cu	0.967	0.009
		Mn	0.902	0.009
		Mg	1.20	0.02
		Cr	0.0304	0.0008
		Ni	0.0274	0.0006
		Zn	0.102	0.003
		Ti	0.0300	0.0005
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0196	0.0004
		Li	0.00000	0.00005
		Na	0.00012	0.00005
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0104	0.0004
		Zr	0.0007	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6070 W

Certified Date: 06/05/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6070	W	Si	1.27	0.02
		Fe	0.243	0.004
		Cu	0.302	0.005
		Mn	0.706	0.009
		Mg	0.805	0.009
		Cr	0.0600	0.0009
		Ni	0.0182	0.0004
		Zn	0.150	0.002
		Ti	0.0470	0.0014
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0150	0.0004
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0109	0.0004
		Zr	0.0006	0.0003

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6070 X

Certified Date: 06/05/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6070	X	Si	1.27	0.02
		Fe	0.243	0.004
		Cu	0.302	0.005
		Mn	0.706	0.009
		Mg	0.805	0.009
		Cr	0.0600	0.0009
		Ni	0.0182	0.0004
		Zn	0.150	0.002
		Ti	0.0470	0.0014
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0150	0.0004
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0109	0.0004
		Zr	0.0006	0.0003

SS 6111 H

Certified Date: 03/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6111	H	Si	0.792	0.009
		Fe	0.247	0.004
		Cu	0.699	0.009
		Mn	0.246	0.004
		Mg	0.601	0.009
		Cr	0.0301	0.0005
		Ni	0.0016	0.0002
		Zn	0.100	0.002
		Ti	0.0401	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0142	0.0005
		Li	0.00000	0.00005
		Na	0.00015	0.00005
		P	(0.0000)	
		Pb	0.0034	0.0004
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0096	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6111 J

Certified Date: 03/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6111	J	Si	0.792	0.009
		Fe	0.247	0.004
		Cu	0.699	0.009
		Mn	0.246	0.004
		Mg	0.601	0.009
		Cr	0.0301	0.0005
		Ni	0.0016	0.0002
		Zn	0.100	0.002
		Ti	0.0401	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0142	0.0005
		Li	0.00000	0.00005
		Na	0.00015	0.00005
		P	(0.0000)	
		Pb	0.0034	0.0004
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0096	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6201 X

Certified Date: 04/23/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6201	X	Si	0.76	0.01
		Fe	0.275	0.006
		Cu	0.0295	0.0008
		Mn	0.0117	0.0004
		Mg	0.752	0.009
		Cr	0.0002	0.0002
		Ni	0.0016	0.0002
		Zn	0.0226	0.0004
		Ti	0.0006	0.0002
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0198	0.0005
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0272	0.0004
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	0.0001	0.0002
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0005	0.0002
		Zr	0.0002	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6253 N

Certified Date: 10/29/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6253	N	Si	0.686	0.009
		Fe	0.243	0.004
		Cu	0.049	0.001
		Mn	0.0207	0.0004
		Mg	1.29	0.02
		Cr	0.224	0.003
		Ni	0.0098	0.0004
		Zn	2.00	0.03
		Ti	0.0188	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0155	0.0004
		Li	0.00000	0.00005
		Na	0.00013	0.00005
		P	(0.0001)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0000	0.0002
		V	0.0106	0.0004
		Zr	0.0005	0.0002

SS 6253 P

Certified Date: 10/29/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6253	P	Si	0.686	0.009
		Fe	0.243	0.004
		Cu	0.049	0.001
		Mn	0.0207	0.0004
		Mg	1.29	0.02
		Cr	0.224	0.003
		Ni	0.0098	0.0004
		Zn	2.00	0.03
		Ti	0.0188	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0155	0.0004
		Li	0.00000	0.00005
		Na	0.00013	0.00005
		P	(0.0001)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0000	0.0002
		V	0.0106	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6262 AN

Certified Date: 09/16/2013

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6262	AN	Si	0.59	0.01
		Fe	0.340	0.006
		Cu	0.300	0.005
		Mn	0.0469	0.0008
		Mg	0.997	0.009
		Cr	0.0342	0.0008
		Ni	0.0293	0.0007
		Zn	0.050	0.002
		Ti	0.0505	0.0006
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.587	0.008
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0204	0.0006
		Li	0.0000	0.0002
		Na	0.0001	0.0002
		P	0.0003	0.0002
		Pb	0.599	0.008
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0104	0.0006
		Zr	0.0011	0.0004

SS 6262 AP

Certified Date: 08/15/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6262	AP	Si	0.596	0.009
		Fe	0.348	0.007
		Cu	0.299	0.004
		Mn	0.0502	0.0008
		Mg	1.01	0.01
		Cr	0.0398	0.0006
		Ni	0.0283	0.0005
		Zn	0.0505	0.0009
		Ti	0.0469	0.0007
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.581	0.009
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0196	0.0004
		Li	0.00000	0.00005
		Na	0.00008	0.00005
		P	(0.0001)	
		Pb	0.594	0.009
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0116	0.0004
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6262 AR

Certified Date: 08/15/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6262	AR	Si	0.596	0.009
		Fe	0.348	0.007
		Cu	0.299	0.004
		Mn	0.0502	0.0008
		Mg	1.01	0.01
		Cr	0.0398	0.0006
		Ni	0.0283	0.0005
		Zn	0.0505	0.0009
		Ti	0.0469	0.0007
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.581	0.009
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0196	0.0004
		Li	0.00000	0.00005
		Na	0.00008	0.00005
		P	(0.0001)	
		Pb	0.594	0.009
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0116	0.0004
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6351 AJ

Certified Date: 05/10/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6351	AJ	Si	0.984	0.009
		Fe	0.302	0.005
		Cu	0.050	0.002
		Mn	0.702	0.009
		Mg	0.651	0.009
		Cr	0.0327	0.0006
		Ni	0.0175	0.0005
		Zn	0.0305	0.0006
		Ti	0.0202	0.0006
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0200	0.0004
		Li	0.00000	0.00005
		Na	0.00008	0.00005
		P	(0.0000)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0106	0.0004
		Zr	0.0003	0.0002

SS 6351 AK

Certified Date: 05/10/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6351	AK	Si	0.984	0.009
		Fe	0.302	0.005
		Cu	0.050	0.002
		Mn	0.702	0.009
		Mg	0.651	0.009
		Cr	0.0327	0.0006
		Ni	0.0175	0.0005
		Zn	0.0305	0.0006
		Ti	0.0202	0.0006
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0200	0.0004
		Li	0.00000	0.00005
		Na	0.00008	0.00005
		P	(0.0000)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0106	0.0004
		Zr	0.0003	0.0002

SS 6351 AL

Certified Date: 05/21/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6351	AL	Si	0.986	0.009
		Fe	0.300	0.005
		Cu	0.050	0.002
		Mn	0.703	0.009
		Mg	0.654	0.009
		Cr	0.0312	0.0006
		Ni	0.0171	0.0009
		Zn	0.0302	0.0006
		Ti	0.0198	0.0006
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0004	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0199	0.0004
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0000)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0100	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6351 AM

Certified Date: 05/21/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6351	AM	Si	0.986	0.009
		Fe	0.300	0.005
		Cu	0.050	0.002
		Mn	0.703	0.009
		Mg	0.654	0.009
		Cr	0.0312	0.0006
		Ni	0.0171	0.0009
		Zn	0.0302	0.0006
		Ti	0.0198	0.0006
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0004	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0199	0.0004
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0000)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0100	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 6951 J

Certified Date: 08/20/2003

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-6951	J	Si	0.40	0.01
		Fe	0.42	0.01
		Cu	0.30	0.01
		Mn	0.031	0.002
		Mg	0.71	0.02
		Cr	0.020	0.001
		Ni	0.021	0.001
		Zn	0.10	0.005
		Ti	0.026	0.002
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.012	0.001
		Hg	0.0000	0.0002
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0003	0.0002
		Pb	0.0003	0.0004
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0079	0.0006
		Zr	0.0013	0.0004

SS 7001 Y

Certified Date: 09/18/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7001	Y	Si	0.0982	0.0009
		Fe	0.140	0.005
		Cu	2.03	0.04
		Mn	0.0422	0.0006
		Mg	3.06	0.05
		Cr	0.213	0.004
		Ni	0.0105	0.0007
		Zn	7.49	0.09
		Ti	0.0287	0.0005
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.0033	0.0004
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0198	0.0006
		Li	0.00000	0.00005
		Na	0.0000	0.0002
		P	0.0004	0.0002
		Pb	0.0006	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.011	0.001
		Zr	0.0006	0.0002

SS 7005 AF

Certified Date: 12/03/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7005	AF	Si	0.151	0.004
		Fe	0.245	0.005
		Cu	0.102	0.004
		Mn	0.524	0.007
		Mg	1.30	0.03
		Cr	0.100	0.004
		Ni	0.0220	0.0006
		Zn	4.47	0.08
		Ti	0.0209	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0200	0.0004
		Li	0.00001	0.00005
		Na	0.00003	0.00005
		P	(0.0006)	
		Pb	0.0010	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0003	0.0002
		Sr	0.0000	0.0002
		V	0.0128	0.0004
		Zr	0.143	0.006

SS 7005 AG

Certified Date: 01/19/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7005	AG	Si	0.144	0.003
		Fe	0.186	0.003
		Cu	0.102	0.002
		Mn	0.512	0.008
		Mg	1.29	0.02
		Cr	0.098	0.002
		Ni	0.0193	0.0004
		Zn	4.42	0.07
		Ti	0.0152	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0003
		Co	0.0001	0.0002
		Ga	0.0185	0.0009
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0004)	
		Pb	0.0011	0.0003
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0003	0.0002
		Sr	0.0000	0.0002
		V	0.0108	0.0004
		Zr	0.136	0.003

SS 7005 AH

Certified Date: 04/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7005	AH	Si	0.149	0.003
		Fe	0.198	0.003
		Cu	0.099	0.002
		Mn	0.513	0.008
		Mg	1.31	0.02
		Cr	0.103	0.002
		Ni	0.0193	0.0004
		Zn	4.54	0.07
		Ti	0.0220	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00004	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0199	0.0004
		Li	0.00000	0.00005
		Na	0.00010	0.00005
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0108	0.0004
		Zr	0.141	0.002

SS 7005 AJ

Certified Date: 04/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7005	AJ	Si	0.149	0.003
		Fe	0.198	0.003
		Cu	0.099	0.002
		Mn	0.513	0.008
		Mg	1.31	0.02
		Cr	0.103	0.002
		Ni	0.0193	0.0004
		Zn	4.54	0.07
		Ti	0.0220	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.00004	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0199	0.0004
		Li	0.00000	0.00005
		Na	0.00010	0.00005
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0108	0.0004
		Zr	0.141	0.002

SS 7010 E

Certified Date: 07/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7010	E	Si	0.060	0.002
		Fe	0.0815	0.0009
		Cu	1.76	0.03
		Mn	0.0419	0.0006
		Mg	2.37	0.04
		Cr	0.0159	0.0004
		Ni	0.0278	0.0006
		Zn	6.27	0.09
		Ti	0.0440	0.0007
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00007	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0196	0.0005
		Li	0.00000	0.00005
		Na	0.00010	0.00005
		P	(0.0000)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0002	0.0002
		V	0.0101	0.0004
		Zr	0.138	0.002

SS 7010 F

Certified Date: 07/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7010	F	Si	0.061	0.002
		Fe	0.0814	0.0009
		Cu	1.77	0.03
		Mn	0.0404	0.0006
		Mg	2.37	0.04
		Cr	0.0154	0.0004
		Ni	0.0286	0.0006
		Zn	6.26	0.09
		Ti	0.0369	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00007	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0194	0.0005
		Li	0.00000	0.00005
		Na	0.00003	0.00005
		P	(0.0000)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0002	0.0002
		V	0.0097	0.0004
		Zr	0.140	0.002

SS 7010 G

Certified Date: 07/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7010	G	Si	0.061	0.002
		Fe	0.0814	0.0009
		Cu	1.77	0.03
		Mn	0.0404	0.0006
		Mg	2.37	0.04
		Cr	0.0154	0.0004
		Ni	0.0286	0.0006
		Zn	6.26	0.09
		Ti	0.0369	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00007	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0194	0.0005
		Li	0.00000	0.00005
		Na	0.00003	0.00005
		P	(0.0000)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0002	0.0002
		V	0.0097	0.0004
		Zr	0.140	0.002

SS 7021 P

Certified Date: 03/18/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7021	P	Si	0.120	0.003
		Fe	0.298	0.004
		Cu	0.0788	0.0009
		Mn	0.0486	0.0007
		Mg	1.49	0.02
		Cr	0.0309	0.0005
		Ni	0.0028	0.0004
		Zn	5.40	0.08
		Ti	0.0414	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0200	0.0004
		Li	0.00000	0.00005
		Na	0.00010	0.00005
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0099	0.0004
		Zr	0.143	0.003

SS 7021 R

Certified Date: 03/18/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7021	R	Si	0.120	0.003
		Fe	0.298	0.004
		Cu	0.0788	0.0009
		Mn	0.0486	0.0007
		Mg	1.49	0.02
		Cr	0.0309	0.0005
		Ni	0.0028	0.0004
		Zn	5.40	0.08
		Ti	0.0414	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0200	0.0004
		Li	0.00000	0.00005
		Na	0.00010	0.00005
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0099	0.0004
		Zr	0.143	0.003

SS 7029 R

Certified Date: 05/04/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7029	R	Si	0.100	0.005
		Fe	0.093	0.004
		Cu	0.74	0.02
		Mn	0.0205	0.0006
		Mg	1.69	0.04
		Cr	0.0003	0.0002
		Ni	0.0025	0.0004
		Zn	4.77	0.09
		Ti	0.0195	0.0008
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0146	0.0008
		Li	0.00000	0.00005
		Na	0.0000	0.0002
		P	0.0005	0.0002
		Pb	0.0006	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0203	0.0005
		Zr	0.0009	0.0002

SS 7039 P

Certified Date: 10/20/2012

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7039	P	Si	0.141	0.006
		Fe	0.196	0.009
		Cu	0.0820	0.0008
		Mn	0.224	0.006
		Mg	2.97	0.03
		Cr	0.196	0.005
		Ni	0.020	0.001
		Zn	4.00	0.04
		Ti	0.052	0.003
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.0030	0.0004
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.020	0.001
		Li	0.0000	0.0002
		Na	0.0001	0.0002
		P	0.0003	0.0002
		Pb	0.0009	0.0004
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0111	0.0004
		Zr	0.0012	0.0004

SS 7046 T

Certified Date: 03/25/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7046	T	Si	0.121	0.005
		Fe	0.137	0.006
		Cu	0.149	0.006
		Mn	0.202	0.006
		Mg	1.29	0.03
		Cr	0.102	0.005
		Ni	0.0024	0.0004
		Zn	7.09	0.09
		Ti	0.039	0.002
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.0019	0.0004
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.019	0.001
		Li	0.00000	0.00005
		Na	0.00004	0.00005
		P	0.0005	0.0002
		Pb	0.0008	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0107	0.0006
		Zr	0.122	0.005

SS 7046 U

Certified Date: 05/01/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7046	U	Si	0.119	0.005
		Fe	0.118	0.004
		Cu	0.153	0.006
		Mn	0.203	0.004
		Mg	1.31	0.03
		Cr	0.100	0.003
		Ni	0.0014	0.0002
		Zn	7.17	0.09
		Ti	0.038	0.001
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.0010	0.0002
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0158	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0001)	
		Pb	0.0006	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0078	0.0004
		Zr	0.124	0.003

SS 7046 W

Certified Date: 05/01/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7046	W	Si	0.119	0.005
		Fe	0.118	0.004
		Cu	0.153	0.006
		Mn	0.203	0.004
		Mg	1.31	0.03
		Cr	0.100	0.003
		Ni	0.0014	0.0002
		Zn	7.17	0.09
		Ti	0.038	0.001
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.0010	0.0002
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0158	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0001)	
		Pb	0.0006	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0078	0.0004
		Zr	0.124	0.003

SS 7047 B

Certified Date: 03/06/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7047	B	Si	0.040	0.003
		Fe	0.046	0.002
		Cu	0.022	0.002
		Mn	0.0214	0.0004
		Mg	1.55	0.02
		Cr	0.0106	0.0004
		Ni	0.0009	0.0002
		Zn	7.46	0.09
		Ti	0.0315	0.0005
		Ag	0.364	0.005
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0082	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0002)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0098	0.0004
		Zr	0.104	0.002

SS 7047 C

Certified Date: 03/06/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7047	C	Si	0.040	0.003
		Fe	0.046	0.002
		Cu	0.022	0.002
		Mn	0.0214	0.0004
		Mg	1.55	0.02
		Cr	0.0106	0.0004
		Ni	0.0009	0.0002
		Zn	7.46	0.09
		Ti	0.0315	0.0005
		Ag	0.364	0.005
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0082	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0002)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0098	0.0004
		Zr	0.104	0.002

SS 7047 D

Certified Date: 03/06/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7047	D	Si	0.045	0.003
		Fe	0.050	0.002
		Cu	0.022	0.002
		Mn	0.0210	0.0004
		Mg	1.53	0.02
		Cr	0.0106	0.0004
		Ni	0.0004	0.0002
		Zn	7.47	0.09
		Ti	0.0306	0.0005
		Ag	0.364	0.005
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0102	0.0004
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	(0.0002)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0001	0.0002
		V	0.0112	0.0004
		Zr	0.108	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 7050 CG

Certified Date: 09/27/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7050	CG	Si	0.0792	0.0009
		Fe	0.157	0.006
		Cu	2.40	0.04
		Mn	0.0297	0.0004
		Mg	2.31	0.03
		Cr	0.0207	0.0004
		Ni	0.0182	0.0004
		Zn	6.26	0.09
		Ti	0.0408	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0010	0.0002
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0200	0.0007
		Li	0.00000	0.00005
		Na	0.00020	0.00005
		P	(0.0001)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0067	0.0004
		Zr	0.127	0.003

SS 7050 CH

Certified Date: 09/27/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7050	CH	Si	0.0792	0.0009
		Fe	0.157	0.006
		Cu	2.40	0.04
		Mn	0.0297	0.0004
		Mg	2.31	0.03
		Cr	0.0207	0.0004
		Ni	0.0182	0.0004
		Zn	6.26	0.09
		Ti	0.0408	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0010	0.0002
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0200	0.0007
		Li	0.00000	0.00005
		Na	0.00020	0.00005
		P	(0.0001)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0067	0.0004
		Zr	0.127	0.003

Arconic Spectrochemical Reference Materials

09/22/2020

SS 7050 CJ

Certified Date: 09/27/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7050	CJ	Si	0.0794	0.0009
		Fe	0.158	0.006
		Cu	2.39	0.04
		Mn	0.0265	0.0004
		Mg	2.31	0.03
		Cr	0.0196	0.0004
		Ni	0.0182	0.0004
		Zn	6.26	0.09
		Ti	0.0377	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0010	0.0002
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0200	0.0008
		Li	0.00000	0.00005
		Na	0.00013	0.00005
		P	(0.0001)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0066	0.0004
		Zr	0.128	0.003

SS 7050 CK

Certified Date: 09/27/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7050	CK	Si	0.0794	0.0009
		Fe	0.158	0.006
		Cu	2.39	0.04
		Mn	0.0265	0.0004
		Mg	2.31	0.03
		Cr	0.0196	0.0004
		Ni	0.0182	0.0004
		Zn	6.26	0.09
		Ti	0.0377	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0010	0.0002
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0200	0.0008
		Li	0.00000	0.00005
		Na	0.00013	0.00005
		P	(0.0001)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0066	0.0004
		Zr	0.128	0.003

SS 7050 CL

Certified Date: 09/27/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7050	CL	Si	0.0793	0.0009
		Fe	0.155	0.006
		Cu	2.39	0.04
		Mn	0.0291	0.0004
		Mg	2.31	0.03
		Cr	0.0192	0.0004
		Ni	0.0181	0.0004
		Zn	6.26	0.09
		Ti	0.0382	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0010	0.0002
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0200	0.0007
		Li	0.00000	0.00005
		Na	0.00010	0.00005
		P	(0.0001)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0066	0.0004
		Zr	0.129	0.003

SS 7050 CM

Certified Date: 09/27/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7050	CM	Si	0.0793	0.0009
		Fe	0.155	0.006
		Cu	2.39	0.04
		Mn	0.0291	0.0004
		Mg	2.31	0.03
		Cr	0.0192	0.0004
		Ni	0.0181	0.0004
		Zn	6.26	0.09
		Ti	0.0382	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0010	0.0002
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0200	0.0007
		Li	0.00000	0.00005
		Na	0.00010	0.00005
		P	(0.0001)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0066	0.0004
		Zr	0.129	0.003

SS 7055 D

Certified Date: 05/11/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7055	D	Si	0.0690	0.0009
		Fe	0.087	0.003
		Cu	2.29	0.04
		Mn	0.0111	0.0004
		Mg	2.04	0.04
		Cr	0.0107	0.0006
		Ni	0.0026	0.0004
		Zn	7.96	0.09
		Ti	0.0198	0.0006
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0194	0.0008
		Li	0.00000	0.00005
		Na	0.00003	0.00005
		P	(0.0003)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0189	0.0006
		Zr	0.158	0.006

SS 7065 A

Certified Date: 04/07/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7065	A	Si	0.020	0.002
		Fe	0.0275	0.0008
		Cu	2.10	0.05
		Mn	0.0158	0.0006
		Mg	1.61	0.04
		Cr	0.0061	0.0006
		Ni	0.0003	0.0002
		Zn	7.70	0.09
		Ti	0.0199	0.0006
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.021	0.001
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	0.0006	0.0002
		Pb	0.0003	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0078	0.0006
		Zr	0.112	0.006

SS 7072 AN

Certified Date: 04/08/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7072	AN	Si	0.143	0.004
		Fe	0.274	0.004
		Cu	0.0290	0.0005
		Mn	0.0411	0.0006
		Mg	0.0284	0.0008
		Cr	0.0324	0.0005
		Ni	0.0296	0.0006
		Zn	1.10	0.02
		Ti	0.0302	0.0007
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00010	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0198	0.0004
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	(0.0000)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0096	0.0004
		Zr	0.0004	0.0002

SS 7072 AP

Certified Date: 04/08/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7072	AP	Si	0.143	0.004
		Fe	0.274	0.004
		Cu	0.0290	0.0005
		Mn	0.0411	0.0006
		Mg	0.0284	0.0008
		Cr	0.0324	0.0005
		Ni	0.0296	0.0006
		Zn	1.10	0.02
		Ti	0.0302	0.0007
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00010	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0198	0.0004
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	(0.0000)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0096	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 7075 JA

Certified Date: 02/27/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7075	JA	Si	0.160	0.003
		Fe	0.147	0.003
		Cu	1.59	0.02
		Mn	0.080	0.001
		Mg	2.59	0.04
		Cr	0.202	0.003
		Ni	0.0014	0.0004
		Zn	5.81	0.08
		Ti	0.039	0.001
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0190	0.0009
		Li	0.00000	0.00005
		Na	0.00016	0.00005
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0002	0.0002
		V	0.0068	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 7075 JB

Certified Date: 02/28/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7075	JB	Si	0.161	0.003
		Fe	0.155	0.003
		Cu	1.59	0.02
		Mn	0.080	0.001
		Mg	2.60	0.04
		Cr	0.203	0.003
		Ni	0.0015	0.0004
		Zn	5.83	0.09
		Ti	0.042	0.001
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0190	0.0009
		Li	0.00000	0.00005
		Na	0.00018	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0067	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 7075 JC

Certified Date: 02/28/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7075	JC	Si	0.161	0.003
		Fe	0.155	0.003
		Cu	1.59	0.02
		Mn	0.080	0.001
		Mg	2.60	0.04
		Cr	0.203	0.003
		Ni	0.0015	0.0004
		Zn	5.83	0.09
		Ti	0.042	0.001
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0190	0.0009
		Li	0.00000	0.00005
		Na	0.00018	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0067	0.0004
		Zr	0.0005	0.0002

SS 7075 JD

Certified Date: 02/28/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7075	JD	Si	0.160	0.003
		Fe	0.153	0.003
		Cu	1.58	0.02
		Mn	0.080	0.001
		Mg	2.58	0.04
		Cr	0.204	0.003
		Ni	0.0015	0.0004
		Zn	5.81	0.09
		Ti	0.040	0.001
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0189	0.0009
		Li	0.00000	0.00005
		Na	0.00017	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0069	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 7075 JE

Certified Date: 02/28/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7075	JE	Si	0.160	0.003
		Fe	0.153	0.003
		Cu	1.58	0.02
		Mn	0.080	0.001
		Mg	2.58	0.04
		Cr	0.204	0.003
		Ni	0.0015	0.0004
		Zn	5.81	0.09
		Ti	0.040	0.001
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0189	0.0009
		Li	0.00000	0.00005
		Na	0.00017	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0069	0.0004
		Zr	0.0005	0.0002

WA 7075 E

Certified Date: 06/14/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WA-7075	E	Si	0.147	0.005
		Fe	0.229	0.004
		Cu	1.18	0.02
		Mn	0.112	0.003
		Mg	2.56	0.04
		Cr	0.246	0.004
		Ni	0.0030	0.0004
		Zn	5.76	0.09
		Ti	0.0511	0.0009
		Ag	0.0001	0.0002
		As	(0.0001)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0199	0.0006
		Li	0.00000	0.00005
		Na	0.00006	0.00005
		P	(0.0002)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.013	0.001
		Zr	0.0008	0.0002

WB 7075 D

Certified Date: 03/06/2009

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WB-7075	D	Si	0.146	0.006
		Fe	0.24	0.01
		Cu	1.95	0.04
		Mn	0.100	0.005
		Mg	2.63	0.06
		Cr	0.25	0.01
		Ni	0.0030	0.0006
		Zn	5.74	0.10
		Ti	0.049	0.002
		Be	0.0044	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

WC 7075 E

Certified Date: 09/06/2011

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WC-7075	E	Si	0.154	0.006
		Fe	0.24	0.01
		Cu	1.57	0.04
		Mn	0.100	0.005
		Mg	2.19	0.05
		Cr	0.243	0.008
		Ni	0.0021	0.0004
		Zn	5.73	0.04
		Ti	0.052	0.003
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.0040	0.0005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.010	0.001
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0001	0.0002
		Pb	0.0004	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0003	0.0002
		Sr	0.0000	0.0002
		V	0.0048	0.0004
		Zr	0.0010	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

WD 7075 C

Certified Date: 05/12/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WD-7075	C	Si	0.149	0.003
		Fe	0.240	0.006
		Cu	1.61	0.02
		Mn	0.107	0.002
		Mg	2.91	0.04
		Cr	0.251	0.004
		Ni	0.0025	0.0003
		Zn	5.82	0.09
		Ti	0.0524	0.0008
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0009	0.0002
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0206	0.0009
		Li	0.00000	0.00005
		Na	0.00009	0.00005
		P	(0.0003)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0105	0.0005
		Zr	0.0009	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

WE 7075 E

Certified Date: 01/19/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WE-7075	E	Si	0.146	0.006
		Fe	0.241	0.004
		Cu	1.57	0.02
		Mn	0.100	0.002
		Mg	2.59	0.04
		Cr	0.249	0.004
		Ni	0.0024	0.0003
		Zn	5.24	0.08
		Ti	0.0259	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0001	0.0002
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0197	0.0009
		Li	0.00000	0.00005
		Na	0.00006	0.00005
		P	(0.0002)	
		Pb	0.0008	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0100	0.0005
		Zr	0.0011	0.0002

WF 7075 C

Certified Date: 11/04/1999

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WF-7075	C	Si	0.152	0.006
		Fe	0.24	0.01
		Cu	1.59	0.04
		Mn	0.10	0.005
		Mg	2.63	0.06
		Cr	0.26	0.01
		Ni	0.0049	0.0004
		Zn	6.16	0.15
		Ti	0.052	0.003
		Be	0.0044	0.0004

WG 7075 F

Certified Date: 03/08/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WG-7075	F	Si	0.290	0.004
		Fe	0.153	0.009
		Cu	1.60	0.04
		Mn	0.192	0.005
		Mg	2.61	0.04
		Cr	0.184	0.006
		Ni	0.0026	0.0004
		Zn	5.82	0.06
		Ti	0.0788	0.0009
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0209	0.0009
		Li	0.00000	0.00005
		Na	0.00014	0.00005
		P	(0.0002)	
		Pb	0.0013	0.0004
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0003	0.0002
		Sr	0.0001	0.0002
		V	0.0081	0.0004
		Zr	0.0011	0.0004

WH 7075 D

Certified Date: 07/22/1991

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
WH-7075	D	Si	0.10	0.005
		Fe	0.35	0.01
		Cu	1.58	0.04
		Mn	0.033	0.002
		Mg	2.63	0.05
		Cr	0.30	0.01
		Ni	0.0013	0.0004
		Zn	5.77	0.10
		Ti	0.013	0.001
		Be	0.008	0.0003

SS 7076 T

Certified Date: 08/02/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7076	T	Si	0.146	0.005
		Fe	0.344	0.005
		Cu	0.633	0.009
		Mn	0.508	0.008
		Mg	1.68	0.03
		Cr	0.020	0.001
		Ni	0.0189	0.0008
		Zn	7.59	0.09
		Ti	0.048	0.001
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0010	0.0002
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0148	0.0004
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0003)	
		Pb	0.0007	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0109	0.0004
		Zr	0.0009	0.0002

SS 7079 AE

Certified Date: 09/19/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7079	AE	Si	0.149	0.005
		Fe	0.211	0.009
		Cu	0.64	0.02
		Mn	0.211	0.005
		Mg	3.47	0.06
		Cr	0.162	0.005
		Ni	0.0023	0.0004
		Zn	4.60	0.05
		Ti	0.0297	0.0006
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.0033	0.0004
		Bi	0.0001	0.0002
		Ca	0.00002	0.00005
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0155	0.0007
		Li	0.00000	0.00005
		Na	0.00004	0.00005
		P	0.0005	0.0002
		Pb	0.0006	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.010	0.001
		Zr	0.0014	0.0004

SS 7085 D

Certified Date: 05/22/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7085	D	Si	0.0292	0.0006
		Fe	0.066	0.002
		Cu	1.67	0.03
		Mn	0.0214	0.0005
		Mg	1.51	0.03
		Cr	0.0213	0.0004
		Ni	0.0014	0.0002
		Zn	7.51	0.09
		Ti	0.0277	0.0006
		Ag	0.0000	0.0002
		As	0.0001	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0190	0.0006
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0000)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0106	0.0004
		Zr	0.118	0.003

SS 7085 E

Certified Date: 05/22/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7085	E	Si	0.0292	0.0006
		Fe	0.066	0.002
		Cu	1.67	0.03
		Mn	0.0214	0.0005
		Mg	1.51	0.03
		Cr	0.0213	0.0004
		Ni	0.0014	0.0002
		Zn	7.51	0.09
		Ti	0.0277	0.0006
		Ag	0.0000	0.0002
		As	0.0001	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0190	0.0006
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0000)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0106	0.0004
		Zr	0.118	0.003

SS 7178 AH

Certified Date: 03/17/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7178	AH	Si	0.149	0.005
		Fe	0.190	0.007
		Cu	1.98	0.05
		Mn	0.0810	0.0009
		Mg	2.81	0.06
		Cr	0.251	0.007
		Ni	0.0200	0.0008
		Zn	6.69	0.09
		Ti	0.0480	0.0008
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0152	0.0005
		Li	0.00000	0.00005
		Na	0.0002	0.0002
		P	0.0005	0.0002
		Pb	0.0008	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0107	0.0005
		Zr	0.0004	0.0002

SS 7178 AJ

Certified Date: 05/03/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7178	AJ	Si	0.148	0.004
		Fe	0.186	0.005
		Cu	2.07	0.06
		Mn	0.0841	0.0009
		Mg	2.94	0.04
		Cr	0.251	0.004
		Ni	0.0174	0.0008
		Zn	6.89	0.09
		Ti	0.0469	0.0007
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0113	0.0004
		Li	0.00000	0.00005
		Na	0.00022	0.00005
		P	(0.0001)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0076	0.0004
		Zr	0.0003	0.0002

SS 7178 AK

Certified Date: 05/03/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-7178	AK	Si	0.148	0.004
		Fe	0.186	0.005
		Cu	2.07	0.06
		Mn	0.0841	0.0009
		Mg	2.94	0.04
		Cr	0.251	0.004
		Ni	0.0174	0.0008
		Zn	6.89	0.09
		Ti	0.0469	0.0007
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0113	0.0004
		Li	0.00000	0.00005
		Na	0.00022	0.00005
		P	(0.0001)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0076	0.0004
		Zr	0.0003	0.0002

SS 8011 B

Certified Date: 11/26/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-8011	B	Si	0.552	0.012
		Fe	0.665	0.009
		Cu	0.0201	0.0009
		Mn	0.0212	0.0005
		Mg	0.0028	0.0004
		Cr	0.0006	0.0002
		Ni	0.0017	0.0003
		Zn	0.0205	0.0007
		Ti	0.0410	0.0008
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0152	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0000	0.0002
		V	0.0121	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 8011 C

Certified Date: 11/26/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-8011	C	Si	0.552	0.012
		Fe	0.665	0.009
		Cu	0.0201	0.0009
		Mn	0.0212	0.0005
		Mg	0.0028	0.0004
		Cr	0.0006	0.0002
		Ni	0.0017	0.0003
		Zn	0.0205	0.0007
		Ti	0.0410	0.0008
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0152	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0000	0.0002
		V	0.0121	0.0004
		Zr	0.0004	0.0002

SS 201 A

Certified Date: 08/11/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-201	A	Si	0.0400	0.0006
		Fe	0.068	0.002
		Cu	4.49	0.09
		Mn	0.325	0.008
		Mg	0.249	0.005
		Cr	0.0004	0.0002
		Ni	0.0054	0.0004
		Zn	0.0051	0.0004
		Ti	0.244	0.006
		Ag	0.559	0.009
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0002	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.020	0.001
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	0.0006	0.0002
		Pb	0.0010	0.0004
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0060	0.0006
		Sr	0.0000	0.0002
		V	0.0139	0.0004
		Zr	0.0010	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 206 T

Certified Date: 10/29/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-206	T	Si	0.056	0.002
		Fe	0.069	0.003
		Cu	4.55	0.09
		Mn	0.358	0.006
		Mg	0.278	0.006
		Cr	0.0108	0.0004
		Ni	0.0099	0.0004
		Zn	0.0289	0.0006
		Ti	0.207	0.005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0199	0.0004
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	(0.0005)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.022	0.002
		Sr	0.0000	0.0002
		V	0.0130	0.0004
		Zr	0.0011	0.0004

SS 208 AD

Certified Date: 11/30/2012

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-208	AD	Si	3.00	0.04
		Fe	0.60	0.01
		Cu	3.99	0.05
		Mn	0.143	0.006
		Mg	0.0498	0.0008
		Cr	0.0003	0.0002
		Ni	0.083	0.003
		Zn	0.150	0.006
		Ti	0.137	0.006
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00031	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.012	0.001
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0004	0.0002
		Pb	0.104	0.005
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.099	0.002
		Sr	0.0000	0.0002
		V	0.010	0.001
		Zr	0.043	0.002

KA 213 U

Certified Date: 09/25/2013

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-213	U	Si	2.04	0.08
		Fe	0.98	0.02
		Cu	6.99	0.14
		Mn	0.305	0.008
		Mg	0.049	0.003
		Cr	0.0012	0.0004
		Ni	0.191	0.006
		Zn	0.998	0.005
		Ti	0.050	0.002
		Ag	0.0002	0.0002
		As	0.0001	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00004
		Bi	0.0002	0.0002
		Ca	0.0000	0.0002
		Cd	0.0001	0.0002
		Co	0.0003	0.0002
		Ga	0.013	0.001
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0005	0.0002
		Pb	0.0016	0.0004
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.55	0.03
		Sr	0.0001	0.0002
		V	0.011	0.002
		Zr	0.0009	0.0003

Arconic Spectrochemical Reference Materials

09/22/2020

KB 213 J

Certified Date: 10/23/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-213	J	Si	3.49	0.07
		Fe	1.00	0.03
		Cu	6.99	0.08
		Mn	0.352	0.007
		Mg	0.150	0.006
		Cr	0.0008	0.0002
		Ni	0.297	0.006
		Zn	1.193	0.015
		Ti	0.101	0.004
		Ag	0.0001	0.0002
		As	0.0001	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0001	0.0002
		Cd	0.0001	0.0002
		Co	0.0004	0.0002
		Ga	0.0125	0.0015
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	0.0006	0.0002
		Pb	0.0009	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0003	0.0002
		Sr	0.0000	0.0002
		V	0.0118	0.0007
		Zr	0.0020	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

KA 222 F

Certified Date: 09/18/2013

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-222	F	Si	0.72	0.02
		Fe	0.99	0.02
		Cu	10.1	0.2
		Mn	0.16	0.01
		Mg	0.33	0.01
		Cr	0.0005	0.0002
		Ni	0.155	0.007
		Zn	0.25	0.01
		Ti	0.099	0.005
		Ag	0.0001	0.0002
		As	0.0002	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0001	0.0002
		Co	0.0001	0.0002
		Ga	0.012	0.001
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0002	0.0002
		Pb	0.234	0.009
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.12	0.01
		Sr	0.0001	0.0002
		V	0.013	0.001
		Zr	0.0012	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 238 J

Certified Date: 09/16/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-238	J	Si	3.93	0.07
		Fe	0.986	0.009
		Cu	10.2	0.2
		Mn	0.192	0.008
		Mg	0.295	0.006
		Cr	0.0010	0.0002
		Ni	0.194	0.008
		Zn	0.199	0.007
		Ti	0.048	0.002
		Ag	0.0002	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0002	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0161	0.0005
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0002)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0086	0.0006
		Zr	0.0008	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 242 N

Certified Date: 10/19/2012

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-242	N	Si	0.451	0.006
		Fe	0.53	0.02
		Cu	4.01	0.06
		Mn	0.082	0.004
		Mg	1.49	0.02
		Cr	0.0418	0.0007
		Ni	2.04	0.03
		Zn	0.100	0.004
		Ti	0.115	0.003
		Ag	0.0000	0.0002
		As	0.0001	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0001	0.0002
		Cd	0.0001	0.0002
		Co	0.0013	0.0004
		Ga	0.0150	0.0006
		Li	0.0000	0.0002
		Na	0.0001	0.0002
		P	0.0004	0.0002
		Pb	0.0007	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0003	0.0002
		Sr	0.0000	0.0002
		V	0.0130	0.0006
		Zr	0.0022	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

KA 242 J

Certified Date: 04/26/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-242	J	Si	0.248	0.004
		Fe	0.408	0.006
		Cu	3.54	0.05
		Mn	0.0211	0.0006
		Mg	1.78	0.03
		Cr	0.0007	0.0002
		Ni	2.18	0.03
		Zn	0.0294	0.0004
		Ti	0.0567	0.0008
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0214	0.0004
		Ca	0.0000	0.0002
		Cd	0.0001	0.0002
		Co	0.0002	0.0002
		Ga	0.0155	0.0004
		Li	0.00000	0.00005
		Na	0.0002	0.0002
		P	(0.0001)	
		Pb	0.0219	0.0006
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0212	0.0009
		Sr	0.0001	0.0002
		V	0.0112	0.0004
		Zr	0.0010	0.0002

KB 242 F

Certified Date: 09/07/1989

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-242	F	Si	0.41	0.01
		Fe	0.20	0.008
		Cu	4.42	0.11
		Mn	0.051	0.003
		Mg	1.18	0.04
		Ni	1.85	0.05
		Zn	0.052	0.003
		Ti	0.14	0.006
		Bi	0.055	0.003
		Pb	0.057	0.003
		Sn	0.045	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

SS A242 K

Certified Date: 11/19/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-A242	K	Si	0.30	0.01
		Fe	0.44	0.02
		Cu	4.05	0.07
		Mn	0.053	0.003
		Mg	1.61	0.04
		Cr	0.197	0.005
		Ni	2.02	0.04
		Zn	0.101	0.005
		Ti	0.128	0.004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0013	0.0004
		Ga	0.0206	0.0005
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0003)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0108	0.0004
		Zr	0.0017	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 295 E

Certified Date: 05/23/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-295	E	Si	0.89	0.03
		Fe	0.68	0.02
		Cu	4.51	0.09
		Mn	0.121	0.005
		Mg	0.050	0.003
		Cr	0.0007	0.0002
		Ni	0.049	0.002
		Zn	0.099	0.003
		Ti	0.120	0.005
		Ag	0.0000	0.0002
		As	0.0001	0.0002
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0149	0.0006
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0004	0.0002
		Pb	0.0004	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0035	0.0005
		Sr	0.0002	0.0002
		V	0.0118	0.0006
		Zr	0.0011	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

KA 295 C

Certified Date: 11/04/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-295	C	Si	0.54	0.01
		Fe	0.980	0.009
		Cu	4.07	0.06
		Mn	0.0931	0.0015
		Mg	0.010	0.001
		Cr	0.0005	0.0002
		Ni	0.020	0.001
		Ti	0.068	0.003
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0105	0.0008
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	0.0002	0.0002
		Pb	0.0195	0.0008
		Sn	0.0041	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sr	0.0001	0.0002
		V	0.0084	0.0006
		Zr	0.0011	0.0004
		Zn	0.145	0.006

KB 295 F

Certified Date: 03/22/1994

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-295	F	Si	1.31	0.04
		Fe	0.35	0.01
		Cu	4.84	0.12
		Mn	0.031	0.002
		Mg	0.014	0.001
		Ni	0.081	0.004
		Zn	0.050	0.003
		Ti	0.17	0.007
		Pb	0.059	0.003
		Sn	0.012	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

SS 296 C

Certified Date: 10/02/2003

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-296	C	Si	2.83	0.08
		Fe	0.60	0.02
		Cu	4.52	0.12
		Mn	0.21	0.008
		Mg	0.067	0.003
		Cr	0.0007	0.0002
		Ni	0.15	0.006
		Zn	0.26	0.01
		Ti	0.11	0.005
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.0000	0.0002
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.019	0.001
		Hg	0.0000	0.0002
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0010	0.0002
		Pb	0.0005	0.0003
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.012	0.001
		Sr	0.0000	0.0002
		V	0.019	0.001
		Zr	0.0016	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 296 D

Certified Date: 05/15/1991

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-296	D	Si	2.83	0.08
		Fe	0.60	0.02
		Cu	4.52	0.12
		Mn	0.21	0.008
		Mg	0.067	0.003
		Cr	0.0007	0.0002
		Ni	0.15	0.006
		Zn	0.26	0.01
		Ti	0.10	0.005
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.0000	0.0002
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.019	0.001
		Hg	0.0000	0.0002
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0010	0.0002
		Pb	0.0005	0.0003
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.012	0.001
		Sr	0.0000	0.0002
		V	0.018	0.001
		Zr	0.0016	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 308

AA

Certified Date: 12/17/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-308	AA	Si	5.44	0.09
		Fe	0.65	0.02
		Cu	4.46	0.09
		Mn	0.107	0.005
		Mg	0.0805	0.0009
		Cr	0.0005	0.0002
		Ni	0.099	0.005
		Zn	0.250	0.005
		Ti	0.062	0.003
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0005	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.020	0.001
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	0.0006	0.0002
		Pb	0.0005	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.024	0.002
		V	0.011	0.001
		Zr	0.0010	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 319 JM

Certified Date: 05/31/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-319	JM	Si	6.19	0.09
		Fe	0.808	0.015
		Cu	3.81	0.06
		Mn	0.514	0.008
		Mg	0.101	0.003
		Cr	0.0006	0.0002
		Ni	0.193	0.004
		Zn	0.350	0.005
		Ti	0.154	0.003
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00001	0.00005
		Bi	0.0504	0.0012
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0152	0.0004
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0002)	
		Pb	0.112	0.005
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.201	0.003
		Sr	0.0005	0.0002
		V	0.0241	0.0004
		Zr	0.0014	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 319 JN

Certified Date: 05/31/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-319	JN	Si	6.19	0.09
		Fe	0.870	0.015
		Cu	3.81	0.06
		Mn	0.510	0.008
		Mg	0.099	0.002
		Cr	0.0007	0.0002
		Ni	0.192	0.004
		Zn	0.349	0.005
		Ti	0.169	0.003
		Ag	0.0002	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00001	0.00005
		Bi	0.0507	0.0012
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0152	0.0004
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0002)	
		Pb	0.092	0.003
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.200	0.003
		Sr	0.0005	0.0002
		V	0.0244	0.0004
		Zr	0.0014	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 319 JP

Certified Date: 05/31/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-319	JP	Si	6.19	0.09
		Fe	0.870	0.015
		Cu	3.81	0.06
		Mn	0.510	0.008
		Mg	0.099	0.002
		Cr	0.0007	0.0002
		Ni	0.192	0.004
		Zn	0.349	0.005
		Ti	0.169	0.003
		Ag	0.0002	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00001	0.00005
		Bi	0.0507	0.0012
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0152	0.0004
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0002)	
		Pb	0.092	0.003
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.200	0.003
		Sr	0.0005	0.0002
		V	0.0244	0.0004
		Zr	0.0014	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

KA 319 A

Certified Date: 10/17/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-319	A	Si	6.06	0.09
		Fe	0.594	0.009
		Cu	3.37	0.07
		Mn	0.304	0.005
		Mg	0.294	0.004
		Cr	0.0009	0.0002
		Ni	0.0469	0.0007
		Zn	0.601	0.009
		Ti	0.124	0.003
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.00001	0.00005
		Bi	0.0048	0.0004
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0197	0.0004
		Li	0.00000	0.00005
		Na	0.0002	0.0002
		P	0.0001	0.0002
		Pb	0.0254	0.0004
		Sb	0.0025	0.0005
		Sc	0.0000	0.0002
		Sn	0.0225	0.0005
		Sr	0.0232	0.0004
		V	0.0219	0.0004
		Zr	0.0005	0.0002

KB 319 A

Certified Date: 07/17/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-319	A	Si	6.12	0.09
		Fe	1.00	0.02
		Cu	3.54	0.07
		Mn	0.251	0.004
		Mg	0.0742	0.0009
		Cr	0.0012	0.0002
		Ni	0.343	0.005
		Zn	2.46	0.04
		Ti	0.201	0.003
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0004	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.0196	0.0004
		Li	0.00000	0.00005
		Na	0.00008	0.00005
		P	(0.0001)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0001	0.0002
		Sn	0.0002	0.0002
		Sr	0.0114	0.0004
		V	0.0159	0.0004
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KC 319 A

Certified Date: 07/19/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KC-319	A	Si	6.52	0.09
		Fe	0.598	0.009
		Cu	3.46	0.05
		Mn	0.398	0.006
		Mg	0.307	0.005
		Cr	0.0005	0.0002
		Ni	0.098	0.002
		Zn	0.790	0.009
		Ti	0.104	0.002
		Ag	0.0002	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0204	0.0004
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0005	0.0002
		V	0.0106	0.0004
		Zr	0.0006	0.0003

Arconic Spectrochemical Reference Materials

09/22/2020

SS 332 BX

Certified Date: 10/04/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-332	BX	Si	9.19	0.09
		Fe	0.703	0.012
		Cu	3.20	0.05
		Mn	0.255	0.005
		Mg	1.00	0.02
		Cr	0.0008	0.0002
		Ni	0.502	0.009
		Zn	0.256	0.004
		Ti	0.139	0.004
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0001	0.0002
		Ca	0.0007	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.015	0.001
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0001)	
		Pb	0.104	0.002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.103	0.002
		Sr	0.0216	0.0004
		V	0.0211	0.0004
		Zr	0.0010	0.0003

Arconic Spectrochemical Reference Materials

09/22/2020

SS 336 BD

Certified Date: 12/30/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-336	BD	Si	12.2	0.2
		Fe	0.644	0.009
		Cu	1.00	0.02
		Mn	0.0528	0.0009
		Mg	1.19	0.02
		Cr	0.0007	0.0002
		Ni	2.51	0.04
		Zn	0.049	0.002
		Ti	0.0402	0.0006
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0007	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0150	0.0004
		Li	0.00000	0.00005
		Na	0.00009	0.00005
		P	0.0025	0.0004
		Pb	0.0002	0.0002
		Sb	0.0029	0.0004
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0219	0.0009
		V	0.0093	0.0004
		Zr	0.0011	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 336 BE

Certified Date: 12/30/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-336	BE	Si	12.2	0.2
		Fe	0.644	0.009
		Cu	1.00	0.02
		Mn	0.0528	0.0009
		Mg	1.19	0.02
		Cr	0.0007	0.0002
		Ni	2.51	0.04
		Zn	0.049	0.002
		Ti	0.0402	0.0006
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0007	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0150	0.0004
		Li	0.00000	0.00005
		Na	0.00009	0.00005
		P	0.0025	0.0004
		Pb	0.0002	0.0002
		Sb	0.0029	0.0004
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0219	0.0009
		V	0.0093	0.0004
		Zr	0.0011	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 339 B

Certified Date: 04/17/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-339	B	Si	11.6	0.2
		Fe	0.398	0.006
		Cu	2.02	0.03
		Mn	0.199	0.003
		Mg	0.904	0.009
		Cr	0.0005	0.0002
		Ni	0.798	0.009
		Zn	0.597	0.007
		Ti	0.0962	0.0012
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00002	0.00005
		Bi	0.0000	0.0002
		Ca	0.0007	0.0002
		Cd	0.0001	0.0002
		Co	0.0001	0.0002
		Ga	0.0198	0.0006
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0001)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.022	0.002
		V	0.0179	0.0004
		Zr	0.0012	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 339 C

Certified Date: 04/17/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-339	C	Si	11.6	0.2
		Fe	0.398	0.006
		Cu	2.02	0.03
		Mn	0.199	0.003
		Mg	0.904	0.009
		Cr	0.0005	0.0002
		Ni	0.798	0.009
		Zn	0.597	0.007
		Ti	0.0962	0.0012
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00002	0.00005
		Bi	0.0000	0.0002
		Ca	0.0007	0.0002
		Cd	0.0001	0.0002
		Co	0.0001	0.0002
		Ga	0.0198	0.0006
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0001)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.022	0.002
		V	0.0179	0.0004
		Zr	0.0012	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KA A332 U

Certified Date: 08/21/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-A332	U	Si	12.43	0.09
		Fe	0.497	0.012
		Cu	0.989	0.009
		Mn	0.0568	0.0009
		Mg	0.0007	0.0002
		Cr	0.0003	0.0002
		Ni	2.69	0.04
		Zn	0.0007	0.0002
		Ti	0.0452	0.0007
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00011	0.00005
		Bi	0.0000	0.0002
		Ca	0.0002	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0192	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	0.0037	0.0004
		Pb	0.0004	0.0002
		Sb	0.0029	0.0004
		Sc	(0.0000)	
		Sn	0.0000	0.0002
		Sr	0.0259	0.0004
		V	0.0092	0.0004
		Zr	0.0012	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 354 AT

Certified Date: 04/05/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-354	AT	Si	9.11	0.09
		Fe	0.149	0.003
		Cu	1.83	0.04
		Mn	0.0507	0.0008
		Mg	0.551	0.008
		Cr	0.0103	0.0004
		Ni	0.0092	0.0004
		Zn	0.0502	0.0009
		Ti	0.124	0.003
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0007	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0202	0.0004
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0001)	
		Pb	0.0200	0.0007
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0201	0.0004
		Sr	0.0222	0.0007
		V	0.0114	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 354 AU

Certified Date: 04/05/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-354	AU	Si	9.11	0.09
		Fe	0.149	0.003
		Cu	1.83	0.04
		Mn	0.0507	0.0008
		Mg	0.551	0.008
		Cr	0.0103	0.0004
		Ni	0.0092	0.0004
		Zn	0.0502	0.0009
		Ti	0.124	0.003
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0007	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0202	0.0004
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0001)	
		Pb	0.0200	0.0007
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0201	0.0004
		Sr	0.0222	0.0007
		V	0.0114	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KA 354 A

Certified Date: 09/28/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-354	A	Si	9.13	0.09
		Fe	0.118	0.005
		Cu	1.81	0.04
		Mn	0.0120	0.0005
		Mg	0.347	0.005
		Cr	0.0004	0.0002
		Ni	0.0028	0.0004
		Zn	0.0007	0.0002
		Ti	0.060	0.003
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0019	0.0004
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.019	0.001
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0007)	
		Pb	0.0005	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0002	0.0002
		Sr	0.0202	0.0004
		V	0.0106	0.0004
		Zr	0.0008	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KB 354 A

Certified Date: 07/15/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-354	A	Si	8.70	0.09
		Fe	0.150	0.005
		Cu	1.78	0.04
		Mn	0.0520	0.0009
		Mg	0.342	0.007
		Cr	0.0106	0.0005
		Ni	0.0107	0.0005
		Zn	0.0505	0.0008
		Ti	0.100	0.005
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0032	0.0004
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0190	0.0005
		Li	0.00000	0.00005
		Na	0.00001	0.00005
		P	0.0005	0.0002
		Pb	0.0011	0.0004
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0003	0.0002
		Sr	0.0114	0.0012
		V	0.0128	0.0004
		Zr	0.0014	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

KC 354 A

Certified Date: 07/21/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KC-354	A	Si	9.01	0.09
		Fe	0.153	0.006
		Cu	1.79	0.04
		Mn	0.151	0.006
		Mg	0.344	0.006
		Cr	0.0110	0.0004
		Ni	0.0105	0.0005
		Zn	0.0505	0.0009
		Ti	0.0976	0.0009
		Ag	0.0002	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0025	0.0004
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.0190	0.0006
		Li	0.00000	0.00005
		Na	0.00003	0.00005
		P	0.0006	0.0002
		Pb	0.0018	0.0004
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0004	0.0002
		Sr	0.011	0.001
		V	0.104	0.005
		Zr	0.102	0.005

Arconic Spectrochemical Reference Materials

09/22/2020

SS 355 FD

Certified Date: 03/21/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-355	FD	Si	5.17	0.08
		Fe	0.346	0.005
		Cu	1.31	0.02
		Mn	0.0822	0.0012
		Mg	0.548	0.008
		Cr	0.0260	0.0004
		Ni	0.0488	0.0012
		Zn	0.104	0.002
		Ti	0.118	0.002
		Ag	0.0001	0.0002
		As	0.0001	0.0002
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0002	0.0002
		Ca	0.0005	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0167	0.0004
		Li	0.00000	0.00005
		Na	0.00014	0.00005
		P	0.0000	0.0002
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0003	0.0002
		Sr	0.0202	0.0006
		V	0.0086	0.0004
		Zr	0.0007	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KA 355 AB

Certified Date: 10/16/2013

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-355	AB	Si	4.45	0.09
		Fe	0.62	0.02
		Cu	0.99	0.02
		Mn	0.052	0.002
		Mg	0.63	0.02
		Cr	0.0109	0.0006
		Ni	0.030	0.003
		Zn	0.0507	0.0008
		Ti	0.185	0.008
		Ag	0.0000	0.0002
		As	0.0001	0.0002
		B	0.0000	0.0002
		Be	0.0006	0.0002
		Bi	0.0000	0.0002
		Ca	0.0007	0.0002
		Cd	0.0001	0.0002
		Co	0.0003	0.0002
		Ga	0.0132	0.0006
		Li	0.0000	0.0002
		Na	0.0001	0.0002
		P	0.0006	0.0002
		Pb	0.0007	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0003	0.0002
		Sr	0.024	0.002
		V	0.0114	0.0008
		Zr	0.0014	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

KA 355 AC

Certified Date: 05/06/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-355	AC	Si	4.42	0.06
		Fe	0.641	0.009
		Cu	0.99	0.03
		Mn	0.0520	0.0009
		Mg	0.626	0.009
		Cr	0.0009	0.0002
		Ni	0.0299	0.0006
		Zn	0.0501	0.0007
		Ti	0.176	0.007
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.00001	0.00005
		Bi	0.0001	0.0002
		Ca	0.0013	0.0004
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.0130	0.0005
		Li	0.00000	0.00005
		Na	0.00011	0.00005
		P	0.0005	0.0002
		Pb	0.0010	0.0004
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0003	0.0002
		Sr	0.0237	0.0005
		V	0.0131	0.0005
		Zr	0.0015	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

KB 355 AK

Certified Date: 03/22/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-355	AK	Si	5.52	0.08
		Fe	0.147	0.005
		Cu	1.49	0.02
		Mn	0.148	0.002
		Mg	0.399	0.006
		Cr	0.0499	0.0007
		Ni	0.0091	0.0004
		Zn	0.153	0.004
		Ti	0.0784	0.0009
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00002	0.00005
		Bi	0.0001	0.0002
		Ca	0.0005	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0163	0.0004
		Li	0.00000	0.00005
		Na	0.00009	0.00005
		P	(0.0001)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0193	0.0004
		V	0.0084	0.0004
		Zr	0.0008	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KC 355 G

Certified Date: 03/10/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KC-355	G	Si	5.00	0.09
		Fe	0.154	0.006
		Cu	1.33	0.04
		Mn	0.083	0.004
		Mg	0.032	0.002
		Cr	0.0288	0.0007
		Ni	0.0472	0.0007
		Zn	0.032	0.002
		Ti	0.118	0.005
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.00001	0.00005
		Bi	0.0001	0.0002
		Ca	0.0016	0.0004
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0191	0.0007
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	0.0005	0.0002
		Pb	0.0005	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0201	0.0006
		V	0.0113	0.0005
		Zr	0.0011	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 356 RH

Certified Date: 08/26/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-356	RH	Si	7.05	0.09
		Fe	0.352	0.005
		Cu	0.120	0.003
		Mn	0.0518	0.0008
		Mg	0.348	0.005
		Cr	0.0006	0.0002
		Ni	0.0297	0.0005
		Zn	0.101	0.002
		Ti	0.128	0.003
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00010	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0207	0.0009
		Li	0.00000	0.00005
		Na	0.00008	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0203	0.0005
		V	0.0104	0.0004
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 356 RJ

Certified Date: 08/26/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-356	RJ	Si	7.05	0.09
		Fe	0.352	0.005
		Cu	0.120	0.003
		Mn	0.0518	0.0008
		Mg	0.348	0.005
		Cr	0.0006	0.0002
		Ni	0.0297	0.0005
		Zn	0.101	0.002
		Ti	0.128	0.003
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00010	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0207	0.0009
		Li	0.00000	0.00005
		Na	0.00008	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0203	0.0005
		V	0.0104	0.0004
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 356 RK

Certified Date: 08/26/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-356	RK	Si	7.03	0.09
		Fe	0.355	0.005
		Cu	0.119	0.003
		Mn	0.0514	0.0008
		Mg	0.348	0.005
		Cr	0.0006	0.0002
		Ni	0.0297	0.0005
		Zn	0.101	0.002
		Ti	0.127	0.003
		Ag	0.0001	0.0002
		As	(0.0001)	
		B	0.0000	0.0002
		Be	0.00010	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0206	0.0008
		Li	0.00000	0.00005
		Na	0.00009	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0201	0.0005
		V	0.0108	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 356 RL

Certified Date: 08/26/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-356	RL	Si	7.03	0.09
		Fe	0.355	0.005
		Cu	0.119	0.003
		Mn	0.0514	0.0008
		Mg	0.348	0.005
		Cr	0.0006	0.0002
		Ni	0.0297	0.0005
		Zn	0.101	0.002
		Ti	0.127	0.003
		Ag	0.0001	0.0002
		As	(0.0001)	
		B	0.0000	0.0002
		Be	0.00010	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0206	0.0008
		Li	0.00000	0.00005
		Na	0.00009	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0201	0.0005
		V	0.0108	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 356 RM

Certified Date: 08/26/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-356	RM	Si	7.04	0.09
		Fe	0.358	0.005
		Cu	0.119	0.003
		Mn	0.0515	0.0008
		Mg	0.348	0.005
		Cr	0.0006	0.0002
		Ni	0.0310	0.0005
		Zn	0.100	0.002
		Ti	0.121	0.003
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0008
		Li	0.00000	0.00005
		Na	0.00012	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0200	0.0005
		V	0.0101	0.0004
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 356 RN

Certified Date: 08/26/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-356	RN	Si	7.04	0.09
		Fe	0.358	0.005
		Cu	0.119	0.003
		Mn	0.0515	0.0008
		Mg	0.348	0.005
		Cr	0.0006	0.0002
		Ni	0.0310	0.0005
		Zn	0.100	0.002
		Ti	0.121	0.003
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0008
		Li	0.00000	0.00005
		Na	0.00012	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0200	0.0005
		V	0.0101	0.0004
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KA 356 CK

Certified Date: 11/16/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-356	CK	Si	6.54	0.09
		Fe	0.51	0.02
		Cu	0.201	0.004
		Mn	0.0336	0.0009
		Mg	0.222	0.004
		Cr	0.0006	0.0002
		Ni	0.0020	0.0003
		Zn	0.180	0.003
		Ti	0.0498	0.0009
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0003	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0191	0.0004
		Li	0.00000	0.00005
		Na	0.00012	0.00005
		P	0.0049	0.0004
		Pb	0.0004	0.0002
		Sb	0.0033	0.0004
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.054	0.002
		V	0.0102	0.0004
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KA 356 CL

Certified Date: 11/16/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-356	CL	Si	6.54	0.09
		Fe	0.51	0.02
		Cu	0.201	0.004
		Mn	0.0336	0.0009
		Mg	0.222	0.004
		Cr	0.0006	0.0002
		Ni	0.0020	0.0003
		Zn	0.180	0.003
		Ti	0.0498	0.0009
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0003	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0191	0.0004
		Li	0.00000	0.00005
		Na	0.00012	0.00005
		P	0.0049	0.0004
		Pb	0.0004	0.0002
		Sb	0.0033	0.0004
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.054	0.002
		V	0.0102	0.0004
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KB 356 FS

Certified Date: 11/27/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-356	FS	Si	7.47	0.09
		Fe	0.153	0.003
		Cu	0.0506	0.0012
		Mn	0.121	0.002
		Mg	0.450	0.007
		Cr	0.0004	0.0002
		Ni	0.0016	0.0002
		Zn	0.0394	0.0006
		Ti	0.164	0.004
		Ag	0.0001	0.0002
		As	(0.0001)	
		B	0.0000	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0204	0.0004
		Li	0.00000	0.00005
		Na	0.00013	0.00005
		P	(0.0001)	
		Pb	0.066	0.002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0602	0.0009
		Sr	0.0216	0.0006
		V	0.0102	0.0004
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KB 356 FT

Certified Date: 11/27/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-356	FT	Si	7.47	0.09
		Fe	0.153	0.003
		Cu	0.0506	0.0012
		Mn	0.121	0.002
		Mg	0.450	0.007
		Cr	0.0004	0.0002
		Ni	0.0016	0.0002
		Zn	0.0394	0.0006
		Ti	0.164	0.004
		Ag	0.0001	0.0002
		As	(0.0001)	
		B	0.0000	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0204	0.0004
		Li	0.00000	0.00005
		Na	0.00013	0.00005
		P	(0.0001)	
		Pb	0.066	0.002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0602	0.0009
		Sr	0.0216	0.0006
		V	0.0102	0.0004
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KB 356 FU

Certified Date: 11/27/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-356	FU	Si	7.46	0.09
		Fe	0.150	0.003
		Cu	0.0504	0.0012
		Mn	0.120	0.002
		Mg	0.448	0.007
		Cr	0.0004	0.0002
		Ni	0.0015	0.0002
		Zn	0.0393	0.0006
		Ti	0.169	0.004
		Ag	0.0001	0.0002
		As	(0.0001)	
		B	0.0000	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0204	0.0004
		Li	0.00000	0.00005
		Na	0.00010	0.00005
		P	(0.0001)	
		Pb	0.056	0.002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0600	0.0009
		Sr	0.0209	0.0008
		V	0.0101	0.0004
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KB 356 FW

Certified Date: 11/27/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-356	FW	Si	7.46	0.09
		Fe	0.150	0.003
		Cu	0.0504	0.0012
		Mn	0.120	0.002
		Mg	0.448	0.007
		Cr	0.0004	0.0002
		Ni	0.0015	0.0002
		Zn	0.0393	0.0006
		Ti	0.169	0.004
		Ag	0.0001	0.0002
		As	(0.0001)	
		B	0.0000	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0204	0.0004
		Li	0.00000	0.00005
		Na	0.00010	0.00005
		P	(0.0001)	
		Pb	0.056	0.002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0600	0.0009
		Sr	0.0209	0.0008
		V	0.0101	0.0004
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KC 356 HF

Certified Date: 06/18/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KC-356	HF	Si	7.01	0.09
		Fe	0.0769	0.0009
		Cu	0.0402	0.0006
		Mn	0.0200	0.0004
		Mg	0.350	0.005
		Cr	0.0004	0.0002
		Ni	0.0102	0.0004
		Zn	0.0295	0.0005
		Ti	0.127	0.002
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00002	0.00005
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0203	0.0006
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0000)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0204	0.0006
		V	0.0105	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KC 356 HG

Certified Date: 06/18/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KC-356	HG	Si	7.01	0.09
		Fe	0.0769	0.0009
		Cu	0.0402	0.0006
		Mn	0.0200	0.0004
		Mg	0.350	0.005
		Cr	0.0004	0.0002
		Ni	0.0102	0.0004
		Zn	0.0295	0.0005
		Ti	0.127	0.002
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00002	0.00005
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0203	0.0006
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0000)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0204	0.0006
		V	0.0105	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KC 356 HH

Certified Date: 06/18/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KC-356	HH	Si	7.04	0.09
		Fe	0.0779	0.0009
		Cu	0.0403	0.0006
		Mn	0.0212	0.0005
		Mg	0.351	0.005
		Cr	0.0004	0.0002
		Ni	0.0100	0.0004
		Zn	0.0293	0.0005
		Ti	0.115	0.002
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00004	0.00005
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0006
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0000)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0197	0.0006
		V	0.0104	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KC 356 HJ

Certified Date: 06/18/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KC-356	HJ	Si	7.04	0.09
		Fe	0.0779	0.0009
		Cu	0.0403	0.0006
		Mn	0.0212	0.0005
		Mg	0.351	0.005
		Cr	0.0004	0.0002
		Ni	0.0100	0.0004
		Zn	0.0293	0.0005
		Ti	0.115	0.002
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00004	0.00005
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0006
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0000)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0197	0.0006
		V	0.0104	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KC 356

HK

Certified Date: 06/18/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KC-356	HK	Si	7.03	0.09
		Fe	0.0770	0.0009
		Cu	0.0405	0.0006
		Mn	0.0204	0.0004
		Mg	0.351	0.005
		Cr	0.0004	0.0002
		Ni	0.0100	0.0004
		Zn	0.0292	0.0005
		Ti	0.134	0.002
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00004	0.00005
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0204	0.0006
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0000)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0199	0.0006
		V	0.0107	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KC 356 HL

Certified Date: 06/18/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KC-356	HL	Si	7.03	0.09
		Fe	0.0770	0.0009
		Cu	0.0405	0.0006
		Mn	0.0204	0.0004
		Mg	0.351	0.005
		Cr	0.0004	0.0002
		Ni	0.0100	0.0004
		Zn	0.0292	0.0005
		Ti	0.134	0.002
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00004	0.00005
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0204	0.0006
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	(0.0000)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0199	0.0006
		V	0.0107	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS A357 CS

Certified Date: 10/30/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-A357	CS	Si	7.10	0.09
		Fe	0.102	0.002
		Cu	0.0490	0.0007
		Mn	0.0202	0.0004
		Mg	0.602	0.009
		Cr	0.0157	0.0004
		Ni	0.0191	0.0004
		Zn	0.0311	0.0005
		Ti	0.121	0.002
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.064	0.002
		Bi	0.0000	0.0002
		Ca	0.0007	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0202	0.0006
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0001)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0218	0.0005
		V	0.0138	0.0004
		Zr	0.0004	0.0002

SS A357 CT

Certified Date: 10/30/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-A357	CT	Si	7.09	0.09
		Fe	0.104	0.002
		Cu	0.0492	0.0007
		Mn	0.0213	0.0004
		Mg	0.602	0.009
		Cr	0.0160	0.0004
		Ni	0.0190	0.0004
		Zn	0.0307	0.0005
		Ti	0.120	0.002
		Ag	0.0001	0.0002
		As	(0.0001)	
		B	0.0001	0.0002
		Be	0.062	0.002
		Bi	0.0000	0.0002
		Ca	0.0007	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0201	0.0006
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0001)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0224	0.0005
		V	0.0135	0.0004
		Zr	0.0004	0.0002

SS A357 CU

Certified Date: 10/30/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-A357	CU	Si	7.09	0.09
		Fe	0.104	0.002
		Cu	0.0492	0.0007
		Mn	0.0213	0.0004
		Mg	0.602	0.009
		Cr	0.0160	0.0004
		Ni	0.0190	0.0004
		Zn	0.0307	0.0005
		Ti	0.120	0.002
		Ag	0.0001	0.0002
		As	(0.0001)	
		B	0.0001	0.0002
		Be	0.062	0.002
		Bi	0.0000	0.0002
		Ca	0.0007	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0201	0.0006
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0001)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0224	0.0005
		V	0.0135	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KA 357 A

Certified Date: 04/02/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-357	A	Si	6.52	0.09
		Fe	0.0185	0.0004
		Cu	0.0199	0.0004
		Mn	0.0348	0.0005
		Mg	0.406	0.006
		Cr	0.0004	0.0002
		Ni	0.0015	0.0002
		Zn	0.0099	0.0005
		Ti	0.0585	0.0012
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0449	0.0007
		Bi	0.0000	0.0002
		Ca	0.0005	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0192	0.0004
		Li	0.00000	0.00005
		Na	0.00008	0.00005
		P	(0.0001)	
		Pb	0.0049	0.0004
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0055	0.0004
		Sr	0.0163	0.0005
		V	0.0103	0.0004
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KA 358 Z

Certified Date: 04/09/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-358	Z	Si	7.93	0.09
		Fe	0.192	0.003
		Cu	0.0787	0.0009
		Mn	0.0510	0.0008
		Mg	0.646	0.009
		Cr	0.0204	0.0009
		Ni	0.0176	0.0006
		Zn	0.0605	0.0009
		Ti	0.115	0.002
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.240	0.004
		Bi	0.0001	0.0002
		Ca	0.0003	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0170	0.0005
		Li	0.00001	0.00005
		Na	0.00015	0.00005
		P	(0.0002)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0219	0.0004
		V	0.0078	0.0006
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 360 BS

Certified Date: 08/20/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-360	BS	Si	9.61	0.09
		Fe	0.603	0.009
		Cu	0.251	0.004
		Mn	0.149	0.003
		Mg	0.548	0.008
		Cr	0.0007	0.0002
		Ni	0.164	0.002
		Zn	0.168	0.003
		Ti	0.0582	0.0009
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0007	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0199	0.0004
		Li	0.00000	0.00005
		Na	0.00015	0.00005
		P	(0.0001)	
		Pb	0.050	0.002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.072	0.002
		Sr	0.0209	0.0008
		V	0.0111	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 360 BT

Certified Date: 08/20/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-360	BT	Si	9.61	0.09
		Fe	0.592	0.009
		Cu	0.250	0.004
		Mn	0.152	0.003
		Mg	0.548	0.008
		Cr	0.0007	0.0002
		Ni	0.166	0.002
		Zn	0.169	0.003
		Ti	0.0566	0.0009
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0007	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0199	0.0004
		Li	0.00000	0.00005
		Na	0.00003	0.00005
		P	(0.0001)	
		Pb	0.043	0.002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.072	0.002
		Sr	0.0214	0.0008
		V	0.0108	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KA 360 AX

Certified Date: 01/24/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-360	AX	Si	10.1	0.1
		Fe	0.356	0.006
		Cu	0.403	0.006
		Mn	0.103	0.002
		Mg	0.449	0.007
		Cr	0.0005	0.0002
		Ni	0.250	0.004
		Zn	0.250	0.004
		Ti	0.0182	0.0007
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0008	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0141	0.0007
		Li	0.00000	0.00005
		Na	0.00008	0.00005
		P	(0.0001)	
		Pb	0.234	0.006
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0304	0.0009
		Sr	0.0220	0.0006
		V	0.0095	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KB 360 Z

Certified Date: 03/30/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-360	Z	Si	9.08	0.09
		Fe	0.999	0.009
		Cu	0.103	0.002
		Mn	0.252	0.003
		Mg	0.646	0.009
		Cr	0.0006	0.0002
		Ni	0.0975	0.0009
		Zn	0.100	0.002
		Ti	0.116	0.002
		Ag	0.0001	0.0002
		As	(0.0001)	
		B	0.0000	0.0002
		Be	0.00005	0.00005
		Bi	0.0000	0.0002
		Ca	0.0003	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.021	0.002
		Li	0.00000	0.00005
		Na	0.00008	0.00005
		P	(0.0005)	
		Pb	0.107	0.005
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.103	0.002
		Sr	0.022	0.002
		V	0.0105	0.0004
		Zr	0.0010	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KC 360 X

Certified Date: 11/15/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KC-360	X	Si	9.58	0.09
		Fe	1.04	0.02
		Cu	0.295	0.008
		Mn	0.166	0.004
		Mg	0.581	0.009
		Cr	0.0009	0.0002
		Ni	0.198	0.003
		Zn	0.237	0.004
		Ti	0.0230	0.0005
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0003	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.0052	0.0004
		Li	0.00000	0.00005
		Na	0.0002	0.0002
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0001)	
		Sc	0.0000	0.0002
		Sn	0.120	0.002
		Sr	0.020	0.001
		V	0.0045	0.0004
		Zr	0.0008	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KD 360 T

Certified Date: 05/12/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KD-360	T	Si	9.10	0.09
		Fe	0.101	0.005
		Cu	0.745	0.009
		Mn	0.052	0.003
		Mg	0.52	0.02
		Cr	0.0108	0.0005
		Ni	0.0192	0.0006
		Zn	0.0300	0.0009
		Ti	0.114	0.005
		Ag	0.0001	0.0002
		As	0.0001	0.0002
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0014	0.0004
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.020	0.001
		Li	0.00000	0.00005
		Na	0.00003	0.00005
		P	0.0018	0.0004
		Pb	0.0005	0.0002
		Sb	0.086	0.006
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.011	0.001
		Zr	0.0010	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KE 360 A

Certified Date: 01/22/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KE-360	A	Si	10.0	0.1
		Fe	0.792	0.009
		Cu	0.0799	0.0009
		Mn	0.302	0.005
		Mg	0.450	0.007
		Cr	0.0008	0.0002
		Ni	0.0954	0.0009
		Zn	0.0992	0.0009
		Ti	0.0478	0.0007
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0006	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0195	0.0005
		Li	0.00000	0.00005
		Na	0.00014	0.00005
		P	(0.0001)	
		Pb	0.0420	0.0008
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0500	0.0008
		Sr	0.0159	0.0004
		V	0.0102	0.0004
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 365 G

Certified Date: 04/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-365	G	Si	10.5	0.2
		Fe	0.0941	0.0009
		Cu	0.0158	0.0008
		Mn	0.658	0.009
		Mg	0.322	0.005
		Cr	0.0004	0.0002
		Ni	0.0014	0.0002
		Zn	0.0195	0.0005
		Ti	0.0962	0.0015
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0005	0.0002
		Cd	0.0001	0.0002
		Co	0.0001	0.0002
		Ga	0.0145	0.0006
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0001	0.0002
		Sr	0.0154	0.0007
		V	0.0092	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 365 H

Certified Date: 04/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-365	H	Si	10.5	0.2
		Fe	0.0941	0.0009
		Cu	0.0158	0.0008
		Mn	0.658	0.009
		Mg	0.322	0.005
		Cr	0.0004	0.0002
		Ni	0.0014	0.0002
		Zn	0.0195	0.0005
		Ti	0.0962	0.0015
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0005	0.0002
		Cd	0.0001	0.0002
		Co	0.0001	0.0002
		Ga	0.0145	0.0006
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0000)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0001	0.0002
		Sr	0.0154	0.0007
		V	0.0092	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KA 367 A

Certified Date: 04/23/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-367	A	Si	9.58	0.09
		Fe	0.198	0.004
		Cu	0.0150	0.0004
		Mn	0.302	0.004
		Mg	0.353	0.005
		Cr	0.0005	0.0002
		Ni	0.022	0.002
		Zn	0.0500	0.0009
		Ti	0.0715	0.0009
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00013	0.00005
		Bi	0.0000	0.0002
		Ca	0.0004	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0194	0.0004
		Li	0.00000	0.00005
		Na	0.00008	0.00005
		P	(0.0001)	
		Pb	0.0253	0.0007
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0261	0.0007
		Sr	0.0144	0.0004
		V	0.0092	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 380 EX

Certified Date: 01/03/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-380	EX	Si	8.94	0.09
		Fe	0.907	0.009
		Cu	3.60	0.05
		Mn	0.401	0.006
		Mg	0.200	0.004
		Cr	0.0010	0.0002
		Ni	0.298	0.004
		Zn	0.352	0.005
		Ti	0.0788	0.0009
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.0195	0.0009
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0225	0.0005
		V	0.0106	0.0006
		Zr	0.0014	0.0004

SS 380 EY

Certified Date: 01/03/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-380	EY	Si	8.97	0.09
		Fe	0.903	0.009
		Cu	3.60	0.05
		Mn	0.400	0.006
		Mg	0.199	0.004
		Cr	0.0008	0.0002
		Ni	0.297	0.004
		Zn	0.350	0.005
		Ti	0.0817	0.0009
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.0196	0.0009
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0221	0.0005
		V	0.0115	0.0005
		Zr	0.0014	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 380 EZ

Certified Date: 01/03/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-380	EZ	Si	8.97	0.09
		Fe	0.903	0.009
		Cu	3.60	0.05
		Mn	0.400	0.006
		Mg	0.199	0.004
		Cr	0.0008	0.0002
		Ni	0.297	0.004
		Zn	0.350	0.005
		Ti	0.0817	0.0009
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.0196	0.0009
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0221	0.0005
		V	0.0115	0.0005
		Zr	0.0014	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

KA 380 BR

Certified Date: 04/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-380	BR	Si	9.48	0.09
		Fe	1.12	0.02
		Cu	3.08	0.05
		Mn	0.152	0.002
		Mg	0.452	0.007
		Cr	0.0007	0.0002
		Ni	0.450	0.009
		Zn	0.154	0.002
		Ti	0.128	0.002
		Ag	0.0001	0.0002
		As	(0.0001)	
		B	0.0000	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0004	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.0198	0.0006
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0001)	
		Pb	0.077	0.002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.199	0.003
		Sr	0.0205	0.0005
		V	0.0092	0.0004
		Zr	0.0010	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KA 380 BS

Certified Date: 04/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-380	BS	Si	9.48	0.09
		Fe	1.12	0.02
		Cu	3.08	0.05
		Mn	0.152	0.002
		Mg	0.452	0.007
		Cr	0.0007	0.0002
		Ni	0.450	0.009
		Zn	0.154	0.002
		Ti	0.121	0.002
		Ag	0.0001	0.0002
		As	(0.0001)	
		B	0.0000	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0004	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.0198	0.0006
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0001)	
		Pb	0.069	0.002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.199	0.003
		Sr	0.0211	0.0005
		V	0.0092	0.0004
		Zr	0.0010	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KB 380 CN

Certified Date: 07/23/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-380	CN	Si	7.73	0.09
		Fe	0.654	0.009
		Cu	4.12	0.06
		Mn	0.604	0.009
		Mg	0.0500	0.0008
		Cr	0.0313	0.0006
		Ni	0.103	0.002
		Zn	0.92	0.02
		Ti	0.0351	0.0005
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.102	0.004
		Ca	0.0003	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0199	0.0006
		Li	0.00000	0.00005
		Na	0.00005	0.00005
		P	(0.0001)	
		Pb	0.194	0.006
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.103	0.003
		Sr	0.0229	0.0005
		V	0.0099	0.0004
		Zr	0.0011	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KB 380 CP

Certified Date: 07/23/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-380	CP	Si	7.73	0.09
		Fe	0.654	0.009
		Cu	4.12	0.06
		Mn	0.604	0.009
		Mg	0.0500	0.0008
		Cr	0.0313	0.0006
		Ni	0.103	0.002
		Zn	0.92	0.02
		Ti	0.0351	0.0005
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.102	0.004
		Ca	0.0003	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0199	0.0006
		Li	0.00000	0.00005
		Na	0.00005	0.00005
		P	(0.0001)	
		Pb	0.194	0.006
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.103	0.003
		Sr	0.0229	0.0005
		V	0.0099	0.0004
		Zr	0.0011	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KC 380 BC

Certified Date: 06/05/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KC-380	BC	Si	9.03	0.09
		Fe	1.21	0.02
		Cu	3.63	0.07
		Mn	0.305	0.005
		Mg	0.204	0.003
		Cr	0.0600	0.0009
		Ni	0.194	0.004
		Zn	0.592	0.009
		Ti	0.0755	0.0009
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0006	0.0002
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0000	0.0002
		Co	0.0004	0.0002
		Ga	0.0200	0.0008
		Li	0.00000	0.00005
		Na	0.00008	0.00005
		P	(0.0001)	
		Pb	0.0497	0.0007
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0597	0.0009
		Sr	0.0224	0.0005
		V	0.0100	0.0005
		Zr	0.0008	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KD 380 CD

Certified Date: 09/17/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KD-380	CD	Si	9.16	0.09
		Fe	1.10	0.02
		Cu	3.62	0.05
		Mn	0.298	0.004
		Mg	0.199	0.003
		Cr	0.0592	0.0009
		Ni	0.196	0.003
		Zn	2.69	0.04
		Ti	0.0584	0.0009
		Ag	0.0001	0.0002
		As	0.0001	0.0002
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0001	0.0002
		Ca	0.0005	0.0002
		Cd	0.0001	0.0002
		Co	0.0003	0.0002
		Ga	0.0144	0.0004
		Li	0.00000	0.00005
		Na	0.00006	0.00005
		P	(0.0001)	
		Pb	0.039	0.002
		Sb	(0.0001)	
		Sc	0.0000	0.0002
		Sn	0.059	0.002
		Sr	0.0231	0.0005
		V	0.0094	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KE 380 N

Certified Date: 11/08/2012

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KE-380	N	Si	9.59	0.07
		Fe	1.10	0.02
		Cu	3.60	0.04
		Mn	0.183	0.004
		Mg	0.0004	0.0002
		Cr	0.0220	0.0004
		Ni	0.030	0.004
		Zn	0.0023	0.0006
		Ti	0.0308	0.0006
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00001	0.00002
		Bi	0.0000	0.0002
		Ca	0.0020	0.0004
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.020	0.001
		Li	0.0000	0.0001
		Na	0.0001	0.0001
		P	0.0008	0.0002
		Pb	0.0005	0.0003
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.028	0.002
		V	0.0104	0.0009
		Zr	0.0016	0.0005

Arconic Spectrochemical Reference Materials

09/22/2020

KF 380 BS

Certified Date: 10/13/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KF-380	BS	Si	8.42	0.09
		Fe	0.69	0.02
		Cu	2.60	0.04
		Mn	0.457	0.007
		Mg	0.303	0.005
		Cr	0.0214	0.0006
		Ni	0.103	0.004
		Zn	3.52	0.05
		Ti	0.107	0.003
		Ag	0.0001	0.0002
		As	(0.0001)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.101	0.003
		Ca	0.0002	0.0002
		Cd	0.0001	0.0002
		Co	0.0002	0.0002
		Ga	0.019	0.002
		Li	0.00000	0.00005
		Na	0.00005	0.00005
		P	(0.0006)	
		Pb	0.100	0.003
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.152	0.003
		Sr	0.0001	0.0002
		V	0.0111	0.0004
		Zr	0.0015	0.0003

KG 380 HF

Certified Date: 03/21/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KG-380	HF	Si	9.28	0.09
		Fe	0.896	0.009
		Cu	3.22	0.05
		Mn	0.318	0.005
		Mg	0.113	0.002
		Cr	0.0143	0.0004
		Ni	0.320	0.005
		Zn	3.10	0.09
		Ti	0.0584	0.0009
		Ag	0.0002	0.0002
		As	(0.0001)	
		B	0.0001	0.0002
		Be	0.00004	0.00005
		Bi	0.047	0.002
		Ca	0.0049	0.0004
		Cd	0.0008	0.0002
		Co	0.0005	0.0002
		Ga	0.0115	0.0004
		Li	0.00002	0.00005
		Na	0.00022	0.00005
		P	(0.0008)	
		Pb	0.20	0.02
		Sb	(0.0001)	
		Sc	0.0000	0.0002
		Sn	0.101	0.002
		Sr	0.0128	0.0004
		V	0.0116	0.0004
		Zr	0.0014	0.0004

KG 380

HG

Certified Date: 03/21/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KG-380	HG	Si	9.28	0.09
		Fe	0.896	0.009
		Cu	3.22	0.05
		Mn	0.318	0.005
		Mg	0.113	0.002
		Cr	0.0143	0.0004
		Ni	0.320	0.005
		Zn	3.10	0.09
		Ti	0.0584	0.0009
		Ag	0.0002	0.0002
		As	(0.0001)	
		B	0.0001	0.0002
		Be	0.00004	0.00005
		Bi	0.047	0.002
		Ca	0.0049	0.0004
		Cd	0.0008	0.0002
		Co	0.0005	0.0002
		Ga	0.0115	0.0004
		Li	0.00002	0.00005
		Na	0.00022	0.00005
		P	(0.0008)	
		Pb	0.20	0.02
		Sb	(0.0001)	
		Sc	0.0000	0.0002
		Sn	0.101	0.002
		Sr	0.0128	0.0004
		V	0.0116	0.0004
		Zr	0.0014	0.0004

KH 380 BU

Certified Date: 03/22/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KH-380	BU	Si	9.55	0.09
		Fe	1.21	0.03
		Cu	3.77	0.06
		Mn	0.152	0.004
		Mg	0.0496	0.0007
		Cr	0.0011	0.0002
		Ni	0.394	0.006
		Zn	2.20	0.05
		Ti	0.0194	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.154	0.004
		Ca	0.0002	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.0196	0.0004
		Li	0.00000	0.00005
		Na	0.0000	0.0002
		P	(0.0001)	
		Pb	0.051	0.002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0503	0.0008
		Sr	0.0000	0.0002
		V	0.0095	0.0004
		Zr	0.0009	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KJ 380 A

Certified Date: 08/21/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KJ-380	A	Si	7.89	0.09
		Fe	0.60	0.03
		Cu	3.42	0.07
		Mn	0.100	0.005
		Mg	0.099	0.005
		Cr	0.034	0.002
		Ni	0.099	0.005
		Zn	0.103	0.005
		Ti	0.0100	0.0004
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0015	0.0004
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0186	0.0005
		Li	0.00000	0.00005
		Na	0.00004	0.00005
		P	0.0006	0.0002
		Pb	0.0006	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0150	0.0008
		V	0.0100	0.0004
		Zr	0.0016	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 383 DD

Certified Date: 07/17/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-383	DD	Si	11.1	0.2
		Fe	0.97	0.02
		Cu	2.48	0.04
		Mn	0.366	0.005
		Mg	0.246	0.004
		Cr	0.0623	0.0009
		Ni	0.113	0.002
		Zn	2.51	0.04
		Ti	0.0917	0.0009
		Ag	0.0003	0.0002
		As	(0.0001)	
		B	0.0004	0.0002
		Be	0.00005	0.00005
		Bi	0.0001	0.0002
		Ca	0.0021	0.0004
		Cd	0.0003	0.0002
		Co	0.0023	0.0004
		Ga	0.0257	0.0006
		Li	0.00003	0.00005
		Na	0.0005	0.0002
		P	(0.0003)	
		Pb	0.216	0.003
		Sb	(0.0002)	
		Sc	0.0002	0.0002
		Sn	0.162	0.004
		Sr	0.0257	0.0008
		V	0.0094	0.0004
		Zr	0.0022	0.0004

SS 383 DE

Certified Date: 07/17/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-383	DE	Si	11.1	0.2
		Fe	0.97	0.02
		Cu	2.48	0.04
		Mn	0.366	0.005
		Mg	0.246	0.004
		Cr	0.0623	0.0009
		Ni	0.113	0.002
		Zn	2.51	0.04
		Ti	0.0917	0.0009
		Ag	0.0003	0.0002
		As	(0.0001)	
		B	0.0004	0.0002
		Be	0.00005	0.00005
		Bi	0.0001	0.0002
		Ca	0.0021	0.0004
		Cd	0.0003	0.0002
		Co	0.0023	0.0004
		Ga	0.0257	0.0006
		Li	0.00003	0.00005
		Na	0.0005	0.0002
		P	(0.0003)	
		Pb	0.216	0.003
		Sb	(0.0002)	
		Sc	0.0002	0.0002
		Sn	0.162	0.004
		Sr	0.0257	0.0008
		V	0.0094	0.0004
		Zr	0.0022	0.0004

SS 383 DF

Certified Date: 07/17/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-383	DF	Si	11.1	0.2
		Fe	0.97	0.02
		Cu	2.48	0.04
		Mn	0.367	0.005
		Mg	0.246	0.004
		Cr	0.0626	0.0009
		Ni	0.113	0.002
		Zn	2.52	0.04
		Ti	0.0921	0.0009
		Ag	0.0003	0.0002
		As	(0.0001)	
		B	0.0004	0.0002
		Be	0.00005	0.00005
		Bi	0.0001	0.0002
		Ca	0.0021	0.0004
		Cd	0.0002	0.0002
		Co	0.0023	0.0004
		Ga	0.0257	0.0006
		Li	0.00003	0.00005
		Na	0.0005	0.0002
		P	(0.0003)	
		Pb	0.216	0.003
		Sb	(0.0002)	
		Sc	0.0002	0.0002
		Sn	0.163	0.004
		Sr	0.0258	0.0008
		V	0.0094	0.0004
		Zr	0.0022	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 383 DG

Certified Date: 07/17/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-383	DG	Si	11.1	0.2
		Fe	0.97	0.02
		Cu	2.48	0.04
		Mn	0.367	0.005
		Mg	0.246	0.004
		Cr	0.0626	0.0009
		Ni	0.113	0.002
		Zn	2.52	0.04
		Ti	0.0921	0.0009
		Ag	0.0003	0.0002
		As	(0.0001)	
		B	0.0004	0.0002
		Be	0.00005	0.00005
		Bi	0.0001	0.0002
		Ca	0.0021	0.0004
		Cd	0.0002	0.0002
		Co	0.0023	0.0004
		Ga	0.0257	0.0006
		Li	0.00003	0.00005
		Na	0.0005	0.0002
		P	(0.0003)	
		Pb	0.216	0.003
		Sb	(0.0002)	
		Sc	0.0002	0.0002
		Sn	0.163	0.004
		Sr	0.0258	0.0008
		V	0.0094	0.0004
		Zr	0.0022	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

KA 383 G

Certified Date: 01/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-383	G	Si	10.8	0.1
		Fe	0.753	0.009
		Cu	2.91	0.04
		Mn	0.396	0.006
		Mg	0.252	0.005
		Cr	0.0007	0.0002
		Ni	0.302	0.005
		Zn	0.809	0.009
		Ti	0.150	0.004
		Ag	0.0001	0.0002
		As	(0.0001)	
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0001	0.0002
		Co	0.0002	0.0002
		Ga	0.0102	0.0004
		Li	0.00000	0.00005
		Na	0.00008	0.00005
		P	(0.0001)	
		Pb	0.116	0.002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.208	0.006
		Sr	0.0158	0.0006
		V	0.0097	0.0004
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KA 383 H

Certified Date: 01/30/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-383	H	Si	10.8	0.1
		Fe	0.747	0.012
		Cu	2.92	0.04
		Mn	0.397	0.006
		Mg	0.249	0.005
		Cr	0.0009	0.0002
		Ni	0.301	0.005
		Zn	0.807	0.009
		Ti	0.149	0.004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0001	0.0002
		Co	0.0002	0.0002
		Ga	0.0103	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0001)	
		Pb	0.0982	0.0009
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.208	0.006
		Sr	0.0157	0.0006
		V	0.0095	0.0004
		Zr	0.0006	0.0002

SS 384 HC

Certified Date: 01/21/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-384	HC	Si	11.6	0.2
		Fe	0.953	0.009
		Cu	3.48	0.06
		Mn	0.311	0.005
		Mg	0.105	0.003
		Cr	0.0239	0.0005
		Ni	0.242	0.005
		Zn	0.72	0.02
		Ti	0.0560	0.0009
		Ag	0.0003	0.0002
		As	(0.0001)	
		B	0.0006	0.0002
		Be	0.00003	0.00005
		Bi	0.0000	0.0002
		Ca	0.0011	0.0002
		Cd	0.0002	0.0002
		Co	0.0054	0.0004
		Ga	0.0283	0.0005
		Li	0.00003	0.00005
		Na	0.0003	0.0002
		P	(0.0004)	
		Pb	0.131	0.004
		Sb	(0.0001)	
		Sc	0.0001	0.0002
		Sn	0.128	0.003
		Sr	0.0188	0.0004
		V	0.0038	0.0004
		Zr	0.0013	0.0004

SS 384 HD

Certified Date: 01/21/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-384	HD	Si	11.6	0.2
		Fe	0.953	0.009
		Cu	3.48	0.06
		Mn	0.311	0.005
		Mg	0.105	0.003
		Cr	0.0239	0.0005
		Ni	0.242	0.005
		Zn	0.72	0.02
		Ti	0.0560	0.0009
		Ag	0.0003	0.0002
		As	(0.0001)	
		B	0.0006	0.0002
		Be	0.00003	0.00005
		Bi	0.0000	0.0002
		Ca	0.0011	0.0002
		Cd	0.0002	0.0002
		Co	0.0054	0.0004
		Ga	0.0283	0.0005
		Li	0.00003	0.00005
		Na	0.0003	0.0002
		P	(0.0004)	
		Pb	0.131	0.004
		Sb	(0.0001)	
		Sc	0.0001	0.0002
		Sn	0.128	0.003
		Sr	0.0188	0.0004
		V	0.0038	0.0004
		Zr	0.0013	0.0004

SS 384 HE

Certified Date: 01/21/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-384	HE	Si	11.6	0.2
		Fe	0.953	0.009
		Cu	3.49	0.06
		Mn	0.311	0.005
		Mg	0.104	0.003
		Cr	0.0240	0.0005
		Ni	0.242	0.005
		Zn	0.71	0.02
		Ti	0.0560	0.0009
		Ag	0.0003	0.0002
		As	(0.0001)	
		B	0.0006	0.0002
		Be	0.00003	0.00005
		Bi	0.0000	0.0002
		Ca	0.0010	0.0002
		Cd	0.0002	0.0002
		Co	0.0054	0.0004
		Ga	0.0282	0.0005
		Li	0.00003	0.00005
		Na	0.0003	0.0002
		P	(0.0004)	
		Pb	0.129	0.004
		Sb	(0.0001)	
		Sc	0.0001	0.0002
		Sn	0.127	0.004
		Sr	0.0189	0.0004
		V	0.0038	0.0004
		Zr	0.0012	0.0004

SS 384 HF

Certified Date: 01/21/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-384	HF	Si	11.6	0.2
		Fe	0.953	0.009
		Cu	3.49	0.06
		Mn	0.311	0.005
		Mg	0.104	0.003
		Cr	0.0240	0.0005
		Ni	0.242	0.005
		Zn	0.71	0.02
		Ti	0.0560	0.0009
		Ag	0.0003	0.0002
		As	(0.0001)	
		B	0.0006	0.0002
		Be	0.00003	0.00005
		Bi	0.0000	0.0002
		Ca	0.0010	0.0002
		Cd	0.0002	0.0002
		Co	0.0054	0.0004
		Ga	0.0282	0.0005
		Li	0.00003	0.00005
		Na	0.0003	0.0002
		P	(0.0004)	
		Pb	0.129	0.004
		Sb	(0.0001)	
		Sc	0.0001	0.0002
		Sn	0.127	0.004
		Sr	0.0189	0.0004
		V	0.0038	0.0004
		Zr	0.0012	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 390 CA

Certified Date: 02/06/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-390	CA	Si	17.5	0.2
		Fe	0.92	0.02
		Cu	4.43	0.07
		Mn	0.261	0.004
		Mg	0.58	0.02
		Cr	0.0556	0.0008
		Ni	0.110	0.002
		Zn	0.516	0.008
		Ti	0.094	0.002
		Ag	0.0002	0.0002
		As	0.0000	0.0002
		B	0.0004	0.0002
		Be	0.00010	0.00005
		Bi	0.0000	0.0002
		Ca	0.0078	0.0005
		Cd	0.0001	0.0002
		Co	0.0004	0.0002
		Ga	0.0168	0.0009
		Li	0.00003	0.00005
		Na	0.0003	0.0002
		P	0.0102	0.0006
		Pb	0.082	0.002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.084	0.002
		Sr	0.0002	0.0002
		V	0.0130	0.0004
		Zr	0.0018	0.0003

Arconic Spectrochemical Reference Materials

09/22/2020

SS 390 CB

Certified Date: 02/06/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-390	CB	Si	17.5	0.2
		Fe	0.92	0.02
		Cu	4.43	0.07
		Mn	0.261	0.004
		Mg	0.58	0.02
		Cr	0.0556	0.0008
		Ni	0.110	0.002
		Zn	0.516	0.008
		Ti	0.094	0.002
		Ag	0.0002	0.0002
		As	0.0000	0.0002
		B	0.0004	0.0002
		Be	0.00010	0.00005
		Bi	0.0000	0.0002
		Ca	0.0078	0.0005
		Cd	0.0001	0.0002
		Co	0.0004	0.0002
		Ga	0.0168	0.0009
		Li	0.00003	0.00005
		Na	0.0003	0.0002
		P	0.0102	0.0006
		Pb	0.082	0.002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.084	0.002
		Sr	0.0002	0.0002
		V	0.0130	0.0004
		Zr	0.0018	0.0003

Arconic Spectrochemical Reference Materials

09/22/2020

KA 390 A

Certified Date: 09/03/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-390	A	Si	16.3	0.2
		Fe	0.91	0.03
		Cu	4.10	0.08
		Mn	0.367	0.009
		Mg	0.705	0.009
		Cr	0.081	0.004
		Ni	0.216	0.008
		Zn	1.08	0.03
		Ti	0.062	0.003
		Ag	0.0006	0.0002
		As	0.0001	0.0002
		B	0.0003	0.0002
		Be	0.00010	0.0002
		Bi	0.0000	0.0002
		Ca	0.0047	0.0005
		Cd	0.0001	0.0002
		Co	0.0003	0.0002
		Ga	0.0148	0.0005
		Li	0.00000	0.0002
		Na	0.00031	0.0002
		P	0.0081	0.0012
		Pb	0.170	0.007
		Sb	0.0001	0.0002
		Sc	0.0000	0.0002
		Sn	0.051	0.003
		Sr	0.0004	0.0002
		V	0.0135	0.0004
		Zr	0.0030	0.0005

SS SI2001 A

Certified Date: 07/29/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-SI2001	A	Si	20.9	0.5
		Fe	5.10	0.08
		Cu	0.055	0.002
		Mn	0.064	0.002
		Mg	0.043	0.002
		Cr	0.0082	0.0005
		Ni	1.99	0.03
		Zn	0.205	0.005
		Ti	0.028	0.001
		Ag	0.0002	0.0002
		As	(0.0002)	
		B	0.0010	0.0002
		Be	0.0000	0.0002
		Bi	0.0003	0.0002
		Ca	0.0047	0.0004
		Cd	0.0004	0.0002
		Co	0.0016	0.0004
		Ga	0.0075	0.0005
		Li	0.0000	0.0002
		Na	0.0001	0.0002
		P	(0.002)	
		Pb	0.0017	0.0004
		Sb	(0.0004)	
		Sc	0.0000	0.0002
		Sn	0.0011	0.0004
		Sr	0.0017	0.0004
		V	0.0072	0.0004
		Zr	0.037	0.001

SS SI2101 A

Certified Date: 09/23/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-SI2101	A	Si	21.2	0.3
		Fe	2.52	0.04
		Cu	3.81	0.06
		Mn	0.0111	0.0004
		Mg	1.18	0.02
		Cr	0.0027	0.0004
		Ni	1.33	0.02
		Zn	0.0061	0.0006
		Ti	0.0191	0.0006
		Ag	0.0003	0.0002
		As	(0.0001)	
		B	0.0012	0.0002
		Be	0.0002	0.0002
		Bi	0.0003	0.0002
		Ca	0.0104	0.0004
		Cd	0.0000	0.0002
		Co	0.0006	0.0002
		Ga	0.0081	0.0004
		Li	0.0010	0.0002
		Na	0.0002	0.0002
		P	0.0026	0.0004
		Pb	0.0013	0.0002
		Sb	(0.0001)	
		Sc	0.0000	0.0002
		Sn	0.0079	0.0009
		Sr	0.0068	0.0008
		V	0.0064	0.0006
		Zr	0.361	0.005

SS SI2401 A

Certified Date: 11/14/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-SI2401	A	Si	24.0	0.4
		Fe	0.406	0.008
		Cu	1.49	0.02
		Mn	0.0400	0.0006
		Mg	1.26	0.03
		Cr	0.0042	0.0004
		Ni	0.380	0.007
		Zn	0.0108	0.0004
		Ti	0.0188	0.0004
		Ag	0.0002	0.0002
		As	(0.0001)	
		B	0.0018	0.0002
		Be	0.0005	0.0002
		Bi	0.0000	0.0002
		Ca	0.0074	0.0004
		Cd	0.0000	0.0002
		Co	0.0006	0.0002
		Ga	0.0086	0.0004
		Li	0.0001	0.0002
		Na	0.0003	0.0002
		P	0.0043	0.0004
		Pb	0.0008	0.0002
		Sb	(0.0002)	
		Sc	(0.0002)	
		Sn	0.0026	0.0004
		Sr	0.0028	0.0004
		V	0.0075	0.0004
		Zr	0.167	0.003

SS SI3001 A

Certified Date: 11/27/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-SI3001	A	Si	29.6	0.4
		Fe	0.342	0.005
		Cu	1.26	0.02
		Mn	0.0096	0.0004
		Mg	1.33	0.02
		Cr	0.0048	0.0004
		Ni	0.361	0.007
		Zn	0.0052	0.0004
		Ti	0.0133	0.0004
		Ag	0.0004	0.0002
		As	(0.0000)	
		B	0.0016	0.0002
		Be	0.0001	0.0002
		Bi	0.0001	0.0002
		Ca	0.0310	0.0005
		Cd	0.0000	0.0002
		Co	0.0204	0.0004
		Ga	0.0084	0.0004
		Li	0.0000	0.0002
		Na	0.0001	0.0002
		P	0.0046	0.0006
		Pb	0.0017	0.0004
		Sb	(0.0000)	
		Sc	(0.0003)	
		Sn	0.0028	0.0004
		Sr	0.0022	0.0004
		V	0.0057	0.0004
		Zr	0.202	0.003

SS SI4001 A

Certified Date: 08/01/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-SI4001	A	Si	38.1	0.9
		Fe	0.33	0.02
		Cu	0.012	0.002
		Mn	0.014	0.002
		Mg	0.054	0.003
		Cr	0.0046	0.0005
		Ni	0.0085	0.0005
		Zn	0.012	0.002
		Ti	0.020	0.002
		Ag	(0.0005)	
		As	(0.0000)	
		B	(0.002)	
		Be	(0.0000)	
		Bi	(0.0003)	
		Ca	(0.02)	
		Cd	(0.0001)	
		Co	(0.0008)	
		Ga	0.008	0.001
		Li	(0.0003)	
		Na	(0.0001)	
		P	(0.012)	
		Pb	(0.001)	
		Sb	(0.0000)	
		Sc	(0.006)	
		Sn	(0.0002)	
		Sr	(0.007)	
		V	0.010	0.001
		Zr	(0.005)	

SS 413 BJ

Certified Date: 04/13/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-413	BJ	Si	12.2	0.2
		Fe	0.609	0.009
		Cu	0.121	0.002
		Mn	0.0812	0.0012
		Mg	0.0499	0.0009
		Cr	0.0006	0.0002
		Ni	0.0995	0.0009
		Zn	0.151	0.002
		Ti	0.0500	0.0008
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00035	0.00005
		Bi	0.0000	0.0002
		Ca	0.0002	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0120	0.0004
		Li	0.00000	0.00005
		Na	0.00010	0.00005
		P	(0.0001)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0225	0.0004
		V	0.0093	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 413 BK

Certified Date: 04/13/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-413	BK	Si	12.2	0.2
		Fe	0.609	0.009
		Cu	0.121	0.002
		Mn	0.0812	0.0012
		Mg	0.0499	0.0009
		Cr	0.0006	0.0002
		Ni	0.0995	0.0009
		Zn	0.151	0.002
		Ti	0.0500	0.0008
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00035	0.00005
		Bi	0.0000	0.0002
		Ca	0.0002	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0120	0.0004
		Li	0.00000	0.00005
		Na	0.00010	0.00005
		P	(0.0001)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0225	0.0004
		V	0.0093	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KA 413 AD

Certified Date: 08/07/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-413	AD	Si	11.1	0.1
		Fe	0.729	0.009
		Cu	0.0799	0.0009
		Mn	0.145	0.002
		Mg	0.021	0.001
		Cr	0.0008	0.0002
		Ni	0.0287	0.0005
		Zn	0.030	0.001
		Ti	0.0297	0.0005
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0007	0.0003
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0197	0.0004
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0002)	
		Pb	0.0399	0.0006
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0400	0.0006
		Sr	0.0229	0.0005
		V	0.0090	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KA 413 AE

Certified Date: 08/07/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-413	AE	Si	11.1	0.1
		Fe	0.729	0.009
		Cu	0.0799	0.0009
		Mn	0.145	0.002
		Mg	0.021	0.001
		Cr	0.0008	0.0002
		Ni	0.0287	0.0005
		Zn	0.030	0.001
		Ti	0.0297	0.0005
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0007	0.0003
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0197	0.0004
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0002)	
		Pb	0.0399	0.0006
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0400	0.0006
		Sr	0.0229	0.0005
		V	0.0090	0.0004
		Zr	0.0004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KB 413 AN

Certified Date: 06/17/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-413	AN	Si	12.7	0.2
		Fe	0.303	0.005
		Cu	0.0498	0.0009
		Mn	0.0538	0.0008
		Mg	0.030	0.002
		Cr	0.0005	0.0002
		Ni	0.0479	0.0007
		Zn	0.0791	0.0009
		Ti	0.0944	0.0009
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0002	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0151	0.0005
		Li	0.00000	0.00005
		Na	0.00004	0.00005
		P	(0.0001)	
		Pb	0.113	0.005
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.121	0.003
		Sr	0.0220	0.0004
		V	0.0122	0.0004
		Zr	0.0005	0.0002

KB 413 AP

Certified Date: 06/17/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-413	AP	Si	12.7	0.2
		Fe	0.303	0.005
		Cu	0.0498	0.0009
		Mn	0.0538	0.0008
		Mg	0.030	0.002
		Cr	0.0005	0.0002
		Ni	0.0479	0.0007
		Zn	0.0791	0.0009
		Ti	0.0944	0.0009
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0002	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0151	0.0005
		Li	0.00000	0.00005
		Na	0.00004	0.00005
		P	(0.0001)	
		Pb	0.113	0.005
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.121	0.003
		Sr	0.0220	0.0004
		V	0.0122	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KC 413 AC

Certified Date: 10/17/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KC-413	AC	Si	11.8	0.2
		Fe	1.20	0.02
		Cu	0.199	0.004
		Mn	0.105	0.004
		Mg	0.0502	0.0008
		Cr	0.0011	0.0002
		Ni	0.147	0.003
		Zn	0.148	0.003
		Ti	0.0465	0.0008
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.0197	0.0007
		Li	0.00000	0.00005
		Na	0.00004	0.00005
		P	(0.0004)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0796	0.0009
		Sr	0.0199	0.0004
		V	0.0098	0.0004
		Zr	0.0009	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KC 413 AD

Certified Date: 05/11/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KC-413	AD	Si	11.8	0.2
		Fe	1.21	0.02
		Cu	0.198	0.003
		Mn	0.107	0.003
		Mg	0.0511	0.0008
		Cr	0.0009	0.0002
		Ni	0.150	0.002
		Zn	0.148	0.002
		Ti	0.056	0.002
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00047	0.00005
		Bi	0.0000	0.0002
		Ca	0.0004	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.0207	0.0004
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.083	0.002
		Sr	0.0227	0.0004
		V	0.0093	0.0004
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KC 413 AE

Certified Date: 05/11/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KC-413	AE	Si	11.8	0.2
		Fe	1.21	0.02
		Cu	0.198	0.003
		Mn	0.107	0.003
		Mg	0.0511	0.0008
		Cr	0.0009	0.0002
		Ni	0.150	0.002
		Zn	0.148	0.002
		Ti	0.056	0.002
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00047	0.00005
		Bi	0.0000	0.0002
		Ca	0.0004	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.0207	0.0004
		Li	0.00000	0.00005
		Na	0.00007	0.00005
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.083	0.002
		Sr	0.0227	0.0004
		V	0.0093	0.0004
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 443 Z

Certified Date: 06/17/2013

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-443	Z	Si	5.46	0.09
		Fe	0.51	0.02
		Cu	0.080	0.004
		Mn	0.096	0.004
		Mg	0.052	0.003
		Cr	0.0005	0.0002
		Ni	0.048	0.002
		Zn	0.100	0.005
		Ti	0.112	0.007
		Ag	0.0000	0.0002
		As	0.0001	0.0002
		B	0.0000	0.0002
		Be	0.00006	0.00002
		Bi	0.0001	0.0002
		Ca	0.0010	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.015	0.001
		Li	0.0000	0.0002
		Na	0.0001	0.0002
		P	0.0005	0.0002
		Pb	0.0004	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.031	0.002
		V	0.012	0.001
		Zr	0.0011	0.0004

KA 443 H

Certified Date: 08/31/1997

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-443	H	Si	4.61	0.09
		Fe	0.64	0.02
		Cu	0.050	0.003
		Mn	0.16	0.007
		Mg	0.086	0.004
		Cr	0.001	0.0002
		Ni	0.081	0.004
		Zn	0.15	0.006
		Ti	0.041	0.002
		Pb	0.025	0.002
		Sn	0.021	0.001
		Sr	0.026	0.003

Arconic Spectrochemical Reference Materials

09/22/2020

KB 443 H

Certified Date: 03/31/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-443	H	Si	6.00	0.09
		Fe	0.300	0.006
		Cu	0.145	0.004
		Mn	0.0375	0.0006
		Mg	0.0304	0.0008
		Cr	0.0005	0.0002
		Ni	0.029	0.001
		Zn	0.050	0.002
		Ti	0.158	0.002
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0000	0.0002
		Be	0.00010	0.00005
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0154	0.0005
		Li	0.00000	0.00005
		Na	0.00011	0.00005
		P	(0.0000)	
		Pb	0.050	0.002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0500	0.0008
		Sr	0.0219	0.0004
		V	0.0100	0.0004
		Zr	0.0004	0.0002

KC 443 D

Certified Date: 05/05/1995

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KC-443	D	Si	5.11	0.13
		Fe	1.08	0.03
		Cu	0.15	0.006
		Mn	0.11	0.005
		Mg	0.053	0.003
		Ni	0.10	0.005
		Zn	0.15	0.006
		Ti	0.098	0.005
		Pb	0.19	0.008
		Sn	0.15	0.006
		Sr	0.022	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

SS A444 P

Certified Date: 01/10/2012

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-A444	P	Si	6.99	0.08
		Fe	0.170	0.007
		Cu	0.119	0.005
		Mn	0.048	0.002
		Mg	0.0003	0.0002
		Cr	0.0007	0.0002
		Ni	0.031	0.002
		Zn	0.0009	0.0004
		Ti	0.130	0.006
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00001	0.00005
		Bi	0.0001	0.0002
		Ca	0.0020	0.0004
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.019	0.001
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0005	0.0002
		Pb	0.0008	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.025	0.001
		V	0.012	0.001
		Zr	0.0010	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 513 D

Certified Date: 04/22/2003

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-513	D	Si	0.20	0.008
		Fe	0.30	0.01
		Cu	0.048	0.003
		Mn	0.082	0.004
		Mg	3.99	0.10
		Cr	0.033	0.002
		Ni	0.034	0.002
		Zn	1.80	0.05
		Ti	0.029	0.002
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.005	0.0002
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.013	0.001
		Hg	0.0000	0.0002
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0003	0.0002
		Pb	0.0002	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0000	0.0002
		V	0.0084	0.0006
		Zr	0.0009	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 514 W

Certified Date: 09/02/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-514	W	Si	0.150	0.003
		Fe	0.255	0.004
		Cu	0.0490	0.0007
		Mn	0.121	0.003
		Mg	4.10	0.06
		Cr	0.0305	0.0006
		Ni	0.0296	0.0005
		Zn	0.0801	0.0015
		Ti	0.118	0.003
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00002	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0158	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0001)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0000	0.0002
		V	0.0096	0.0006
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 514 X

Certified Date: 09/02/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-514	X	Si	0.150	0.003
		Fe	0.255	0.004
		Cu	0.0490	0.0007
		Mn	0.121	0.003
		Mg	4.10	0.06
		Cr	0.0305	0.0006
		Ni	0.0296	0.0005
		Zn	0.0801	0.0015
		Ti	0.118	0.003
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00002	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0158	0.0004
		Li	0.00000	0.00005
		Na	0.00002	0.00005
		P	(0.0001)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0000	0.0002
		V	0.0096	0.0006
		Zr	0.0003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KA 514 N

Certified Date: 05/16/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-514	N	Si	0.080	0.004
		Fe	0.352	0.006
		Cu	0.098	0.003
		Mn	0.0495	0.0009
		Mg	3.48	0.06
		Cr	0.0004	0.0002
		Ni	0.0027	0.0004
		Zn	0.0010	0.0004
		Ti	0.156	0.004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0010	0.0004
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.0195	0.0006
		Li	0.00000	0.00005
		Na	0.00010	0.00005
		P	(0.0003)	
		Pb	0.0299	0.0004
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0308	0.0004
		Sr	0.0000	0.0002
		V	0.0124	0.0004
		Zr	0.0008	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KB 514 L

Certified Date: 07/18/2012

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-514	L	Si	0.251	0.006
		Fe	0.089	0.004
		Cu	0.020	0.001
		Mn	0.185	0.007
		Mg	4.48	0.06
		Cr	0.0003	0.0002
		Ni	0.0050	0.0004
		Zn	0.0010	0.0004
		Ti	0.0478	0.0005
		Ag	0.0000	0.0002
		As	0.0001	0.0002
		B	0.0001	0.0002
		Be	0.0030	0.0004
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.013	0.001
		Li	0.0000	0.0002
		Na	0.0001	0.0002
		P	0.0004	0.0002
		Pb	0.0584	0.0006
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0600	0.0008
		Sr	0.0000	0.0002
		V	0.0112	0.0006
		Zr	0.0598	0.0008

Arconic Spectrochemical Reference Materials

09/22/2020

KA 518 L

Certified Date: 06/09/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-518	L	Si	0.198	0.003
		Fe	1.00	0.03
		Cu	0.0780	0.0009
		Mn	0.0525	0.0008
		Mg	8.09	0.09
		Cr	0.0008	0.0002
		Ni	0.0500	0.0008
		Zn	0.101	0.002
		Ti	0.0102	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.0041	0.0004
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0001	0.0002
		Co	0.0003	0.0002
		Ga	0.0054	0.0004
		Li	0.00000	0.00005
		Na	0.0004	0.0002
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0496	0.0012
		Sr	0.0000	0.0002
		V	0.0052	0.0004
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KA 518 M

Certified Date: 06/09/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-518	M	Si	0.198	0.003
		Fe	1.02	0.03
		Cu	0.0783	0.0009
		Mn	0.0534	0.0008
		Mg	8.11	0.09
		Cr	0.0008	0.0002
		Ni	0.0488	0.0008
		Zn	0.101	0.002
		Ti	0.0111	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.0042	0.0004
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0001	0.0002
		Co	0.0003	0.0002
		Ga	0.0055	0.0004
		Li	0.00000	0.00005
		Na	0.0004	0.0002
		P	(0.0001)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0497	0.0012
		Sr	0.0000	0.0002
		V	0.0052	0.0004
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 520

AA

Certified Date: 07/14/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-520	AA	Si	0.145	0.003
		Fe	0.204	0.003
		Cu	0.115	0.002
		Mn	0.0517	0.0008
		Mg	10.2	0.2
		Cr	0.0004	0.0002
		Ni	0.0020	0.0002
		Zn	0.0396	0.0006
		Ti	0.0994	0.0009
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00012	0.00005
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0001	0.0002
		Ga	0.022	0.002
		Li	0.00000	0.00005
		Na	0.00012	0.00005
		P	(0.0002)	
		Pb	0.0004	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0001	0.0002
		Sr	0.0003	0.0002
		V	0.0147	0.0004
		Zr	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KA 520 E

Certified Date: 04/12/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KA-520	E	Si	0.199	0.004
		Fe	0.084	0.002
		Cu	0.169	0.005
		Mn	0.023	0.001
		Mg	9.66	0.09
		Cr	0.0002	0.0002
		Ni	0.0015	0.0002
		Zn	0.0801	0.0009
		Ti	0.048	0.002
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.0022	0.0003
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0071	0.0005
		Li	0.00000	0.00005
		Na	0.0004	0.0002
		P	0.0000	0.0002
		Pb	0.0001	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0001	0.0002
		V	0.0023	0.0002
		Zr	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

KB 520 J

Certified Date: 08/27/2012

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
KB-520	J	Si	0.072	0.004
		Fe	0.27	0.01
		Cu	0.077	0.004
		Mn	0.083	0.004
		Mg	10.5	0.2
		Cr	0.0003	0.0002
		Ni	0.0045	0.0004
		Zn	0.022	0.001
		Ti	0.0105	0.0008
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.0052	0.0004
		Bi	0.0000	0.0002
		Ca	0.0001	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.0132	0.0006
		Li	0.0000	0.0002
		Na	0.0003	0.0002
		P	0.0004	0.0002
		Pb	0.0008	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0001	0.0002
		V	0.0103	0.0005
		Zr	0.0014	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 535

AN

Certified Date: 11/29/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-535	AN	Si	0.104	0.002
		Fe	0.0934	0.0009
		Cu	0.031	0.002
		Mn	0.179	0.003
		Mg	6.98	0.09
		Cr	0.0003	0.0002
		Ni	0.0191	0.0004
		Zn	0.0298	0.0004
		Ti	0.148	0.004
		Ag	0.0001	0.0002
		As	0.0001	0.0002
		B	0.0000	0.0002
		Be	0.0033	0.0004
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0144	0.0004
		Li	0.00000	0.00005
		Na	0.0002	0.0002
		P	(0.0001)	
		Pb	0.0003	0.0002
		Sb	(0.0000)	
		Sc	0.0000	0.0002
		Sn	0.0001	0.0002
		Sr	0.0001	0.0002
		V	0.0079	0.0006
		Zr	0.0005	0.0002

SS 711 H

Certified Date: 12/01/2003

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-711	H	Si	0.142	0.006
		Fe	0.89	0.03
		Cu	0.50	0.02
		Mn	0.031	0.002
		Mg	0.44	0.02
		Cr	0.033	0.002
		Ni	0.031	0.002
		Zn	6.48	0.10
		Ti	0.093	0.004
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.0000	0.0002
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.014	0.001
		Hg	0.0000	0.0002
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0002	0.0002
		Pb	0.0015	0.0005
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0002	0.0002
		Sr	0.0002	0.0002
		V	0.014	0.001
		Zr	0.0010	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 712 N

Certified Date: 11/28/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-712	N	Si	0.191	0.004
		Fe	0.497	0.007
		Cu	0.152	0.004
		Mn	0.0996	0.0009
		Mg	0.648	0.009
		Cr	0.527	0.008
		Ni	0.0029	0.0004
		Zn	5.87	0.09
		Ti	0.140	0.004
		Ag	0.0000	0.0002
		As	(0.0001)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.017	0.001
		Li	0.00000	0.00005
		Na	0.00003	0.00005
		P	(0.0003)	
		Pb	0.0011	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0003	0.0002
		Sr	0.0002	0.0002
		V	0.0114	0.0004
		Zr	0.0009	0.0002

SS 713 K

Certified Date: 03/18/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-713	K	Si	0.119	0.005
		Fe	0.55	0.02
		Cu	0.797	0.009
		Mn	0.201	0.007
		Mg	0.40	0.01
		Cr	0.0605	0.0009
		Ni	0.0489	0.0007
		Zn	7.59	0.09
		Ti	0.190	0.006
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0001	0.0002
		Ca	0.0003	0.0002
		Cd	0.0000	0.0002
		Co	0.0002	0.0002
		Ga	0.020	0.002
		Li	0.00000	0.00005
		Na	0.00009	0.00005
		P	0.0005	0.0002
		Pb	0.0010	0.0004
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0003	0.0002
		Sr	0.0002	0.0002
		V	0.015	0.002
		Zr	0.0014	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 850 L

Certified Date: 10/03/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-850	L	Si	0.49	0.02
		Fe	0.388	0.005
		Cu	1.10	0.02
		Mn	0.0535	0.0009
		Mg	0.0006	0.0002
		Cr	0.0005	0.0002
		Ni	1.09	0.02
		Zn	0.0009	0.0002
		Ti	0.129	0.003
		Ag	0.0001	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.0117	0.0006
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	0.0005	0.0002
		Pb	0.0003	0.0002
		Sb	0.0007	0.0002
		Sc	0.0000	0.0002
		Sn	6.31	0.09
		Sr	0.0002	0.0002
		V	0.011	0.002
		Zr	0.0010	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SS 851 E

Certified Date: 10/16/2008

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-851	E	Si	2.48	0.06
		Fe	0.42	0.02
		Cu	0.97	0.03
		Mn	0.048	0.002
		Mg	0.031	0.002
		Cr	0.0002	0.0002
		Ni	0.49	0.02
		Zn	0.030	0.002
		Ti	0.082	0.004
		Ag	0.0001	0.0002
		B	0.0000	0.0002
		Be	0.0000	0.0002
		Bi	0.0007	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.014	0.001
		Hg	0.0000	0.0002
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0004	0.0002
		Pb	0.0010	0.0005
		Sb	0.0004	0.0002
		Sc	0.0000	0.0002
		Sn	6.29	0.10
		Sr	0.0001	0.0002
		V	0.010	0.001
		Zr	0.0009	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 851 F

Certified Date: 09/05/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-851	F	Si	2.48	0.04
		Fe	0.41	0.02
		Cu	0.965	0.009
		Mn	0.0477	0.0007
		Mg	0.029	0.003
		Cr	0.0003	0.0002
		Ni	0.453	0.009
		Zn	0.0289	0.0009
		Ti	0.0822	0.0009
		Ag	0.0001	0.0002
		B	0.0000	0.0002
		Be	0.00000	0.00005
		Bi	0.0006	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0003	0.0002
		Ga	0.0133	0.0004
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0003)	
		Pb	0.0010	0.0002
		Sb	(0.0004)	
		Sc	0.0000	0.0002
		Sn	5.91	0.09
		Sr	0.0002	0.0002
		V	0.0102	0.0004
		Zr	0.0011	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

SS 852 G

Certified Date: 03/02/2012

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-852	G	Si	0.216	0.009
		Fe	0.35	0.01
		Cu	2.02	0.06
		Mn	0.052	0.003
		Mg	0.84	0.03
		Cr	0.0002	0.0002
		Ni	1.21	0.04
		Zn	0.047	0.002
		Ti	0.039	0.002
		Ag	0.0001	0.0002
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0003	0.0002
		Ca	0.0001	0.0002
		Cd	0.0002	0.0002
		Co	0.0010	0.0004
		Ga	0.020	0.001
		Li	0.0000	0.0002
		P	0.0005	0.0002
		Pb	0.0005	0.0002
		Sb	0.0006	0.0002
		Sc	0.0000	0.0002
		Sn	6.31	0.07
		Sr	0.0001	0.0002
		V	0.011	0.001
		Zr	0.0019	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

AN 1 J

Certified Date: 08/27/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
AN-1	J	Si	0.048	0.002
		Fe	0.145	0.006
		Cu	0.0005	0.0002
		Mn	0.0009	0.0002
		Mg	0.0003	0.0002
		Cr	0.0002	0.0002
		Ni	0.0060	0.0006
		Zn	0.0009	0.0002
		Ti	0.0057	0.0004
		Sb	0.0065	0.0006

AN 2 F

Certified Date: 08/11/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
AN-2	F	Si	0.048	0.002
		Fe	0.14	0.01
		Cu	0.0004	0.0002
		Mn	0.0010	0.0004
		Mg	0.0003	0.0002
		Cr	0.0002	0.0002
		Ni	0.0060	0.0006
		Zn	0.0009	0.0002
		Ti	0.0057	0.0004
		Sb	0.0128	0.0006

AN 3 E

Certified Date: 11/01/1993

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
AN-3	E	Sb	0.048	0.003

AN 4

G

Certified Date: 08/14/2011

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
AN-4	G	Si	(0.05)	-
		Fe	(0.16)	-
		Sb	0.086	0.004

AN 4 H

Certified Date: 05/07/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
AN-4	H	Si	0.0496	0.0007
		Fe	0.150	0.002
		Cu	0.0001	0.0002
		Mn	0.0005	0.0002
		Mg	0.0002	0.0002
		Cr	0.0003	0.0002
		Ni	0.0015	0.0002
		Zn	0.0014	0.0002
		Ti	0.0027	0.0004
		Sb	0.0902	0.0009

AN 11 J

Certified Date: 02/07/2008

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
AN-11	J	Sb	0.050	0.003

AN 12 Y

Certified Date: 05/12/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
AN-12	Y	Si	7.14	0.09
		Fe	0.336	0.005
		Cu	0.119	0.004
		Mn	0.0453	0.0007
		Mg	0.352	0.006
		Cr	0.0005	0.0002
		Ni	0.0309	0.0006
		Zn	0.099	0.002
		Ti	0.146	0.003
		Sb	0.100	0.009

Arconic Spectrochemical Reference Materials

09/22/2020

BE 1 B

Certified Date: 02/23/1989

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
BE-1	B	Be	0.002	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

BE 1 C

Certified Date: 02/23/1989

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
BE-1	C	Be	0.002	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

BE 2 E

Certified Date: 12/17/1991

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
BE-2	E	Be	0.006	0.0003

Arconic Spectrochemical Reference Materials

09/22/2020

BN 1

W

Certified Date: 04/02/2012

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
BN-1	W	Si	(0.119)	-
		Fe	(0.079)	-
		Cu	(0.0003)	-
		Mn	(0.0004)	-
		Mg	(0.0000)	-
		Cr	(0.0000)	-
		Ni	(0.0000)	-
		Zn	(0.0000)	-
		Ti	(0.0003)	-
		B	0.0014	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

BN 2 T

Certified Date: 04/26/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
BN-2	T	Si	0.083	0.002
		Fe	0.122	0.004
		Cu	0.0003	0.0002
		Mn	0.0008	0.0002
		Mg	0.0001	0.0002
		Cr	0.0000	0.0002
		Ni	0.0000	0.0002
		Zn	0.0001	0.0002
		Ti	0.0001	0.0002
		B	0.0054	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

BN 3 X

Certified Date: 12/10/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
BN-3	X	Si	0.0800	0.0009
		Fe	0.126	0.002
		Cu	0.0003	0.0002
		Mn	0.0005	0.0002
		Mg	0.0000	0.0002
		Cr	0.0001	0.0002
		Ni	0.0001	0.0002
		Zn	0.0001	0.0002
		Ti	0.0001	0.0002
		B	0.0111	0.0006

Arconic Spectrochemical Reference Materials

09/22/2020

BN 4

N

Certified Date: 08/03/2004

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
BN-4	N	B	0.021	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

BN 4 P

Certified Date: 06/27/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
BN-4	P	Si	0.0789	0.0009
		Fe	0.120	0.005
		Cu	0.0007	0.0002
		Mn	0.0008	0.0002
		Mg	0.0001	0.0002
		Cr	0.0000	0.0002
		Ni	0.0002	0.0002
		Zn	0.0008	0.0002
		Ti	0.0002	0.0002
		B	0.0171	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

BN 5 Z

Certified Date: 08/06/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
BN-5	Z	Si	0.082	0.002
		Fe	0.128	0.002
		Cu	0.0003	0.0002
		Mn	0.0006	0.0002
		Mg	0.0000	0.0002
		Cr	0.0001	0.0002
		Ni	0.0002	0.0002
		Zn	0.0001	0.0002
		Ti	0.0001	0.0002
		B	0.0286	0.0004

BN 11 N

Certified Date: 11/13/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
BN-11	N	Si	7.41	0.09
		Fe	0.41	0.01
		Cu	0.0985	0.0009
		Mn	0.0025	0.0004
		Mg	0.0003	0.0002
		Cr	0.0004	0.0002
		Ni	0.0004	0.0002
		Zn	0.0003	0.0002
		Ti	0.0003	0.0002
		B	0.0012	0.0003

BN 12 M

Certified Date: 10/17/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
BN-12	M	Si	7.42	0.10
		Fe	0.41	0.01
		Cu	0.100	0.005
		Mn	0.0013	0.0004
		Mg	0.0005	0.0002
		Cr	0.0002	0.0002
		Ni	0.0005	0.0002
		Zn	0.0004	0.0002
		Ti	0.0007	0.0002
		B	0.0044	0.0004

BN 13 G

Certified Date: 07/27/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
BN-13	G	Si	7.47	0.09
		Fe	0.388	0.006
		Cu	0.101	0.005
		Mn	0.0011	0.0002
		Mg	0.0001	0.0002
		Cr	0.0001	0.0002
		Ni	0.0003	0.0002
		Zn	0.0002	0.0002
		Ti	0.0005	0.0002
		B	0.0090	0.0004

BN 14 F

Certified Date: 03/16/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
BN-14	F	Si	7.46	0.09
		Fe	0.403	0.006
		Cu	0.0983	0.0009
		Mn	0.0007	0.0002
		Mg	0.0003	0.0002
		Cr	0.0003	0.0002
		Ni	0.0003	0.0002
		Zn	0.0002	0.0002
		Ti	0.0001	0.0002
		B	0.026	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

CA 1

AC

A

Certified Date: 02/25/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CA-1	AC	A	Si	0.050	0.002
			Fe	0.144	0.003
			Cu	0.0003	0.0002
			Mn	0.0011	0.0002
			Mg	0.0002	0.0002
			Cr	0.0003	0.0002
			Ni	0.0018	0.0003
			Zn	0.0020	0.0003
			Ti	0.0032	0.0004
			Ca	0.0021	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

CA 1

AC B

Certified Date: 02/25/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CA-1	AC	B	Si	0.050	0.002
			Fe	0.144	0.003
			Cu	0.0003	0.0002
			Mn	0.0011	0.0002
			Mg	0.0002	0.0002
			Cr	0.0003	0.0002
			Ni	0.0018	0.0003
			Zn	0.0020	0.0003
			Ti	0.0032	0.0004
			Ca	0.0020	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

CA 1

AC

C

Certified Date: 02/25/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CA-1	AC	C	Si	0.050	0.002
			Fe	0.144	0.003
			Cu	0.0003	0.0002
			Mn	0.0011	0.0002
			Mg	0.0002	0.0002
			Cr	0.0003	0.0002
			Ni	0.0018	0.0003
			Zn	0.0020	0.0003
			Ti	0.0032	0.0004
			Ca	0.0019	0.0004

CA 2 L

Certified Date: 10/16/2008

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CA-2	L	Ca	0.0064	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

CA 3 R A

Certified Date: 12/05/1991

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CA-3	R	A	Ca	0.015	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

CA 4 T B

Certified Date: 07/27/2011

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CA-4	T	B	Ca	0.045	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

CA 11

AM

A

Certified Date: 03/26/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CA-11	AM	A	Si	7.48	0.09
			Fe	0.155	0.003
			Cu	0.0002	0.0002
			Mn	0.0004	0.0002
			Mg	0.0003	0.0002
			Cr	0.0004	0.0002
			Ni	0.0017	0.0002
			Zn	0.0016	0.0002
			Ti	0.0026	0.0003
			Ca	0.0018	0.0003

Arconic Spectrochemical Reference Materials

09/22/2020

CA 11

AM B

Certified Date: 03/26/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CA-11	AM	B	Si	7.48	0.09
			Fe	0.155	0.003
			Cu	0.0002	0.0002
			Mn	0.0004	0.0002
			Mg	0.0003	0.0002
			Cr	0.0004	0.0002
			Ni	0.0017	0.0002
			Zn	0.0016	0.0002
			Ti	0.0026	0.0003
			Ca	0.0017	0.0003

CA 12

AP

Certified Date: 12/19/2012

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CA-12	AP	Si	7.31	0.12
		Fe	0.067	0.003
		Cu	0.0010	0.0004
		Mn	0.0011	0.0004
		Mg	0.0003	0.0002
		Cr	0.0002	0.0002
		Ni	0.0005	0.0002
		Zn	0.0003	0.0002
		Ti	0.0028	0.0004
		Ca	0.0043	0.0004

CA 13

AL

Certified Date: 04/04/2012

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CA-13	AL	Si	(7.34)	-
		Fe	(0.162)	-
		Cu	(0.0003)	-
		Mn	(0.0047)	-
		Mg	(0.0004)	-
		Cr	(0.0007)	-
		Ni	(0.0051)	-
		Zn	(0.0001)	-
		Ti	(0.0057)	-
		Ca	0.0074	0.0006

Arconic Spectrochemical Reference Materials

09/22/2020

CA 14

AA

Certified Date: 03/24/2009

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CA-14	AA	Ca	0.015	0.001

CA 14

AB

Certified Date: 07/06/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CA-14	AB	Si	7.41	0.09
		Fe	0.19	0.01
		Cu	0.0018	0.0004
		Mn	0.0022	0.0004
		Mg	0.0005	0.0002
		Cr	0.0005	0.0002
		Ni	0.0056	0.0004
		Zn	0.0011	0.0004
		Ti	0.0068	0.0006
		Ca	0.0150	0.0007

CA 15

AH

Certified Date: 06/18/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CA-15	AH	Si	7.44	0.09
		Fe	0.184	0.007
		Cu	0.0012	0.0004
		Mn	0.0022	0.0004
		Mg	0.0005	0.0002
		Cr	0.0008	0.0003
		Ni	0.0056	0.0004
		Zn	0.0011	0.0004
		Ti	0.0063	0.0006
		Ca	0.032	0.003

CD 1

K

Certified Date: 10/27/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CD-1	K	Si	0.047	0.003
		Fe	0.159	0.006
		Cu	0.0003	0.0002
		Mn	0.0009	0.0002
		Mg	0.0006	0.0002
		Cr	0.0002	0.0002
		Ni	0.0036	0.0004
		Zn	0.0018	0.0004
		Ti	0.0031	0.0004
		Cd	0.0029	0.0004

CD 2 J

Certified Date: 07/28/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CD-2	J	Si	0.050	0.002
		Fe	0.151	0.006
		Cu	0.0003	0.0002
		Mn	0.0006	0.0002
		Mg	0.0003	0.0002
		Cr	0.0001	0.0002
		Ni	0.0031	0.0004
		Zn	0.0005	0.0002
		Ti	0.0030	0.0004
		Cd	0.0087	0.0005

Arconic Spectrochemical Reference Materials

09/22/2020

CD 3

G

Certified Date: 06/22/2012

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CD-3	G	Si	0.051	0.003
		Fe	0.148	0.006
		Cu	0.0007	0.0002
		Mn	0.0014	0.0004
		Mg	0.0004	0.0002
		Cr	0.0002	0.0002
		Ni	0.0051	0.0004
		Zn	0.0013	0.0004
		Ti	0.0050	0.0004
		Cd	0.025	0.001

CD 4 G

Certified Date: 01/04/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CD-4	G	Si	0.0444	0.0007
		Fe	0.133	0.004
		Cu	0.0005	0.0002
		Mn	0.0008	0.0002
		Mg	0.0003	0.0002
		Cr	0.0002	0.0002
		Ni	0.0050	0.0004
		Zn	0.0009	0.0002
		Ti	0.0049	0.0004
		Cd	0.0484	0.0008

Arconic Spectrochemical Reference Materials

09/22/2020

CO 1 B

Certified Date: 09/30/1992

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CO-1	B	Co	0.0015	0.0002

CU 1 D

Certified Date: 04/19/1993

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CU-1	D	Si	0.14	0.006
		Fe	0.24	0.009
		Cu	1.01	0.03
		Mn	0.001	0.0002

CU 2 D

Certified Date: 10/31/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CU-2	D	Si	0.155	0.002
		Fe	0.246	0.004
		Cu	2.52	0.04
		Mn	0.0004	0.0002
		Mg	0.0003	0.0002
		Cr	0.0004	0.0002
		Ni	0.0015	0.0002
		Zn	0.0012	0.0002
		Ti	0.0026	0.0004

CU 3 C

Certified Date: 10/23/1986

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CU-3	C	Si	0.15	0.006
		Fe	0.23	0.009
		Cu	4.51	0.12
		Mn	0.001	0.0002

CU 3 D

Certified Date: 10/23/1986

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
CU-3	D	Si	0.15	0.006
		Fe	0.23	0.009
		Cu	4.52	0.12
		Mn	0.001	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

FE 4 D

Certified Date: 08/09/2002

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
FE-4	D	Fe	0.245	0.008

Arconic Spectrochemical Reference Materials

09/22/2020

FE 6 E

Certified Date: 07/31/1991

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
FE-6	E	Fe	0.60	0.02

FE 6 G

Certified Date: 11/24/2003

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
FE-6	G	Fe	0.59	0.02

FE 6 H

Certified Date: 02/23/2005

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
FE-6	H	Fe	0.60	0.02

Arconic Spectrochemical Reference Materials

09/22/2020

FE 6 J

Certified Date: 12/15/2009

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
FE-6	J	Fe	0.59	0.02

Arconic Spectrochemical Reference Materials

09/22/2020

FE 7 L

Certified Date: 07/31/1991

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
FE-7	L	Fe	0.81	0.03

FE 8 S

Certified Date: 12/04/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
FE-8	S	Si	0.101	0.005
		Fe	0.99	0.03
		Cu	0.0104	0.0004
		Mn	0.0018	0.0004
		Mg	0.0005	0.0002
		Cr	0.0007	0.0002
		Ni	0.0050	0.0004
		Zn	0.0010	0.0004
		Ti	0.0049	0.0004

FE 9 F

Certified Date: 04/08/2013

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
FE-9	F	Si	0.098	0.005
		Fe	1.25	0.04
		Cu	0.012	0.001
		Mn	0.0022	0.0004
		Mg	0.0004	0.0002
		Cr	0.0009	0.0002
		Ni	0.0055	0.0004
		Zn	0.0014	0.0004
		Ti	0.0048	0.0004

FE 10 L

Certified Date: 10/14/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
FE-10	L	Si	0.103	0.005
		Fe	1.55	0.03
		Cu	0.011	0.001
		Mn	0.0042	0.0004
		Mg	0.005	0.001
		Cr	0.0010	0.0004
		Ni	0.0006	0.0002
		Zn	0.0097	0.0006
		Ti	0.0007	0.0002

FE 11 K

Certified Date: 12/07/2012

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
FE-11	K	Si	0.101	0.004
		Fe	2.00	0.01
		Cu	0.0121	0.0008
		Mn	0.0030	0.0004
		Mg	0.0003	0.0002
		Cr	0.0012	0.0004
		Ni	0.0058	0.0004
		Zn	0.0020	0.0004
		Ti	0.0048	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

FE 12 L

Certified Date: 05/11/2007

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
FE-12	L	Fe	2.54	0.06

SS A2800 CG

Certified Date: 05/10/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SS-A2800	CG	Si	0.250	0.008
		Fe	3.17	0.05
		Cu	0.0304	0.0005
		Mn	0.0042	0.0004
		Mg	0.0014	0.0004
		Cr	0.0024	0.0004
		Ni	0.0312	0.0005
		Zn	0.0018	0.0004
		Ti	0.0028	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

LI 1 AK A

Certified Date: 11/09/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-1	AK	A	Si	0.065	0.002
			Fe	0.140	0.004
			Cu	0.0004	0.0002
			Mn	0.0008	0.0002
			Mg	0.0003	0.0002
			Cr	0.0002	0.0002
			Ni	0.0036	0.0004
			Zn	0.0017	0.0002
			Ti	0.0029	0.0002
			Li	0.0009	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 1

AK B

Certified Date: 11/09/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-1	AK	B	Si	0.065	0.002
			Fe	0.140	0.004
			Cu	0.0004	0.0002
			Mn	0.0008	0.0002
			Mg	0.0003	0.0002
			Cr	0.0002	0.0002
			Ni	0.0036	0.0004
			Zn	0.0017	0.0002
			Ti	0.0029	0.0002
			Li	0.0008	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 1 AK C

Certified Date: 11/09/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-1	AK	C	Si	0.065	0.002
			Fe	0.140	0.004
			Cu	0.0004	0.0002
			Mn	0.0008	0.0002
			Mg	0.0003	0.0002
			Cr	0.0002	0.0002
			Ni	0.0036	0.0004
			Zn	0.0017	0.0002
			Ti	0.0029	0.0002
			Li	0.0007	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 1 AK D

Certified Date: 11/09/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-1	AK	D	Si	0.065	0.002
			Fe	0.140	0.004
			Cu	0.0004	0.0002
			Mn	0.0008	0.0002
			Mg	0.0003	0.0002
			Cr	0.0002	0.0002
			Ni	0.0036	0.0004
			Zn	0.0017	0.0002
			Ti	0.0029	0.0002
			Li	0.0006	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 1

AK E

Certified Date: 11/09/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-1	AK	E	Si	0.065	0.002
			Fe	0.140	0.004
			Cu	0.0004	0.0002
			Mn	0.0008	0.0002
			Mg	0.0003	0.0002
			Cr	0.0002	0.0002
			Ni	0.0036	0.0004
			Zn	0.0017	0.0002
			Ti	0.0029	0.0002
			Li	0.0005	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 2 Y B

Certified Date: 08/30/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-2	Y	B	Si	0.070	0.002
			Fe	0.126	0.004
			Cu	0.0002	0.0002
			Mn	0.0007	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0017	0.0002
			Zn	0.0017	0.0002
			Ti	0.0030	0.0004
			Li	0.0012	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 2 Y C

Certified Date: 08/30/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-2	Y	C	Si	0.070	0.002
			Fe	0.126	0.004
			Cu	0.0002	0.0002
			Mn	0.0007	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0017	0.0002
			Zn	0.0017	0.0002
			Ti	0.0030	0.0004
			Li	0.0011	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 2 Y D

Certified Date: 08/30/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-2	Y	D	Si	0.070	0.002
			Fe	0.126	0.004
			Cu	0.0002	0.0002
			Mn	0.0007	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0017	0.0002
			Zn	0.0017	0.0002
			Ti	0.0030	0.0004
			Li	0.0010	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 3 U A

Certified Date: 07/02/1990

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-3	U	A	Li	0.004	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 3 X A

Certified Date: 07/02/1990

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-3	X	A	Li	0.003	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 4 P B

Certified Date: 04/26/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-4	P	B	Si	0.071	0.002
			Fe	0.124	0.002
			Cu	0.0002	0.0002
			Mn	0.0008	0.0002
			Mg	0.0001	0.0002
			Cr	0.0004	0.0002
			Ni	0.0015	0.0002
			Zn	0.0014	0.0002
			Ti	0.0028	0.0004
			Li	0.010	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

LI 4 P C

Certified Date: 04/26/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-4	P	C	Si	0.071	0.002
			Fe	0.124	0.002
			Cu	0.0002	0.0002
			Mn	0.0008	0.0002
			Mg	0.0001	0.0002
			Cr	0.0004	0.0002
			Ni	0.0015	0.0002
			Zn	0.0014	0.0002
			Ti	0.0028	0.0004
			Li	0.009	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

LI 4 P D

Certified Date: 04/26/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-4	P	D	Si	0.071	0.002
			Fe	0.124	0.002
			Cu	0.0002	0.0002
			Mn	0.0008	0.0002
			Mg	0.0001	0.0002
			Cr	0.0004	0.0002
			Ni	0.0015	0.0002
			Zn	0.0014	0.0002
			Ti	0.0028	0.0004
			Li	0.008	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

LI 5 H

Certified Date: 10/23/1986

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-5	H	Li	0.013	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

LI 5 M A

Certified Date: 10/23/1986

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-5	M	A	Li	0.013	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

LI 5 N A

Certified Date: 10/23/1986

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-5	N	A	Li	0.012	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

LI 5 P A

Certified Date: 10/23/1986

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-5	P	A	Li	0.014	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

LI 5 R A

Certified Date: 03/11/1992

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-5	R	A	Li	0.020	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

LI 5 R B

Certified Date: 03/11/1992

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-5	R	B	Li	0.019	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

LI 5 R C

Certified Date: 03/11/1992

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-5	R	C	Li	0.018	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

LI 5 R D

Certified Date: 03/11/1992

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-5	R	D	Li	0.017	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

LI 5 R E

Certified Date: 03/11/1992

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-5	R	E	Li	0.016	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

LI 5 S C

Certified Date: 03/11/1992

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-5	S	C	Li	0.018	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

LI 5 S D

Certified Date: 03/11/1992

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-5	S	D	Li	0.017	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

LI 5 S E

Certified Date: 03/11/1992

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-5	S	E	Li	0.016	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

LI 5 S F

Certified Date: 03/11/1992

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-5	S	F	Li	0.015	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

LI 5 S G

Certified Date: 03/11/1992

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-5	S	G	Li	0.014	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

LI 6 S B

Certified Date: 11/28/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-6	S	B	Si	0.0662	0.0009
			Fe	0.130	0.005
			Cu	0.0005	0.0002
			Mn	0.0009	0.0002
			Mg	0.0002	0.0002
			Cr	0.0002	0.0002
			Ni	0.0035	0.0004
			Zn	0.0019	0.0002
			Ti	0.0035	0.0004
			Li	0.035	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 6 S C

Certified Date: 11/28/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-6	S	C	Si	0.0662	0.0009
			Fe	0.130	0.005
			Cu	0.0005	0.0002
			Mn	0.0009	0.0002
			Mg	0.0002	0.0002
			Cr	0.0002	0.0002
			Ni	0.0035	0.0004
			Zn	0.0019	0.0002
			Ti	0.0035	0.0004
			Li	0.034	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 6 S D

Certified Date: 11/28/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-6	S	D	Si	0.0662	0.0009
			Fe	0.130	0.005
			Cu	0.0005	0.0002
			Mn	0.0009	0.0002
			Mg	0.0002	0.0002
			Cr	0.0002	0.0002
			Ni	0.0035	0.0004
			Zn	0.0019	0.0002
			Ti	0.0035	0.0004
			Li	0.033	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 6 S E

Certified Date: 11/28/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-6	S	E	Si	0.0662	0.0009
			Fe	0.130	0.005
			Cu	0.0005	0.0002
			Mn	0.0009	0.0002
			Mg	0.0002	0.0002
			Cr	0.0002	0.0002
			Ni	0.0035	0.0004
			Zn	0.0019	0.0002
			Ti	0.0035	0.0004
			Li	0.032	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 6 S G

Certified Date: 11/28/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-6	S	G	Si	0.0662	0.0009
			Fe	0.130	0.005
			Cu	0.0005	0.0002
			Mn	0.0009	0.0002
			Mg	0.0002	0.0002
			Cr	0.0002	0.0002
			Ni	0.0035	0.0004
			Zn	0.0019	0.0002
			Ti	0.0035	0.0004
			Li	0.030	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 6 S H

Certified Date: 11/28/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-6	S	H	Si	0.0662	0.0009
			Fe	0.130	0.005
			Cu	0.0005	0.0002
			Mn	0.0009	0.0002
			Mg	0.0002	0.0002
			Cr	0.0002	0.0002
			Ni	0.0035	0.0004
			Zn	0.0019	0.0002
			Ti	0.0035	0.0004
			Li	0.029	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 6 S J

Certified Date: 11/28/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-6	S	J	Si	0.0662	0.0009
			Fe	0.130	0.005
			Cu	0.0005	0.0002
			Mn	0.0009	0.0002
			Mg	0.0002	0.0002
			Cr	0.0002	0.0002
			Ni	0.0035	0.0004
			Zn	0.0019	0.0002
			Ti	0.0035	0.0004
			Li	0.028	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

LI 6 S K

Certified Date: 11/28/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
LI-6	S	K	Si	0.0662	0.0009
			Fe	0.130	0.005
			Cu	0.0005	0.0002
			Mn	0.0009	0.0002
			Mg	0.0002	0.0002
			Cr	0.0002	0.0002
			Ni	0.0035	0.0004
			Zn	0.0019	0.0002
			Ti	0.0035	0.0004
			Li	0.027	0.002

Arconic Spectrochemical Reference Materials

09/22/2020

MN 3

B

Certified Date: 10/23/1986

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
MN-3	B	Mn	0.70	0.02

Arconic Spectrochemical Reference Materials

09/22/2020

NA 1

BU

F

Certified Date: 05/28/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-1	BU	F	Si	0.050	0.003
			Fe	0.17	0.01
			Cu	0.0012	0.0004
			Mn	0.0020	0.0004
			Mg	0.0002	0.0002
			Cr	0.0003	0.0002
			Ni	0.0050	0.0004
			Zn	0.0018	0.0004
			Ti	0.0047	0.0004
			Na	0.0020	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

NA 1

BU H

Certified Date: 05/28/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-1	BU	H	Si	0.050	0.003
			Fe	0.17	0.01
			Cu	0.0012	0.0004
			Mn	0.0020	0.0004
			Mg	0.0002	0.0002
			Cr	0.0003	0.0002
			Ni	0.0050	0.0004
			Zn	0.0018	0.0004
			Ti	0.0047	0.0004
			Na	0.0018	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

NA 1

BU J

Certified Date: 05/28/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-1	BU	J	Si	0.050	0.003
			Fe	0.17	0.01
			Cu	0.0012	0.0004
			Mn	0.0020	0.0004
			Mg	0.0002	0.0002
			Cr	0.0003	0.0002
			Ni	0.0050	0.0004
			Zn	0.0018	0.0004
			Ti	0.0047	0.0004
			Na	0.0017	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

NA 2

BW

A

Certified Date: 10/30/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-2	BW	A	Si	0.050	0.002
			Fe	0.150	0.010
			Cu	0.0011	0.0004
			Mn	0.0012	0.0004
			Mg	0.0001	0.0002
			Cr	0.0003	0.0002
			Ni	0.0022	0.0004
			Zn	0.0008	0.0002
			Ti	0.0029	0.0004
			Na	0.0031	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

NA 2

BW

F

Certified Date: 10/30/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-2	BW	F	Si	0.050	0.002
			Fe	0.150	0.010
			Cu	0.0011	0.0004
			Mn	0.0012	0.0004
			Mg	0.0001	0.0002
			Cr	0.0003	0.0002
			Ni	0.0022	0.0004
			Zn	0.0008	0.0002
			Ti	0.0029	0.0004
			Na	0.0036	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

NA 2

BW

G

Certified Date: 10/30/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-2	BW	G	Si	0.050	0.002
			Fe	0.150	0.010
			Cu	0.0011	0.0004
			Mn	0.0012	0.0004
			Mg	0.0001	0.0002
			Cr	0.0003	0.0002
			Ni	0.0022	0.0004
			Zn	0.0008	0.0002
			Ti	0.0029	0.0004
			Na	0.0037	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

NA 3

AJ

C

Certified Date: 12/10/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-3	AJ	C	Na	0.009	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 4

AL

B

Certified Date: 03/06/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-4	AL	B	Si	0.052	0.001
			Fe	0.146	0.002
			Cu	0.0007	0.0002
			Mn	0.0012	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0052	0.0004
			Zn	0.0013	0.0002
			Ti	0.0048	0.0004
			Na	0.019	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 4

AL

C

Certified Date: 03/06/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-4	AL	C	Si	0.052	0.001
			Fe	0.146	0.002
			Cu	0.0007	0.0002
			Mn	0.0012	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0052	0.0004
			Zn	0.0013	0.0002
			Ti	0.0048	0.0004
			Na	0.018	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 4

AL

D

Certified Date: 03/06/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-4	AL	D	Si	0.052	0.001
			Fe	0.146	0.002
			Cu	0.0007	0.0002
			Mn	0.0012	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0052	0.0004
			Zn	0.0013	0.0002
			Ti	0.0048	0.0004
			Na	0.017	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 4

AL

E

Certified Date: 03/06/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-4	AL	E	Si	0.052	0.001
			Fe	0.146	0.002
			Cu	0.0007	0.0002
			Mn	0.0012	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0052	0.0004
			Zn	0.0013	0.0002
			Ti	0.0048	0.0004
			Na	0.016	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 4

AL

F

Certified Date: 03/06/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-4	AL	F	Si	0.052	0.001
			Fe	0.146	0.002
			Cu	0.0007	0.0002
			Mn	0.0012	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0052	0.0004
			Zn	0.0013	0.0002
			Ti	0.0048	0.0004
			Na	0.015	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 5

AM

A

Certified Date: 12/01/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-5	AM	A	Si	0.0470	0.0007
			Fe	0.201	0.003
			Cu	0.0005	0.0002
			Mn	0.0021	0.0004
			Mg	0.0000	0.0002
			Cr	0.0002	0.0002
			Ni	0.0015	0.0002
			Zn	0.0024	0.0004
			Ti	0.0021	0.0004
			Na	0.033	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 5

AN

B

Certified Date: 03/11/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-5	AN	B	Si	0.052	0.002
			Fe	0.201	0.003
			Cu	0.0006	0.0002
			Mn	0.0012	0.0002
			Mg	0.0000	0.0002
			Cr	0.0004	0.0002
			Ni	0.0014	0.0002
			Zn	0.0015	0.0002
			Ti	0.0026	0.0002
			Na	0.034	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 5

AN

D

Certified Date: 03/11/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-5	AN	D	Si	0.052	0.002
			Fe	0.201	0.003
			Cu	0.0006	0.0002
			Mn	0.0012	0.0002
			Mg	0.0000	0.0002
			Cr	0.0004	0.0002
			Ni	0.0014	0.0002
			Zn	0.0015	0.0002
			Ti	0.0026	0.0002
			Na	0.032	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 5

AN

E

Certified Date: 03/11/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-5	AN	E	Si	0.052	0.002
			Fe	0.201	0.003
			Cu	0.0006	0.0002
			Mn	0.0012	0.0002
			Mg	0.0000	0.0002
			Cr	0.0004	0.0002
			Ni	0.0014	0.0002
			Zn	0.0015	0.0002
			Ti	0.0026	0.0002
			Na	0.031	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 5

AN

G

Certified Date: 03/11/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-5	AN	G	Si	0.052	0.002
			Fe	0.201	0.003
			Cu	0.0006	0.0002
			Mn	0.0012	0.0002
			Mg	0.0000	0.0002
			Cr	0.0004	0.0002
			Ni	0.0014	0.0002
			Zn	0.0015	0.0002
			Ti	0.0026	0.0002
			Na	0.029	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 11

BA

B

Certified Date: 03/24/2009

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-11	BA	B	Na	0.0007	0.0002

Arconic Spectrochemical Reference Materials

09/22/2020

NA 11

BB

A

Certified Date: 04/26/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-11	BB	A	Si	7.49	0.09
			Fe	0.134	0.004
			Cu	0.0006	0.0002
			Mn	0.0010	0.0002
			Mg	0.0002	0.0002
			Cr	0.0002	0.0002
			Ni	0.0045	0.0004
			Zn	0.0010	0.0004
			Ti	0.0047	0.0004
			Na	0.0024	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

NA 12

BC

A

Certified Date: 05/01/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-12	BC	A	Si	7.45	0.09
			Fe	0.126	0.003
			Cu	0.0006	0.0002
			Mn	0.0011	0.0002
			Mg	0.0001	0.0002
			Cr	0.0003	0.0002
			Ni	0.0047	0.0004
			Zn	0.0011	0.0002
			Ti	0.0046	0.0004
			Na	0.0063	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

NA 13

AY

F

Certified Date: 09/10/2013

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-13	AY	F	Si	7.60	0.07
			Fe	0.160	0.007
			Cu	0.0014	0.0003
			Mn	0.0019	0.0004
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0040	0.0004
			Zn	0.0009	0.0002
			Ti	0.0067	0.0006
			Na	0.007	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 14

AL

A

Certified Date: 08/28/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-14	AL	A	Si	7.43	0.09
			Fe	0.154	0.002
			Cu	0.0001	0.0002
			Mn	0.0004	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0013	0.0002
			Zn	0.0010	0.0002
			Ti	0.0027	0.0004
			Na	0.020	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 14

AL

B

Certified Date: 08/28/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-14	AL	B	Si	7.43	0.09
			Fe	0.154	0.002
			Cu	0.0001	0.0002
			Mn	0.0004	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0013	0.0002
			Zn	0.0010	0.0002
			Ti	0.0027	0.0004
			Na	0.019	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 14

AL

C

Certified Date: 08/28/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-14	AL	C	Si	7.43	0.09
			Fe	0.154	0.002
			Cu	0.0001	0.0002
			Mn	0.0004	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0013	0.0002
			Zn	0.0010	0.0002
			Ti	0.0027	0.0004
			Na	0.018	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 14

AL

D

Certified Date: 08/28/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-14	AL	D	Si	7.43	0.09
			Fe	0.154	0.002
			Cu	0.0001	0.0002
			Mn	0.0004	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0013	0.0002
			Zn	0.0010	0.0002
			Ti	0.0027	0.0004
			Na	0.017	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 14

AL

E

Certified Date: 08/28/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-14	AL	E	Si	7.43	0.09
			Fe	0.154	0.002
			Cu	0.0001	0.0002
			Mn	0.0004	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0013	0.0002
			Zn	0.0010	0.0002
			Ti	0.0027	0.0004
			Na	0.016	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 14

AL

F

Certified Date: 08/28/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-14	AL	F	Si	7.43	0.09
			Fe	0.154	0.002
			Cu	0.0001	0.0002
			Mn	0.0004	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0013	0.0002
			Zn	0.0010	0.0002
			Ti	0.0027	0.0004
			Na	0.015	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 15

BF

B

Certified Date: 10/04/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-15	BF	B	Si	7.47	0.09
			Fe	0.150	0.002
			Cu	0.0004	0.0002
			Mn	0.0010	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0014	0.0002
			Zn	0.0015	0.0003
			Ti	0.0030	0.0004
			Na	0.029	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 15

BF

E

Certified Date: 10/04/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-15	BF	E	Si	7.47	0.09
			Fe	0.150	0.002
			Cu	0.0004	0.0002
			Mn	0.0010	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0014	0.0002
			Zn	0.0015	0.0003
			Ti	0.0030	0.0004
			Na	0.026	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 15

BF

F

Certified Date: 10/04/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-15	BF	F	Si	7.47	0.09
			Fe	0.150	0.002
			Cu	0.0004	0.0002
			Mn	0.0010	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0014	0.0002
			Zn	0.0015	0.0003
			Ti	0.0030	0.0004
			Na	0.025	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NA 15

BF

G

Certified Date: 10/04/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>SUBLOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NA-15	BF	G	Si	7.47	0.09
			Fe	0.150	0.002
			Cu	0.0004	0.0002
			Mn	0.0010	0.0002
			Mg	0.0000	0.0002
			Cr	0.0003	0.0002
			Ni	0.0014	0.0002
			Zn	0.0015	0.0003
			Ti	0.0030	0.0004
			Na	0.024	0.001

Arconic Spectrochemical Reference Materials

09/22/2020

NI 4 B

Certified Date: 06/10/1994

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NI-4	B	Ni	1.05	0.03

Arconic Spectrochemical Reference Materials

09/22/2020

NI 5 B

Certified Date: 10/26/1997

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
NI-5	B	Ni	1.50	0.04

Arconic Spectrochemical Reference Materials

09/22/2020

P 1 E

Certified Date: 12/20/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
P-1	E	Si	10.5	0.2
		Fe	0.0204	0.0009
		Cu	0.492	0.007
		Mn	0.0005	0.0002
		Mg	0.0007	0.0002
		Cr	0.0002	0.0002
		Ni	0.0013	0.0002
		Zn	0.0020	0.0004
		Ti	0.0007	0.0002
		P	0.0046	0.0004

Arconic Spectrochemical Reference Materials

09/22/2020

SI 1 F

Certified Date: 03/12/1992

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SI-1	F	Si	0.50	0.02

Arconic Spectrochemical Reference Materials

09/22/2020

SI 1 G

Certified Date: 03/12/1992

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SI-1	G	Si	0.50	0.02

Arconic Spectrochemical Reference Materials

09/22/2020

SI 2 E

Certified Date: 09/07/1989

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SI-2	E	Si	1.01	0.03

Arconic Spectrochemical Reference Materials

09/22/2020

SI 3 E

Certified Date: 03/11/1996

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SI-3	E	Si	1.59	0.04

Arconic Spectrochemical Reference Materials

09/22/2020

SI 4 D

Certified Date: 12/13/1994

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SI-4	D	Si	2.21	0.06

Arconic Spectrochemical Reference Materials

09/22/2020

SI 5 G

Certified Date: 06/17/2008

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SI-5	G	Si	2.93	0.06

SI 6 E

Certified Date: 05/19/2007

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SI-6	E	Si	4.98	0.09

Arconic Spectrochemical Reference Materials

09/22/2020

SI 8 E

Certified Date: 01/18/1995

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SI-8	E	Si	10.1	0.30

Arconic Spectrochemical Reference Materials

09/22/2020

SI 9 J

Certified Date: 06/08/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SI-9	J	Si	12.6	0.1
		Fe	0.49	0.02
		Cu	0.0005	0.0002
		Mn	0.0014	0.0004
		Mg	0.0005	0.0002
		Cr	0.0004	0.0002
		Ni	0.0043	0.0004
		Zn	0.0009	0.0002
		Ti	0.0040	0.0004
		Sr	0.0220	0.0006

Arconic Spectrochemical Reference Materials

09/22/2020

TI 2 C

Certified Date: 07/12/1997

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
TI-2	C	Ti	0.15	0.006

Arconic Spectrochemical Reference Materials

09/22/2020

TI 3 K

Certified Date: 09/14/2004

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
TI-3	K	Ti	0.26	0.01

Arconic Spectrochemical Reference Materials

09/22/2020

ZN 1 D

Certified Date: 06/04/2010

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ZN-1	D	Zn	0.26	0.01

Arconic Spectrochemical Reference Materials

09/22/2020

ZN 2 E

Certified Date: 04/01/2011

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ZN-2	E	Zn	0.60	0.02

Arconic Spectrochemical Reference Materials

09/22/2020

ZN 4 D

Certified Date: 03/08/1995

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ZN-4	D	Zn	2.58	0.07

Arconic Spectrochemical Reference Materials

09/22/2020

ZN 5 C

Certified Date: 10/23/1986

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ZN-5	C	Zn	4.05	0.10

ZN 6 E

Certified Date: 08/19/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ZN-6	E	Si	0.126	0.004
		Fe	0.252	0.006
		Cu	0.032	0.001
		Mn	0.0322	0.0006
		Mg	0.0310	0.0005
		Cr	0.032	0.002
		Ni	0.031	0.002
		Zn	7.06	0.09
		Ti	0.029	0.002

ZN 7 E

Certified Date: 04/22/2009

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ZN-7	E	Zn	10.0	0.2

ZR 1 D

Certified Date: 11/07/1994

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ZR-1	D	Zr	0.006	0.0003

ZR 2 D

Certified Date: 11/02/1994

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ZR-2	D	Zr	0.029	0.002

ZR 3 E

Certified Date: 05/19/2007

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ZR-3	E	Zr	0.068	0.003

ZR 11 C

Certified Date: 02/02/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ZR-11	C	Si	1.01	0.02
		Fe	0.46	0.02
		Cu	0.254	0.005
		Mn	0.061	0.002
		Mg	0.663	0.009
		Cr	0.220	0.003
		Ni	0.0381	0.0006
		Zn	0.0794	0.0009
		Ti	0.0308	0.0005
		Zr	0.0092	0.0004

ZR 13 E

Certified Date: 07/29/2004

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ZR-13	E	Zr	0.076	0.005

ZR 14 D

Certified Date: 02/02/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ZR-14	D	Si	1.01	0.02
		Fe	0.448	0.008
		Cu	0.252	0.005
		Mn	0.061	0.002
		Mg	0.652	0.009
		Cr	0.211	0.003
		Ni	0.0396	0.0006
		Zn	0.0803	0.0009
		Ti	0.0290	0.0004
		Zr	0.156	0.008

ZR 15 H

Certified Date: 06/11/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ZR-15	H	Si	0.994	0.009
		Fe	0.436	0.007
		Cu	0.250	0.004
		Mn	0.0614	0.0009
		Mg	0.638	0.009
		Cr	0.221	0.003
		Ni	0.040	0.001
		Zn	0.0812	0.0009
		Ti	0.0296	0.0004
		Zr	0.266	0.004

Arconic Spectrochemical Reference Materials

09/22/2020

SQ 10

YA

Certified Date: 05/23/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-10	YA	Si	(0.0006)	
		Fe	(0.0003)	
		Cu	(0.0005)	
		Mn	(0.0000)	
		Mg	(0.0001)	
		Cr	(0.0000)	
		Ni	(0.0000)	
		Zn	(0.0000)	
		Ti	(0.0000)	
		Ag	(0.0000)	
		B	(0.0000)	
		Be	(0.0000)	
		Bi	(0.0000)	
		Ca	(0.0000)	
		Cd	(0.0000)	
		Co	(0.0000)	
		Ga	(0.0000)	
		Li	(0.0000)	
		Na	(0.0000)	
		Pb	(0.0000)	
		Sn	(0.0000)	
		Sr	(0.0000)	
		V	(0.0000)	
		Zr	(0.0000)	

SQ 10

YB

Certified Date: 05/23/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-10	YB	Si	(0.0006)	
		Fe	(0.0003)	
		Cu	(0.0005)	
		Mn	(0.0000)	
		Mg	(0.0001)	
		Cr	(0.0000)	
		Ni	(0.0000)	
		Zn	(0.0000)	
		Ti	(0.0000)	
		Ag	(0.0000)	
		B	(0.0000)	
		Be	(0.0000)	
		Bi	(0.0000)	
		Ca	(0.0000)	
		Cd	(0.0000)	
		Co	(0.0000)	
		Ga	(0.0000)	
		Li	(0.0000)	
		Na	(0.0000)	
		Pb	(0.0000)	
		Sn	(0.0000)	
		Sr	(0.0000)	
		V	(0.0000)	
		Zr	(0.0000)	

SQ 11

RK

Certified Date: 06/12/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-11	RK	Si	(0.2)	
		Fe	(0.2)	
		Cu	(0.5)	
		Mn	(0.4)	
		Mg	(3.1)	
		Cr	(0.13)	
		Zn	(6.6)	
		Ti	(0.08)	
		Be	(0.005)	
		Ca	(0.02)	
		Co	(0.01)	
		Ga	(0.03)	

SQ 11

RL

Certified Date: 06/12/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-11	RL	Si	(0.2)	
		Fe	(0.2)	
		Cu	(0.5)	
		Mn	(0.4)	
		Mg	(3.1)	
		Cr	(0.13)	
		Zn	(6.6)	
		Ti	(0.08)	
		Be	(0.005)	
		Ca	(0.02)	
		Co	(0.01)	
		Ga	(0.03)	

SQ 11 RM

Certified Date: 06/12/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-11	RM	Si	(0.2)	
		Fe	(0.2)	
		Cu	(0.5)	
		Mn	(0.4)	
		Mg	(3.1)	
		Cr	(0.13)	
		Zn	(6.6)	
		Ti	(0.09)	
		Be	(0.005)	
		Ca	(0.02)	
		Co	(0.01)	
		Ga	(0.03)	

SQ 12

WB

Certified Date: 04/18/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-12	WB	Si	(1.1)	
		Fe	(0.6)	
		Cu	(4.8)	
		Mn	(1.1)	
		Mg	(0.16)	
		Ni	(0.27)	
		Zn	(0.20)	
		Ag	(0.05)	
		Be	(0.005)	
		Bi	(0.06)	
		Cd	(0.20)	
		Co	(0.01)	
		Ga	(0.03)	
		Pb	(0.07)	
		Sn	(0.06)	
		V	(0.09)	
		Zr	(0.15)	

SQ 12

WD

Certified Date: 04/18/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-12	WD	Si	(1.1)	
		Fe	(0.6)	
		Cu	(4.8)	
		Mn	(1.1)	
		Mg	(0.16)	
		Ni	(0.27)	
		Zn	(0.20)	
		Ag	(0.05)	
		Be	(0.005)	
		Bi	(0.05)	
		Cd	(0.20)	
		Co	(0.01)	
		Ga	(0.03)	
		Pb	(0.06)	
		Sn	(0.06)	
		V	(0.09)	
		Zr	(0.15)	

SQ 12

WE

Certified Date: 04/18/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-12	WE	Si	(1.1)	
		Fe	(0.6)	
		Cu	(4.8)	
		Mn	(1.1)	
		Mg	(0.16)	
		Ni	(0.27)	
		Zn	(0.20)	
		Ag	(0.05)	
		Be	(0.005)	
		Bi	(0.05)	
		Cd	(0.20)	
		Co	(0.01)	
		Ga	(0.03)	
		Pb	(0.05)	
		Sn	(0.06)	
		V	(0.09)	
		Zr	(0.15)	

SQ 12

WF

Certified Date: 04/18/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-12	WF	Si	(1.1)	
		Fe	(0.6)	
		Cu	(4.8)	
		Mn	(1.1)	
		Mg	(0.16)	
		Ni	(0.27)	
		Zn	(0.20)	
		Ag	(0.05)	
		Be	(0.005)	
		Bi	(0.05)	
		Cd	(0.20)	
		Co	(0.01)	
		Ga	(0.03)	
		Pb	(0.05)	
		Sn	(0.06)	
		V	(0.09)	
		Zr	(0.15)	

SQ 13

CX

Certified Date: 10/13/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-13	CX	Si	(0.5)	
		Fe	(0.6)	
		Cu	(0.04)	
		Mn	(0.04)	
		Mg	(0.04)	
		Cr	(0.04)	
		Ni	(0.04)	
		Zn	(0.04)	
		Ti	(0.04)	
		Be	(0.005)	
		Bi	(0.04)	
		Cd	(0.04)	
		Co	(0.01)	
		Ga	(0.03)	
		Pb	(0.04)	
		Sn	(0.04)	
		V	(0.04)	
		Zr	(0.04)	

SQ 13

CY

Certified Date: 10/13/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-13	CY	Si	(0.5)	
		Fe	(0.6)	
		Cu	(0.04)	
		Mn	(0.04)	
		Mg	(0.04)	
		Cr	(0.04)	
		Ni	(0.04)	
		Zn	(0.04)	
		Ti	(0.04)	
		Be	(0.005)	
		Bi	(0.04)	
		Cd	(0.04)	
		Co	(0.01)	
		Ga	(0.03)	
		Pb	(0.04)	
		Sn	(0.04)	
		V	(0.04)	
		Zr	(0.04)	

SQ 14

DZ

Certified Date: 07/18/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-14	DZ	Si	(0.1)	
		Fe	(0.1)	
		Cu	(0.5)	
		Mn	(0.4)	
		Mg	(0.9)	
		Ni	(0.4)	
		Zn	(1.2)	
		Ti	(0.1)	
		Be	(0.002)	
		Bi	(0.5)	
		Pb	(0.4)	
		Sn	(0.1)	

SQ 15

LD

Certified Date: 10/20/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-15	LD	Si	(12.2)	
		Fe	(0.7)	
		Cu	(0.5)	
		Mn	(0.05)	
		Mg	(1.2)	
		Cr	(0.06)	
		Ni	(2.4)	
		Ti	(0.09)	
		Sr	(0.02)	

SQ 15

LE

Certified Date: 10/20/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-15	LE	Si	(12.2)	
		Fe	(0.7)	
		Cu	(0.5)	
		Mn	(0.05)	
		Mg	(1.2)	
		Cr	(0.06)	
		Ni	(2.4)	
		Ti	(0.09)	
		Sr	(0.02)	

SQ 16

BW

Certified Date: 08/21/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-16	BW	Si	(4.0)	
		Fe	(1.0)	
		Cu	(10.1)	
		Mn	(0.2)	
		Mg	(0.3)	
		Ni	(0.2)	
		Zn	(0.2)	

SQ 16

BX

Certified Date: 08/21/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-16	BX	Si	(4.0)	
		Fe	(1.0)	
		Cu	(10.1)	
		Mn	(0.2)	
		Mg	(0.3)	
		Ni	(0.2)	
		Zn	(0.2)	

SQ 16

BY

Certified Date: 08/21/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-16	BY	Si	(4.0)	
		Fe	(1.0)	
		Cu	(10.1)	
		Mn	(0.2)	
		Mg	(0.3)	
		Ni	(0.2)	
		Zn	(0.2)	

SQ 16

BZ

Certified Date: 08/21/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-16	BZ	Si	(4.0)	
		Fe	(1.0)	
		Cu	(10.1)	
		Mn	(0.2)	
		Mg	(0.3)	
		Ni	(0.2)	
		Zn	(0.2)	

SQ 17

BW

Certified Date: 03/10/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-17	BW	Si	(0.7)	
		Fe	(0.4)	
		Cu	(0.32)	
		Mn	(0.1)	
		Mg	(1.6)	
		Cr	(0.26)	
		Ni	(0.1)	
		Zn	(0.1)	
		Ti	(0.1)	
		Be	(0.0046)	
		Bi	(0.1)	
		Ga	(0.045)	
		Pb	(0.1)	
		Sn	(0.1)	
		V	(0.036)	

SQ 18

GRM

Certified Date: 01/10/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-18	GRM	B	(0.02)	
		Li	(0.02)	
		Na	(0.02)	

SQ 18

GRX

Certified Date: 08/02/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-18	GRX	B	(0.02)	
		Li	(0.02)	
		Na	(0.02)	

SQ 18

GRZ

Certified Date: 07/08/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-18	GRZ	B	(0.02)	
		Li	(0.02)	
		Na	(0.02)	

SQ 18

GSA

Certified Date: 07/08/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-18	GSA	B	(0.02)	
		Li	(0.02)	
		Na	(0.02)	

SQ 18

GSB

Certified Date: 07/08/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-18	GSB	B	(0.02)	
		Li	(0.02)	
		Na	(0.02)	

SQ 18

GSC

Certified Date: 07/08/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-18	GSC	B	(0.02)	
		Li	(0.02)	
		Na	(0.02)	

SQ 18

GSD

Certified Date: 07/08/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-18	GSD	B	(0.02)	
		Li	(0.02)	
		Na	(0.02)	

SQ 18

GSE

Certified Date: 07/08/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-18	GSE	B	(0.02)	
		Li	(0.02)	
		Na	(0.02)	

SQ 19 G

Certified Date: 10/02/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-19	G	Si	(0.6)	
		Fe	(0.1)	
		Cu	(0.5)	
		Mg	(0.9)	
		Cr	(0.1)	
		Zn	(0.3)	
		As	(0.04)	
		Ga	(0.015)	
		P	(0.01)	
		Sb	(0.02)	
		Sc	(0.2)	
		V	(0.01)	
		Zr	(0.007)	

SQ 19 M

Certified Date: 01/25/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-19	M	Si	(0.2)	
		Fe	(0.1)	
		Cu	(0.5)	
		Mg	(1.0)	
		Cr	(0.1)	
		Zn	(0.3)	
		As	(0.01)	
		Ga	(0.018)	
		P	(0.007)	
		Sb	(0.01)	
		Sc	(0.2)	
		V	(0.004)	
		Zr	(0.003)	

SQ 19 N

Certified Date: 04/20/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-19	N	Si	(0.2)	
		Fe	(0.1)	
		Cu	(0.5)	
		Mg	(1.0)	
		Cr	(0.1)	
		Zn	(0.3)	
		As	(0.01)	
		Ga	(0.02)	
		P	(0.007)	
		Sb	(0.01)	
		Sc	(0.2)	
		V	(0.004)	
		Zr	(0.003)	

SQ 19 P

Certified Date: 04/20/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-19	P	Si	(0.2)	
		Fe	(0.1)	
		Cu	(0.5)	
		Mg	(1.0)	
		Cr	(0.1)	
		Zn	(0.3)	
		As	(0.01)	
		Ga	(0.02)	
		P	(0.007)	
		Sb	(0.01)	
		Sc	(0.2)	
		V	(0.004)	
		Zr	(0.003)	

SQ 19 R

Certified Date: 04/20/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-19	R	Si	(0.2)	
		Fe	(0.1)	
		Cu	(0.5)	
		Mg	(1.0)	
		Cr	(0.1)	
		Zn	(0.3)	
		As	(0.01)	
		Ga	(0.02)	
		P	(0.007)	
		Sb	(0.01)	
		Sc	(0.2)	
		V	(0.004)	
		Zr	(0.003)	

SQ 19 S

Certified Date: 04/20/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
SQ-19	S	Si	(0.2)	
		Fe	(0.1)	
		Cu	(0.5)	
		Mg	(1.0)	
		Cr	(0.1)	
		Zn	(0.3)	
		As	(0.01)	
		Ga	(0.02)	
		P	(0.007)	
		Sb	(0.01)	
		Sc	(0.2)	
		V	(0.004)	
		Zr	(0.003)	

ST1 1050 L

Certified Date: 09/05/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST1-1050	L	Si	0.152	0.004
		Fe	0.341	0.005
		Cu	0.0311	0.0005
		Mn	0.0427	0.0006
		Mg	Notes	0.001
		Cr	0.0225	0.0004
		Ni	0.0097	0.0004
		Zn	0.0406	0.0006
		Ti	0.0278	0.0005
		Ag	0.0000	0.0002
		As	0.0007	0.0002
		B	0.0001	0.0002
		Be	0.00020	0.00005
		Bi	0.0311	0.0005
		Ca	Notes	0.0004
		Cd	0.0007	0.0002
		Co	0.0006	0.0002
		Ga	0.0254	0.0004
		Li	Notes	0.0002
		Na	Notes	0.0002
		P	0.0005	0.0002
		Pb	0.0204	0.0004
		Sb	0.0034	0.0004
		Sc	0.0000	0.0002
		Sn	0.0198	0.0004
		Sr	Notes	0.0002
		V	0.0256	0.0004
		Zr	0.0044	0.0004

ST2 2000 B

Certified Date: 03/04/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST2-2000	B	Si	0.493	0.006
		Fe	0.448	0.006
		Cu	2.47	0.05
		Mn	0.473	0.007
		Mg	0.512	0.008
		Cr	0.0520	0.0008
		Ni	0.0097	0.0004
		Zn	0.149	0.003
		Ti	0.0287	0.0004
		Ag	0.0010	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00054	0.00005
		Bi	0.0011	0.0004
		Ca	0.0000	0.0002
		Cd	0.0012	0.0004
		Co	0.0012	0.0004
		Ga	0.0195	0.0004
		Li	0.00001	0.00005
		Na	0.00006	0.00005
		P	(0.0003)	
		Pb	0.0031	0.0004
		Sb	0.0014	0.0004
		Sc	(0.0000)	
		Sn	0.0011	0.0004
		Sr	0.0011	0.0004
		V	0.0103	0.0004
		Zr	0.0015	0.0004

ST1 3000 B

Certified Date: 03/14/2008

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST1-3000	B	Si	0.198	0.008
		Fe	0.48	0.02
		Cu	0.149	0.006
		Mn	1.19	0.03
		Mg	1.02	0.03
		Cr	0.011	0.001
		Ni	0.0099	0.0006
		Zn	0.054	0.003
		Ti	0.030	0.002
		Ag	0.0010	0.0004
		B	0.0001	0.0002
		Be	0.0004	0.0002
		Bi	0.0012	0.0004
		Cd	0.0015	0.0004
		Co	0.0011	0.0004
		Ga	0.020	0.001
		Hg	0.0032	0.0006
		Pb	0.0038	0.0004
		Sb	0.0012	0.0004
		Sn	0.0013	0.0004
		Sr	0.0014	0.0004
		V	0.011	0.001
		Zr	0.0013	0.0004

ST1 3000 C

Certified Date: 02/06/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST1-3000	C	Si	0.202	0.003
		Fe	0.500	0.007
		Cu	0.149	0.002
		Mn	1.21	0.03
		Mg	1.00	0.02
		Cr	0.0106	0.0004
		Ni	0.0101	0.0004
		Zn	0.0499	0.0008
		Ti	0.0098	0.0004
		Ag	0.0012	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.0006	0.0002
		Bi	0.0012	0.0002
		Ca	0.0000	0.0002
		Cd	0.0011	0.0002
		Co	0.0012	0.0002
		Ga	0.0204	0.0004
		Li	0.00000	0.00005
		Na	0.00004	0.00005
		P	(0.0004)	
		Pb	0.0036	0.0004
		Sb	0.0013	0.0002
		Sc	0.0000	0.0002
		Sn	0.0014	0.0002
		Sr	0.0005	0.0002
		V	0.0103	0.0004
		Zr	0.0011	0.0002

ST2 3000 A

Certified Date: 12/08/1998

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST2-3000	A	Si	0.19	0.007
		Fe	0.50	0.02
		Cu	0.15	0.006
		Mn	1.16	0.03
		Mg	0.032	0.002
		Cr	0.013	0.001
		Ni	0.010	0.001
		Zn	0.051	0.003
		Ti	0.019	0.001
		Ag	0.0009	0.0002
		B	0.0002	0.0002
		Be	0.0006	0.0002
		Bi	0.0009	0.0002
		Cd	0.0011	0.0004
		Co	0.0009	0.0002
		Ga	0.020	0.001
		Hg	0.0026	0.0004
		Pb	0.0032	0.0004
		Sb	0.0013	0.0003
		Sn	0.0012	0.0004
		Sr	0.0004	0.0002
		V	0.010	0.001
		Zr	0.0010	0.0004

ST2 3000 B

Certified Date: 05/07/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST2-3000	B	Si	0.198	0.004
		Fe	0.500	0.008
		Cu	0.151	0.003
		Mn	1.22	0.02
		Mg	0.0323	0.0005
		Cr	0.0107	0.0004
		Ni	0.0097	0.0004
		Zn	0.0498	0.0007
		Ti	0.0212	0.0004
		Ag	0.0009	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.0004	0.0002
		Bi	0.0013	0.0003
		Ca	0.0000	0.0002
		Cd	0.0012	0.0002
		Co	0.0010	0.0002
		Ga	0.0198	0.0004
		Li	0.00000	0.00005
		Na	0.00005	0.00005
		P	(0.0001)	
		Pb	0.0034	0.0004
		Sb	0.0013	0.0002
		Sc	0.0000	0.0002
		Sn	0.0013	0.0002
		Sr	0.0013	0.0002
		V	0.0100	0.0004
		Zr	0.0013	0.0003

ST1 3003 B

Certified Date: 09/09/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST1-3003	B	Si	0.296	0.005
		Fe	0.349	0.005
		Cu	0.147	0.003
		Mn	1.21	0.02
		Mg	0.0002	0.0002
		Cr	0.0003	0.0002
		Ni	0.0004	0.0002
		Zn	0.0003	0.0002
		Ti	0.0004	0.0002
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0008	0.0002
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0002)	
		Pb	0.0001	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0000	0.0002
		Sr	0.0000	0.0002
		V	0.0006	0.0002
		Zr	0.0002	0.0002

ST2 3003 E

Certified Date: 07/11/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST2-3003	E	Si	0.299	0.004
		Fe	0.652	0.009
		Cu	0.155	0.003
		Mn	1.23	0.02
		Mg	Notes	0.002
		Cr	0.0163	0.0004
		Ni	0.0200	0.0004
		Zn	0.0208	0.0004
		Ti	0.0188	0.0004
		Ag	0.0000	0.0002
		As	0.0007	0.0002
		B	0.0002	0.0002
		Be	0.00021	0.00005
		Bi	0.020	0.001
		Ca	Notes	0.0004
		Cd	0.0007	0.0002
		Co	0.0007	0.0002
		Ga	0.0197	0.0005
		Li	Notes	0.0003
		Na	Notes	0.0004
		P	0.0007	0.0002
		Pb	0.0217	0.0006
		Sb	0.0030	0.0004
		Sc	(0.0000)	
		Sn	0.0212	0.0005
		Sr	Notes	0.0003
		V	0.0147	0.0004
		Zr	0.0037	0.0003

ST2 3104 B

Certified Date: 12/20/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST2-3104	B	Si	0.200	0.004
		Fe	0.389	0.006
		Cu	0.200	0.004
		Mn	1.01	0.03
		Mg	1.19	0.03
		Cr	0.0169	0.0005
		Ni	0.0297	0.0005
		Zn	0.0614	0.0009
		Ti	0.0196	0.0005
		Ag	0.0000	0.0002
		As	(0.0001)	
		B	0.0002	0.0002
		Be	0.0012	0.0002
		Bi	0.0081	0.0004
		Ca	Notes	0.0004
		Cd	0.0013	0.0004
		Co	0.0003	0.0002
		Ga	0.0200	0.0005
		Li	Notes	0.0004
		Na	Notes	0.0005
		P	0.0011	0.0004
		Pb	0.0054	0.0004
		Sb	0.0022	0.0004
		Sc	(0.0000)	
		Sn	0.0160	0.0005
		Sr	Notes	0.0004
		V	0.0202	0.0005
		Zr	0.0019	0.0004

ST2 3104 D

Certified Date: 06/25/2020

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST2-3104	D	Si	0.197	0.003
		Fe	0.422	0.006
		Cu	0.200	0.003
		Mn	1.00	0.02
		Mg	1.19	0.02
		Cr	0.0161	0.0004
		Ni	0.0304	0.0005
		Zn	0.0616	0.0009
		Ti	0.0220	0.0006
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.0012	0.0002
		Bi	0.0078	0.0004
		Ca	Notes	0.0004
		Cd	0.0012	0.0002
		Co	0.0001	0.0002
		Ga	0.0200	0.0006
		Li	Notes	0.0004
		Na	Notes	0.0004
		P	0.0013	0.0002
		Pb	0.0044	0.0004
		Sb	0.0026	0.0004
		Sc	(0.0000)	
		Sn	0.0150	0.0005
		Sr	Notes	0.0004
		V	0.0202	0.0004
		Zr	0.0021	0.0003

ST1 5000 B

Certified Date: 08/04/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST1-5000	B	Si	0.149	0.004
		Fe	0.298	0.004
		Cu	0.0494	0.0006
		Mn	0.0534	0.0007
		Mg	1.80	0.03
		Cr	0.149	0.004
		Ni	0.0288	0.0004
		Zn	0.0399	0.0005
		Ti	0.0200	0.0004
		Ag	0.0011	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0005	0.0002
		Bi	0.0010	0.0004
		Ca	0.0000	0.0002
		Cd	0.0011	0.0004
		Co	0.0011	0.0002
		Ga	0.0200	0.0004
		Li	0.00000	0.00005
		Na	0.00005	0.00005
		P	(0.0003)	
		Pb	0.0043	0.0004
		Sb	0.0011	0.0002
		Sc	0.0010	0.0002
		Sn	0.0010	0.0004
		Sr	0.0011	0.0004
		V	0.0103	0.0004
		Zr	0.0010	0.0002

ST1 5052 A

Certified Date: 03/05/2000

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST1-5052	A	Si	0.145	0.006
		Fe	0.30	0.01
		Cu	0.099	0.005
		Mn	0.0010	0.0004
		Mg	2.72	0.05
		Cr	0.230	0.008
		Ni	0.0000	0.0002
		Zn	0.0003	0.0002
		Ti	0.0001	0.0002
		B	0.0003	0.0002
		Be	0.00000	0.00000
		Bi	0.0000	0.0002
		Ca	0.0006	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0001	0.0002
		Li	0.0000	0.0002
		Na	0.0000	0.0002
		P	0.0001	0.0002
		Pb	0.0000	0.0002
		Sb	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0000	0.0002
		V	0.0001	0.0002
		Zr	0.0001	0.0002

ST2 5052 C

Certified Date: 09/15/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST2-5052	C	Si	0.148	0.003
		Fe	0.292	0.004
		Cu	0.101	0.003
		Mn	0.0514	0.0008
		Mg	Notes	0.05
		Cr	0.248	0.004
		Ni	0.0197	0.0004
		Zn	0.0306	0.0005
		Ti	0.0298	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.00021	0.00005
		Bi	0.020	0.002
		Ca	0.0021	0.0003
		Cd	0.0007	0.0002
		Co	0.0005	0.0002
		Ga	0.025	0.002
		Li	Notes	0.0002
		Na	Notes	0.0004
		P	0.0007	0.0002
		Pb	0.0202	0.0004
		Sb	0.0031	0.0004
		Sc	(0.0000)	
		Sn	0.0195	0.0006
		Sr	0.0013	0.0002
		V	0.0155	0.0004
		Zr	0.0040	0.0003

ST1 6000 D

Certified Date: 06/09/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST1-6000	D	Si	0.546	0.008
		Fe	0.311	0.005
		Cu	0.150	0.004
		Mn	0.0510	0.0008
		Mg	0.803	0.009
		Cr	0.152	0.004
		Ni	0.049	0.002
		Zn	0.081	0.004
		Ti	0.0392	0.0006
		Ag	0.0010	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.0005	0.0002
		Bi	0.0010	0.0002
		Ca	0.0000	0.0002
		Cd	0.0011	0.0002
		Co	0.0010	0.0002
		Ga	0.0207	0.0004
		Li	0.00000	0.00005
		Na	0.00003	0.00005
		P	(0.0003)	
		Pb	0.0031	0.0004
		Sb	0.0013	0.0002
		Sc	(0.0000)	
		Sn	0.0011	0.0004
		Sr	0.0011	0.0002
		V	0.0113	0.0005
		Zr	0.0012	0.0002

ST1 6063 E

Certified Date: 06/18/2018

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST1-6063	E	Si	0.442	0.007
		Fe	0.210	0.003
		Cu	0.0004	0.0002
		Mn	0.0013	0.0002
		Mg	0.547	0.008
		Cr	0.0001	0.0002
		Ni	0.0001	0.0002
		Zn	0.0001	0.0002
		Ti	0.0009	0.0002
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0002	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0002	0.0002
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	0.0007	0.0002
		Pb	0.0000	0.0002
		Sb	0.0000	0.0002
		Sc	0.0000	0.0002
		Sn	0.0000	0.0002
		Sr	0.0000	0.0002
		V	0.0002	0.0002
		Zr	0.0000	0.0002

ST2 6063 M

Certified Date: 08/01/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST2-6063	M	Si	0.448	0.007
		Fe	0.219	0.003
		Cu	0.0500	0.0008
		Mn	0.0533	0.0008
		Mg	0.546	0.008
		Cr	0.0150	0.0004
		Ni	0.0274	0.0008
		Zn	0.0298	0.0005
		Ti	0.0284	0.0005
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00020	0.00005
		Bi	0.0197	0.0004
		Ca	Notes	0.0004
		Cd	0.0006	0.0002
		Co	0.0005	0.0002
		Ga	0.0252	0.0004
		Li	Notes	0.0002
		Na	Notes	0.0004
		P	0.0004	0.0002
		Pb	0.0203	0.0004
		Sb	0.0027	0.0004
		Sc	0.0000	0.0002
		Sn	0.0195	0.0005
		Sr	Notes	0.0004
		V	0.0104	0.0004
		Zr	0.0032	0.0004

ST1 7000 B

Certified Date: 11/08/2017

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST1-7000	B	Si	0.147	0.004
		Fe	0.249	0.004
		Cu	1.47	0.03
		Mn	0.253	0.004
		Mg	2.52	0.04
		Cr	0.164	0.004
		Ni	0.0206	0.0004
		Zn	6.48	0.09
		Ti	0.0406	0.0006
		Ag	0.0012	0.0002
		As	(0.0000)	
		B	0.0002	0.0002
		Be	0.0004	0.0002
		Bi	0.0012	0.0003
		Ca	0.0001	0.0002
		Cd	0.0012	0.0002
		Co	0.0010	0.0002
		Ga	0.0206	0.0004
		Li	0.00001	0.00005
		Na	0.00017	0.00005
		P	(0.0001)	
		Pb	0.0038	0.0004
		Sb	0.0011	0.0002
		Sc	0.0000	0.0002
		Sn	0.0015	0.0002
		Sr	0.0013	0.0002
		V	0.0107	0.0004
		Zr	0.0010	0.0002

ST2 7000 A

Certified Date: 07/08/1999

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST2-7000	A	Si	0.15	0.006
		Fe	0.25	0.01
		Cu	0.15	0.006
		Mn	0.19	0.007
		Mg	1.30	0.03
		Cr	0.10	0.005
		Ni	0.019	0.001
		Zn	3.45	0.07
		Ti	0.035	0.002
		Ag	0.0012	0.0004
		B	0.0002	0.0002
		Be	0.0006	0.0002
		Bi	0.0009	0.0002
		Cd	0.0011	0.0004
		Co	0.0010	0.0004
		Ga	0.019	0.001
		Pb	0.0029	0.0004
		Sb	0.0010	0.0004
		Sn	0.0010	0.0002
		Sr	0.0014	0.0004
		V	0.010	0.001
		Zr	0.0011	0.0004

ST1 8079 C

Certified Date: 12/05/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST1-8079	C	Si	0.134	0.003
		Fe	1.15	0.03
		Cu	0.0023	0.0004
		Mn	0.0065	0.0004
		Mg	0.0002	0.0002
		Cr	0.0003	0.0002
		Ni	0.0005	0.0002
		Zn	0.0005	0.0002
		Ti	0.0044	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0001	0.0002
		Be	0.00000	0.00005
		Bi	0.0000	0.0002
		Ca	0.0000	0.0002
		Cd	0.0000	0.0002
		Co	0.0000	0.0002
		Ga	0.0010	0.0002
		Li	0.00000	0.00005
		Na	0.00000	0.00005
		P	(0.0003)	
		Pb	0.0002	0.0002
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0001	0.0002
		Sr	0.0000	0.0002
		V	0.0009	0.0002
		Zr	0.0001	0.0002

ST2 8000 B

Certified Date: 10/04/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST2-8000	B	Si	0.299	0.004
		Fe	1.52	0.03
		Cu	0.152	0.003
		Mn	0.608	0.009
		Mg	Notes	0.001
		Cr	0.0114	0.0004
		Ni	0.0104	0.0004
		Zn	0.0506	0.0008
		Ti	0.0102	0.0004
		Ag	0.0001	0.0002
		As	(0.0000)	
		B	0.0003	0.0002
		Be	0.0007	0.0002
		Bi	0.0099	0.0004
		Ca	Notes	0.0004
		Cd	0.0010	0.0002
		Co	0.0011	0.0002
		Ga	0.0202	0.0004
		Li	Notes	0.0002
		Na	Notes	0.0004
		P	0.0007	0.0002
		Pb	0.0102	0.0006
		Sb	0.0011	0.0002
		Sc	(0.0000)	
		Sn	0.0100	0.0004
		Sr	Notes	0.0002
		V	0.0211	0.0004
		Zr	0.0009	0.0002

ST2 8079 F

Certified Date: 08/18/2016

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST2-8079	F	Si	0.127	0.006
		Fe	1.18	0.02
		Cu	0.0316	0.0012
		Mn	0.0046	0.0003
		Mg	Notes	0.0003
		Cr	0.0038	0.0003
		Ni	0.0045	0.0003
		Zn	0.0150	0.0004
		Ti	0.0040	0.0003
		Ag	0.0000	0.0002
		As	0.0004	0.0002
		B	0.0002	0.0002
		Be	0.00019	0.00005
		Bi	0.0037	0.0003
		Ca	Notes	0.0003
		Cd	0.0007	0.0002
		Co	0.0007	0.0002
		Ga	0.0166	0.0008
		Li	Notes	0.0002
		Na	Notes	0.0002
		P	0.0004	0.0002
		Pb	0.0041	0.0004
		Sb	(0.0000)	
		Sc	(0.0000)	
		Sn	0.0044	0.0004
		Sr	Notes	0.0002
		V	0.0025	0.0003
		Zr	0.0037	0.0004

ST3 8079 A

Certified Date: 07/27/2015

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST3-8079	A	Si	0.109	0.005
		Fe	1.06	0.03
		Cu	0.0120	0.0006
		Mn	0.0253	0.0005
		Mg	Notes	0.0004
		Cr	0.0116	0.0004
		Ni	0.0125	0.0006
		Zn	0.0103	0.0004
		Ti	0.0104	0.0004
		Ag	0.0000	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.00041	0.00005
		Bi	0.0751	0.0009
		Ca	Notes	0.0002
		Cd	0.0012	0.0004
		Co	0.0002	0.0002
		Ga	0.0210	0.0007
		Li	Notes	0.0002
		Na	Notes	0.0002
		P	0.0023	0.0004
		Pb	0.0058	0.0004
		Sb	0.0032	0.0004
		Sc	0.0000	0.0002
		Sn	0.021	0.001
		Sr	Notes	0.0002
		V	0.0208	0.0005
		Zr	0.0022	0.0004

ST3 8079 B

Certified Date: 08/30/2019

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST3-8079	B	Si	0.103	0.003
		Fe	1.00	0.02
		Cu	0.0107	0.0004
		Mn	0.0225	0.0004
		Mg	Notes	0.0004
		Cr	0.0112	0.0004
		Ni	0.0106	0.0004
		Zn	0.0106	0.0004
		Ti	0.0095	0.0004
		Ag	0.0000	0.0002
		As	(0.0000)	
		B	0.0004	0.0002
		Be	Notes	0.00005
		Bi	0.0792	0.0009
		Ca	Notes	0.0002
		Cd	0.0010	0.0002
		Co	0.0002	0.0002
		Ga	0.0201	0.0006
		Li	Notes	0.0002
		Na	Notes	0.0002
		P	0.0013	0.0002
		Pb	0.0044	0.0004
		Sb	0.0026	0.0004
		Sc	0.0000	0.0002
		Sn	0.0200	0.0004
		Sr	Notes	0.0002
		V	0.0210	0.0004
		Zr	0.0024	0.0004

ST1 300 B

Certified Date: 06/19/2014

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST1-300	B	Si	7.42	0.07
		Fe	0.599	0.007
		Cu	0.79	0.03
		Mn	0.148	0.006
		Mg	0.297	0.009
		Cr	0.0006	0.0002
		Ni	0.094	0.004
		Zn	0.101	0.005
		Ti	0.100	0.005
		Ag	0.0011	0.0004
		As	0.0000	0.0002
		B	0.0000	0.0002
		Be	0.0006	0.0002
		Bi	0.0011	0.0004
		Ca	0.0007	0.0002
		Cd	0.0011	0.0004
		Co	0.0010	0.0004
		Ga	0.0200	0.0007
		Li	0.00000	0.00005
		Na	0.0001	0.0002
		P	0.0004	0.0002
		Pb	0.0033	0.0004
		Sb	0.0012	0.0004
		Sc	0.0000	0.0002
		Sn	0.0012	0.0004
		Sr	0.0253	0.0009
		V	0.0114	0.0006
		Zr	0.0013	0.0004

ST2 300 B

Certified Date: 12/16/2009

<u>CATALOG NUMBER</u>	<u>LOT</u>	<u>ELEMENT</u>	<u>WEIGHT PERCENT</u>	<u>ESTIMATED UNCERTAINTY</u>
ST2-300	B	Si	9.05	0.16
		Fe	1.10	0.06
		Cu	3.58	0.07
		Mn	0.51	0.03
		Mg	0.215	0.008
		Cr	0.035	0.004
		Ni	0.102	0.005
		Zn	2.45	0.06
		Ti	0.108	0.005
		Ag	0.0008	0.0002
		As	0.0000	0.0002
		B	0.0001	0.0002
		Be	0.0005	0.0002
		Bi	0.0010	0.0004
		Ca	0.0015	0.0004
		Cd	0.0011	0.0004
		Co	0.0011	0.0004
		Ga	0.021	0.001
		Li	0.0000	0.0002
		Na	0.0001	0.0002
		P	0.0006	0.0002
		Pb	0.0031	0.0005
		Sb	0.0010	0.0004
		Sc	0.0000	0.0002
		Sn	0.0011	0.0004
		Sr	0.026	0.001
		V	0.010	0.002
		Zr	0.0012	0.0004