

ALPHA Resources LLC - USA

Carbon and Sulfur in Metals

Last Updated: 4/1/2020

Steel Ring Standards for Carbon/Sulfur

Part No#	17034	17025	Size	% Carbon	Std Deviation	Expanded Deviation	% Sulfur	Std Deviation	Expanded Deviation	Lot #	Weight
AR868			1g	0.102	0.001	0.003	0.0053	0.0003	0.0008	818A	454g
AR869			1g	0.016	0.002	0.004	0.0030	0.0002	0.004	316B	454g
AR870			1g	0.027	0.002	0.005	0.0249	0.0018	0.0036	1216A	454g
AR871			1g	0.037	0.001	0.003	0.017	0.001	0.002	119A	454g
AR872			1g	Sold	Out	Targeted	Replacement	Date	July 3,	2020	454g
AR873			1g	0.429	0.002	0.005	0.0097	0.0005	0.0012	619G	454g
AR874			1g	0.658	0.004	0.008	0.0109	0.0005	0.0011	115D	454g
AR875			1g	0.799	0.004	0.008	0.012	0.001	0.002	119D	454g
AR876			1g	Sold	Out	And	Discontinued	Until	Further	Notice	454g
AR878			1g	0.272	0.003	0.006	0.0215	0.0008	0.0016	417A	454g

Steel Pin Standards for Carbon/Sulfur

Part #	17034	17025	Size	% Carbon	Standard Deviation	Expanded Deviation	% Sulfur	Standard Deviation	Expanded Deviation	Lot #	Weight
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AR510			0.5g	2.41	0.05	0.11	0.091	0.004	0.008	513A	250g
AR511			0.5g	0.064	0.002	0.004	0.272	0.003	0.008	519A	250g
AR512			0.5g	0.016	0.002	0.004	0.262	0.006	0.012	814G	250g
AR513			0.5g	0.021	0.002	0.004	0.387	0.005	0.010	1216D	250g
AR514			0.5g	0.087	0.003	0.008	0.335	0.009	0.020	518D	250g
AR881			1g	0.015	0.001	0.002	0.0015	0.0002	0.0005	819C	454g
AR882			1g	0.0531	0.0008	0.0016	0.0344	0.0005	0.0012	519D	454g
AR883			1g	0.216	0.003	0.006	0.0183	0.0003	0.0010	719C	454g
AR884			1g	0.443	0.005	0.010	0.0123	0.0005	0.0012	318B	454g
AR885			1g	0.821	0.005	0.011	0.0058	0.0003	0.0007	118A	454g
AR886			1g	0.729	0.005	0.011	0.022	0.001	0.002	319H	454g
AR888			1g	0.134	0.002	0.006	0.229	0.007	0.015	119E	454g
AR889			1g	0.928	0.008	0.018	0.0020	0.0002	0.0005	419J	454g
AR890			1g	0.109	0.001	0.003	0.0047	0.0003	0.0009	619E	454g
AR891			1g	0.0236	0.0014	0.0028	0.0246	0.0007	0.0014	817E	454g
AR892			1g	0.0057	0.0003	0.0008	0.0028	0.0003	0.0007	120E	454g
AR893			1g	1.62	0.03	0.06	0.0010	0.0002	0.0005	615A	454g
AR894			1g	0.544	0.007	0.014	0.0103	0.0005	0.0010	416B	454g
AR895			1g	0.275	0.003	0.006	0.022	0.001	0.002	414B	454g

AR896			1g	0.168	0.002	0.004	0.090	0.001	0.003	619D	454g
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Chip/Powder Standards for Carbon / Sulfur / Nitrogen

Part #	17034	17025	%C	Standard Deviation	Expanded Deviation	%S	Standard Deviation	Expanded Deviation	%N	Standard Deviation	Expanded Deviation	Lot #	Wgt
AR945			0.017	0.001	0.002	0.0004	0.0001	0.0004	0.341	0.007	0.018	418A	150g
AR946			0.0051	0.0004	0.0008	0.0083	0.0004	0.0009	0.0049	0.0003	0.0006	619C	150g
AR947			0.389	0.008	0.016	0.117	0.002	0.004	0.0090	0.0004	0.0008	1114B	150g
AR948			0.498	0.005	0.010	0.0780	0.0011	0.0025	0.0090	0.0003	0.0008	817D	150g
AR949			0.0178	0.0007	0.0016	0.0266	0.0011	0.0025	0.0364	0.0009	0.0019	317D	150g
AR950			0.054	0.001	0.003	0.011	0.001	0.002	0.0034	0.0002	0.0004	1118B	150g
AR951			0.161	0.002	0.005	0.0221	0.0013	0.0031	0.0073	0.0005	0.0012	918C	150g
AR952			0.482	0.003	0.006	0.020	0.001	0.002	0.0114	0.0005	0.0010	914A	150g
AR953			0.953	0.006	0.012	0.0026	0.0002	0.0005	0.0081	0.0006	0.0013	1118C	150g
AR954			0.417	0.003	0.007	0.027	0.001	0.003	0.0083	0.0003	0.0008	218B	150g
AR955			0.201	0.002	0.004	0.025	0.001	0.03	0.0071	0.0003	0.0009	719F	150g
AR956			0.401	0.005	0.010	0.256	0.006	0.0014	0.0067	0.0002	0.0006	817A	150g
AR957			0.182	0.002	0.004	0.107	0.003	0.007	0.0086	0.0003	0.0007	219E	150g
AR958			0.015	0.001	0.002	0.023	0.002	0.004	0.068	0.002	0.004	212A	150g
AR960			0.121	0.003	0.006	0.0221	0.0009	0.0018	0.036	0.001	0.002	814B	150g
AR961			0.0242	0.0005	0.0014	0.0100	0.0004	0.0010	0.046	0.001	0.003	719B	150g

Tungsten Carbide Standard for Carbon/Sulfur

Part #	17034	17025	% Carbon	Standard Deviation	Expanded Deviation	% Sulfur	Standard Deviation	Expanded Deviation	Lot #	Weight
AR307			6.17	0.02	0.05	0.0050	0.0009	0.0019	518C	100g

Cast Iron thru Wrought Iron Standards for Carbon/Sulfur

Part #	17034	17025	% Carbon	Standard Deviation	Expanded Deviation	% Sulfur	Standard Deviation	Expanded Deviation	Lot #	Weight
AR299			0.97	0.01	0.02	0.0102	0.0015	0.0030	614B	150g
AR300			3.26	0.04	0.08	0.021	0.001	0.002	1012A	150g
AR301			2.01	0.02	0.04	0.0172	0.0005	0.0013	1018D	150g
AR302			3.29	0.035	0.070	0.0592	0.0026	0.0052	517D	150g
AR303			3.86	0.02	0.05	0.0210	0.0013	0.0028	218A	150g
AR304			4.22	0.3	0.7	0.0215	0.0004	0.0009	120B	150g
AR305			2.79	0.03	0.06	0.012	0.001	0.002	90701	150g
AR306			3.48	0.03	0.06	0.0202	0.0006	0.0013	817B	150g
AR309			3.62	0.03	0.07	0.0191	0.0011	0.0025	219D	150g
AR310			Sold	Out	Targeted	Replacement	Date	April	24, 2020	150g
AR315			Sold	Out	Targeted	Replacement	Date	May	1, 2020	150g

AR318			2.95	0.03	0.06	0.042	0.003	0.006	1015C	150g
AR319			3.28	0.03	0.06	0.055	0.003	0.006	113001	150g
AR322			3.32	0.03	0.06	0.034	0.001	0.003	919A	250g
AR323			3.92	0.05	0.10	0.075	0.005	0.01	1212D	250g
AR673			0.0007	0.0002	0.0004	0.0011	0.0003	0.0006	717A	454g

Titanium and Zirconium Pin CRM's for Hydrogen/Carbon

Part #	17034	17025	Size	Matrix	%H	Standard Deviation	Expanded Deviation	%C	Standard Deviation	Expanded Deviation	Lot#	Pieces per Bottle
AR585			0.25g	Ti	0.0064	0.0006	0.0012	0.008	0.001	0.002	117B	100
AR586			0.25g	Ti	0.0018	0.0002	0.0005	0.019	0.001	0.002	315D	100
AR587			0.25g	Ti	0.0111	0.0009	0.0018	0.008	0.001	0.002	215B	100
AR588			0.25g	Ti	0.0137	0.0004	0.0008	0.008	0.0015	0.0030	714E	100
AR589			0.25g	Ti	Sold	Out	Replacement	Expected	September	20, 2019		100
AR590			0.25	Zr	0.0010	0.0002	0.0004	0.016	0.001	0.002	815C	100
AR591			0.25	Ti	0.0017	0.0002	0.0004	*0.047	0.0006	0.0012	1216C	100
AR592			0.25g	Ti	*0.0290	0.0015	0.0030	0.0072	0.0006	0.0012	616A	100

Copper Pins CRM's for Sulfur/Oxygen

Part #	17034	17025	Size	% Oxygen	Standard Deviation	Expanded Uncertainty	% Sulfur	Standard Deviation	Expanded Uncertainty	Lot #	Pieces per Bottle
AR146			1g	0.0235	0.0006	0.0014	0.0014	0.0002	0.0004	318C	100
AR147			1g	0.0007	0.0001	0.0003	0.0010	0.0002	0.0004	918B	100
AR148			1g	0.0493	0.0009	0.0020	0.0013	0.0002	0.0005	518B	100
AR149			1g	0.0312	0.0005	0.0012	0.0005	0.0001	0.0002	619F	100