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CARBON STEEL

CONTINUED ON THE NEXT PAGE

= Class, where 1 = CRM and 2 = RM

Table with columns: #, Number, C, Mn, P, S, Si, Cu, Ni, Cr, Al, Als, As, B, Ca, Co, Mo. Contains multiple rows of material specifications with chemical composition values.

CARBON STEEL CONTINUED FROM THE PREVIOUS PAGE

Table with columns: Number, N, Nb, O, Pb, Sb, Sn, Ti, V, W, Zn, Zr, Units. It lists various steel grades and their chemical compositions and dimensions. The table is divided into two main sections by a horizontal line.

ARSENIC AND ANTIMONY IN STEEL

= Class, where 1 = CRM and 2 = RM analysis listed in mass % except * which is mg/kg

#	Number	As	Sb	C	Mn	P	S	Si	Cu	Ni	Cr	Al	Als	Co	Mo	Sn	Ti
2	CZ CM-2B	0.12	0.020	0.247	0.894	0.082	0.0114	1.95	0.99	1.20	1.53	0.046	.	0.45	0.33	0.091	0.342
1	12X 12749X	0.081	.	0.176	1.41	0.023	0.066	0.48	0.253	0.47	0.453	0.202	.	0.426	0.195	0.018	0.0178
1	12X 120	0.065	0.031	0.60	0.40	(0.049)	0.026	0.34	0.10	0.085	0.20	0.033	.	.	.	0.008	.
1	12X 15266V	0.0640	.	0.455	1.240	0.0344	0.0258	0.674	0.226	1.317	3.49	0.526	.	0.286	0.298	0.0082	.
1	12X 350C	0.057	.	0.159	0.758	0.0296	0.040	0.467	0.196	0.160	0.335	0.290	.	0.030	0.147	0.0382	0.076
1	IRSID 1656	0.055	.	0.477	0.730	0.027	0.013	0.277	.	(0.048)	(0.017)	(0.002)	.	.	(0.007)	.	.
1	12X 355C	0.0331	0.0796	0.159	0.508	0.0214	0.0241	0.494	0.657	0.0710	0.113	0.1104	.	0.0495	0.1010	0.0564	0.153
1	12X 354B	0.023	.	0.252	5.03	0.0478	0.0105	0.200	0.0679	0.082	0.0487	0.0150	.	0.0237	0.0328	0.0154	0.0248
1	BS 1762	0.025	(0.02)	0.363	2.04	0.032	0.037	0.38	0.133	1.16	0.929	0.049	.	0.064	0.347	0.079	0.096
1	ECRM 055-2D	0.0187	0.00376	0.5199	0.687	0.0102	0.0205	0.3094	0.2089	0.3121	0.3217	.	.	0.0257	0.0960	0.0162	0.00104
1	12X 357D	0.0127	0.018	0.312	0.219	0.0101	0.066	0.211	0.203	0.188	0.21	0.138	.	0.198	0.025	0.0145	0.074
1	BS 1030	0.0055	0.0024	0.331	0.682	0.0101	0.0299	0.261	0.269	0.078	0.124	0.0014	.	0.0069	0.0182	0.0114	0.0005
1	VS UG90	0.0044	0.0011	0.34	0.286	0.0079	0.012	0.221	0.200	0.265	0.261	0.037	0.032	.	0.046	.	0.039
1	VS UG89	0.0043	0.0011	0.92	0.76	0.0085	0.01	0.385	0.373	0.51	0.420	0.01	0.007	.	0.044	.	0.012
1	VS UG92	0.0027	0.0005	0.69	0.79	0.05	0.0029	1.98	0.111	0.155	0.200	0.091	0.08	.	0.119	.	0.022
1	IRSID 1670	0.0018	.	0.0011	0.3981	0.0128	0.0075	0.0046	0.0134	0.0142	0.0174	0.0479	.	0.0018	0.0009	0.0017	0.0078
1	VS UG88	0.0007	0.0003	0.62	1.26	0.0026	0.0043	1.22	0.171	0.52	0.474	0.01	0.009	.	0.104	.	0.107
1	VS UG91	0.0004	0.00009	0.49	.	0.0038	0.0021	2.23	0.057	0.039	0.064	0.048	0.048	.	0.058	.	0.038
1	SS 458/2	.	0.089	0.198	0.479	0.0281	0.0314	0.504	.	.	.	0.055	0.053	0.198	.	.	.
1	SS 457/2	.	0.050	0.307	0.327	0.0098	0.0448	0.105	.	.	.	0.088	0.084	0.0217	.	.	.

Number	B	Bi	Ca*	Ce*	Mg*	N	Nb	O*	Pb	Se	Ta	V	W	Zn	Zr	Units
CZ CM-2B	0.0010	.	.	.	.	0.0062	(0.58)	.	0.087	.	.	0.109	0.22	.	0.013	~39 mm Ø x ~25 mm
12X 12749X	.	.	.	.	.	.	.	.	0.016	.	.	0.068	0.036	.	.	~40 mm Ø x ~15 mm
12X 120	.	.	.	.	.	0.0115	.	.	0.077	.	.	.	.	.	.	40 mm Ø x 40 mm
12X 15266V	.	.	.	.	.	.	1.438	.	.	.	0.116	0.106	.	.	.	~40 mm Ø x ~15 mm
12X 350C	.	.	.	.	.	.	.	.	.	.	.	0.0115	0.260	.	.	~40 mm Ø x ~15 mm
IRSID 1656	.	.	.	.	.	.	.	.	.	.	.	(0.002)	.	.	.	40 mm Ø x 35 mm
12X 355C	(0.0012)	.	.	.	.	0.0023	0.023	.	.	0.0395	.	0.1265	0.037	.	0.0192	~40 mm Ø x ~15 mm
12X 354B	.	.	.	.	.	0.0027	0.0802	.	.	.	.	0.0204	0.0248	.	.	~40 mm Ø x ~15 mm
BS 1762	0.0048	.	(20)	.	(3)	0.017	0.074	64	(0.011)	Fe:93.9	(0.03)	0.193	0.029	(0.01)	(0.01)	37 mm Ø x 25 mm 17025
ECRM 055-2D	.	.	.	.	.	0.01069	.	.	.	.	.	0.00245	0.0166	.	.	38 mm Ø x 25 or 30 mm
12X 357D	0.0036	0.0024	.	.	.	0.011	.	0.040	0.0057	.	.	0.127	0.0213	.	0.0049	~40 mm Ø x ~15 mm
BS 1030	0.0003	.	12	.	(2)	0.0107	(0.0004)	50	0.0005	.	(0.001)	0.031	0.0012	last	(0.0002)	38 mm Ø x ~7 mm 17025
VS UG90	.	.	.	.	.	0.015	.	.	.	.	.	.	.	.	.	~47 mm Ø x ~30 mm
VS UG89	.	.	.	.	.	0.017	0.0043	.	0.0003	.	.	0.021	.	.	.	~47 mm Ø x ~30 mm
VS UG92	.	.	.	.	.	0.016	0.034	.	0.00017	.	.	0.024	.	.	.	~47 mm Ø x ~30 mm
IRSID 1670	0.0007	.	.	(2)	.	0.0016	(0.0003)	.	.	.	.	(0.0005)	.	.	.	37 mm Ø x 30 mm
VS UG88	.	.	.	.	.	0.020	0.059	.	0.00015	.	.	0.117	.	.	.	~47 mm Ø x ~30 mm
VS UG91	.	.	.	.	.	0.010	0.097	.	0.00006	.	.	0.049	.	.	.	~47 mm Ø x ~30 mm
SS 458/2	0.0069	.	.	.	.	0.0510	.	0.0140	.	.	.	0.105	.	.	(0.064)	38 mm Ø x 19 mm
SS 457/2	0.0046	.	.	.	.	0.0174	.	0.0098	.	.	.	0.153	.	.	0.025	38 mm Ø x 19 mm

RM

BISMUTH STEEL

Number	Bi	C	Mn	P	S	Si	Cu	Ni	Cr	Al	As	Co	Mo	N
BS 4140A	0.105	0.40	0.84	0.021	0.076	0.21	0.15	0.15	0.97	0.016	0.005	0.010	0.16	0.0098
BS 53MOD	0.102	1.01	0.36	0.011	0.012	0.26	0.070	0.072	1.37	0.019	0.004	0.007	0.024	0.0086
BS 4140B	0.087	0.43	0.76	0.027	0.037	0.20	0.006	0.012	0.84	0.036	(0.002)	0.005	0.16	0.0064
BS 4150MOD	0.070	0.47	0.90	0.024	0.079	0.21	0.19	0.15	1.01	0.012	0.005	0.012	0.21	0.0087

Number	Ca	O	Pb	Sn	Ti	V	Units
BS 4140A	(0.0003)	(0.0025)	(0.001)	0.011	(0.003)	0.004	38 mm Ø x ~7 mm last
BS 53MOD	(0.001)	(0.002)	0.0005	0.008	.	0.005	38 mm Ø x ~7 or 19+ mm
BS 4140B	(0.0002)	(0.002)	0.004	(0.002)	0.003	0.005	38 mm Ø x ~12 mm last
BS 4150MOD	0.0010	(0.003)	0.0010	0.013	(0.002)	0.008	38 mm Ø x ~7 mm last

CALCIUM IN STEEL

= Class, where 1 = CRM and 2 = RM analysis listed in mass % except * which is mg/kg

#	Number	Ca	C	Mn	P	S	Si	Cu	Ni	Cr	Al	Als	Co	Mo	N	V
1	BS HiCal-1	0.0140	0.271	1.00	(0.007)	0.0007	1.29	0.152	3.28	1.55	0.070	.	0.0024	0.379	.	0.0027
1	SS 115	0.0058	0.6224	0.682	0.0123	0.00093	0.2078	.	0.0196	0.0198	0.0527	.	.	.	0.0067	.
1	BS 9325A	0.0039	0.203	0.969	0.0079	0.0045	0.612	0.163	3.29	1.50	0.0056	.	0.0093	0.358	0.0076	(0.0024)
1	SS 116	0.0036	0.617	0.6756	0.0092	0.00176	0.201	.	0.0155	0.0141	0.0587	.	.	.	0.0069	.
1	BS XCCS-1	0.0024	0.0441	0.356	0.0068	0.0022	0.292	0.0143	0.0132	0.0288	0.061	.	0.0017	0.0060	0.0052	0.0012
1	BS 1020	0.0022	0.210	0.568	0.0058	0.0249	0.250	0.184	0.059	0.109	0.0006	.	0.0070	0.018	0.0109	0.0363
2	HRT FE2009-N	0.0020	0.12	0.55	0.010	0.003	0.32	0.08	0.25	2.56	0.030	.	.	1.02	.	0.015
1	BS 3941	0.0011	0.407	0.802	0.016	0.023	0.257	0.053	0.018	0.069	0.0019	.	0.0042	0.0061	0.0069	0.0025
2	BS 4150MOD	0.0010	0.47	0.90	0.024	0.079	0.21	0.19	0.15	1.01	0.012	.	0.012	0.21	0.0087	0.008
1	BS 4130	0.0007	0.303	0.541	0.0105	0.0113	0.245	0.221	0.088	0.924	0.0242	.	0.0065	0.168	0.0072	0.0037
2	BS 4942	0.0006	0.414	0.56	0.015	0.021	0.22	0.165	0.16	0.97	(0.004)	.	0.010	0.54	0.0080	0.28
1	BS PP20	0.0003	0.382	1.41	0.018	0.0070	0.262	0.119	1.00	1.94	0.0132	.	0.0145	0.212	0.0080	0.066
1	IMZ 111	0.0003	0.106	0.31	0.010	0.039	0.55	0.036	0.23	0.072	0.017	0.007	.	0.084	0.0133	0.022
2	TL 1669	0.00017	0.00226	0.0955	0.0137	0.0100	0.0093	0.0217	0.0160	0.0246	0.03553 (tot)	.	0.0019	0.0011	0.0024	(0.0006)

Number	As	B	Bi	Nb	O	Pb	Sb	Sn	Ti	W	Zr	Other
BS HiCal-1	0.0022	(0.0001)	.	(0.002)	.	(0.0005)	.	(0.0002)	0.0037	(0.0009)	(0.0008)	~38 mm Ø x ~30 mm 17025
SS 115	.	.	.	.	.	.	.	.	0.0027	.	.	38 mm Ø x 19 mm
BS 9325A	0.0024	(0.0001)	.	0.0017	.	(0.0003)	Fe: 92.8	(0.0003)	0.0030	0.024	(0.001)	~40 mm Ø x ~30 mm 17025
SS 116	.	.	.	.	.	0.00012	.	.	0.00171	.	.	44 mm Ø x 19 mm
BS XCCS-1	0.0024	(0.0004)	.	(0.001)	Fe:99.2	(0.0006)	(0.0005)	0.0002	0.0015	(0.003)	0.0006	~40 mm Ø x ~30 mm 17025 Fe: 99.2
BS 1020	0.0074	(0.0001)	.	(0.0003)	0.0046	(0.0002)	(0.0018)	0.0090	(0.0005)	(0.0004)	(0.0005)	44 mm Ø x ~7 or 19+ mm 17025
HRT FE2009-N	.	.	.	.	.	.	.	.	.	.	Zn: 0.004	40 mm Ø x 40 mm
BS 3941	0.0036	(0.0001)	.	0.033	0.0055	0.0010	0.0005	0.0019	0.0017	(0.0004)	(0.0003)	41 mm Ø x ~7 - 19 mm 17025 last
BS 4150MOD	0.005	.	0.070	(0.003)	0.0010	0.0010	.	0.013	(0.002)	.	.	38 mm Ø x ~7 or 19 mm last
BS 4130	0.0048	(0.0002)	.	0.0015	0.0015	(0.00003)	(0.0021)	0.0099	0.0009	0.0011	Mg:0.0002	38 mm Ø x ~7 or 19+ mm 17025
BS 4942	0.005	.	.	(0.0021)	.	.	.	0.014	.	.	.	38 mm Ø x ~7 mm
BS PP20	0.0049	0.00011	.	0.0048	(0.0010)	.	0.0013	0.0069	0.0007	0.0058	.	38 mm Ø x ~7 or 19+ mm 17025
IMZ 111	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 40 mm
TL 1669	0.0017	0.00038	.	0.00046	.	0.00013	0.00049	0.0071	0.0504	.	(0.00021)	38 mm Ø x 25 mm Zn: 2.7*

CRM Al, Ca, AND N IN LOW ALLOY STEEL

Number	Al	Ca	N	Units
IMZ 133	.	.	0.0360	40 mm Ø x 40 mm
IMZ 131	0.0043	.	0.0333	40 mm Ø x 40 mm
IMZ 135	0.0274	0.0008	0.0238	40 mm Ø x 40 mm
IMZ 169	0.075	.	0.0193	40 mm Ø x 40 mm
IMZ 141	0.0071	.	0.0154	40 mm Ø x 40 mm
IMZ 130	0.0046	0.0024	0.0153	40 mm Ø x 40 mm
IMZ 139	(0.029)	0.0031	0.0113	40 mm Ø x 40 mm
IMZ 132	0.0021	0.0002	0.0097	40 mm Ø x 40 mm
IMZ 137	0.0017	0.00025	0.0083	40 mm Ø x 40 mm
IMZ 140	0.0307	0.0015	0.0083	40 mm Ø x 40 mm
IMZ 138	0.0022	.	0.0063	40 mm Ø x 40 mm
IMZ 134	0.0124	0.0005	.	40 mm Ø x 40 mm
IMZ 136	0.0034	0.00031	.	40 mm Ø x 40 mm

C-Mo and Cr-Mo STEEL XRF SET

= class, where 1 = CRM ISO 17025 and 2 = RM, Set Part Number: BS MOLY-5 AVAILABLE INDIVIDUALLY ~7 mm discs

#	Grade	Alloy	Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Al	Co	N	Sn	V
2	C-.5Mo	4419	BS 3952	0.208	0.546	0.011	0.021	0.264	0.202	0.112	0.105	0.519	0.048	.	(0.0005)	.	.
1	1.25Cr-.5Mo	F-11	BS 45B	0.140	0.502	0.0068	0.017	0.583	0.101	0.136	1.14	0.60	0.030	0.0090	0.0066	0.0069	0.0083
1	2.25Cr-1Mo	F-22	BS 46B	0.126	0.472	0.0087	0.0187	0.219	0.128	0.081	2.28	1.00	0.020	0.0074	0.0100	0.0073	0.0073
2	5Cr-.5Mo	F-5	BS 47A	0.130	0.44	0.017	0.015	0.27	0.11	0.12	4.22	0.47	0.015	0.011	0.018	0.008	0.016
1	9Cr-1Mo	F-9	BS 48B	0.110	0.365	0.0228	0.0068	0.75	0.070	0.165	8.78	0.949	0.0157	0.0165	0.0088	0.0049	0.033

CRM EPMA SETS

available in sets only, as grouped 4x10x15mm

Number	Cr	Number	Ni
NMIJ 1001-a	5.00	NMIJ 1006-a	5.04
NMIJ 1002-a	14.96	NMIJ 1007-a	10.05
NMIJ 1003-a	19.87	NMIJ 1008-a	20.02
NMIJ 1004-a	29.84	NMIJ 1009-a	39.92
NMIJ 1005-a	39.69	NMIJ 1010-a	60.07

Cr-Mo STEEL (Cr > 1, Mo > 0.1)

= Class, where 1 = CRM and 2 = RM * Provisional Analysis

Table with columns: #, Number, Cr, Mo, C, Mn, P, S, Si, Cu, Ni, Al, As, Co, N, Sn, V. Rows list various steel grades and their chemical compositions.

Table with columns: Number, B, Ca, Nb, O, Pb, Sb, Ta, Ti, W, Zr, Units. Rows list trace elements and mechanical properties for various steel grades.

CRM Co/Fe/V MAGNETIC ALLOY PERMENDUR 2V analysis listed in mass %

Table with columns: Number, Co, Fe, V, Mn, P, S, Si, Ni, N, Nb, O, Zr, Units. Row 1: IARM 326A 48.4 49.6 1.94 0.003 0.0013 0.0011 0.029 0.037 0.0004 0.038 0.0082 0.002 31 mm Ø x 2 mm

RESULFURIZED STEEL

= Class, where 1 = CRM and 2 = RM OBS regularly requires extension of preburn time to analyze correctly

Table with columns: #, Number, S, C, Mn, P, Si, Cu, Ni, Cr, Al, Co, Mo, N, Sn, Ti, V. Rows include materials like IMZ 123, ECRM 085-1D, BS 66L, 14X 12130A, IARM 199C, IMZ 124, BS 1144A, BS 1144, 14X MSFM 4A, IMZ 122, 14X 606M36TA, 14X 11390A, ECRM 058-2D, 14X MSFM3G, IARM 29E, 14X 11170A, BS 65C, BS 66B, IARM 348A, IARM 307A, BS 3993, IMZ 121, BS 52D, 12X 15253T, BS 4150MOD, BS 42A, 12X 15217R, NM 307, BS 42, 12X 15255R, KUT B2/2, BS 4150MOD-A, IMZ 125, KUT B12, KUT B4, IARM 381A, NM 304.

Table with columns: Number, As, B, Bi, Ca, Nb, O, Pb, Sb, W, Zn, Zr, Units. Rows include materials like IMZ 123, ECRM 085-1D, BS 66L, 14X 12130A, IARM 199C, IMZ 124, BS 1144A, BS 1144, 14X MSFM 4A, IMZ 122, 14X 606M36TA, 14X 11390A, ECRM 058-2D, 14X MSFM3G, IARM 29E, 14X 11170A, BS 65C, BS 66B, IARM 348A, IARM 307A, BS 3993, IMZ 121, BS 52D, 12X 15253T, BS 4150MOD, BS 42A, 12X 15217R, NM 307, BS 42, 12X 15255R, KUT B2/2, BS 4150MOD-A, IMZ 125, KUT B12, KUT B4, IARM 381A, NM 304.

RM RESULFURIZED STEEL XRF SET Part Number: BS RESUL-4 AVAILABLE INDIVIDUALLY -7 mm discs

Table with columns: Grade, Number, C, Mn, P, S, Si, Cu, Ni, Cr, Mo, Al, Co, N, Sn, V, As. Rows include materials like 1117 BS 65C, 1140 + P BS 52D, 1141 BS 66B, 1215 BS 66K.

LOW ALLOY STEEL WITH 0.13 % < C < 0.3 %

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Number	B	Ca	Fe	Mg	Nb	O	Pb	Sb	Ta	Ti	W	Zn	Zr	Units
IARM 330A	0.0003	0.0010	.	.	(0.003)	(0.0009)	(0.0004)	(0.001)	.	0.006	(0.004)	.	0.0015	31 mm Ø x 2 mm
12X 16604A	.	.	.	.	.	.	.	.	.	.	.	.	.	-40 mm Ø x -15 mm
SRM 1269	.	.	.	.	.	.	0.005	.	.	.	.	.	.	32 mm Ø x 19 mm
ECRM 086-1D	.	.	.	.	.	.	.	.	.	.	.	.	.	38 mm Ø x 25 or 30 mm
CZ CM-3A	0.0002	.	.	.	0.006	.	.	.	.	0.006	0.015	.	.	-39 mm Ø x 25 mm
VS UG9/10	.	.	.	.	.	.	.	.	.	0.163	1.34	.	.	-45 mm Ø x ~28 mm
VS RG27/1	.	.	.	.	.	.	.	.	.	0.110	0.170	.	.	-45 mm Ø x ~28 mm
IMZ 178	.	.	.	.	0.105	.	.	.	.	.	0.017	.	.	40 mm Ø x 40 mm
SRM 1225	.	.	.	.	.	.	.	.	.	.	.	.	.	32 mm Ø x 19 mm
BS HiCal-1	(0.0001)	0.0140 [91.9]	(0.0003)	(0.0002)	.	.	(0.0005)	.	.	0.0037	(0.0009)	.	(0.0008)	-38 mm Ø x ~30 mm 17025
IARM 380A	.	.	.	.	(0.0020)	.	.	.	.	.	(0.009)	.	.	31 mm Ø x 2 or 18 mm
RM Fe 2/4	(0.0027)	<0.001	.	.	(0.011)	.	<0.02	<0.03	.	(0.0065)	0.19	.	<0.02	40 mm Ø x 40 mm
BS 69B	.	.	.	.	.	.	.	.	.	(0.002)	.	.	.	38 mm Ø x ~7 or 19+ mm
12X 12750U	.	.	.	.	0.111	.	.	.	.	0.159	0.100	.	.	-40 mm Ø x ~15 mm
12X 32550A	.	.	.	.	.	.	.	.	.	.	.	.	.	-38 mm Ø x ~15 mm
BS 6418	.	.	.	.	.	0.0012	.	.	.	0.003	.	.	.	57 mm Ø x ~7 or 19+ mm
IARM 380B	.	.	.	.	(0.0016)	.	.	.	.	0.0011	(0.003)	.	.	31 mm Ø x 2 or 18 mm
HRT FE2018-N	(0.0003)	.	.	.	.	.	.	.	.	.	.	.	.	36 mm Ø x 20 mm
IMZ 113	.	.	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 40 mm
12X 722M24A	.	.	.	.	.	.	.	.	.	.	.	0.0028	.	-38 mm Ø x ~15 mm
VS UG6/5	.	.	.	.	(0.01)	.	.	.	.	(0.01)	0.16	.	.	-45 mm Ø x ~28 mm
12X 356D	(0.002)	Ca:0.0063	.	Se:0.010	0.019	.	0.034	0.0203	.	0.016	0.086	0.011	.	40 mm Ø x ~15 mm
DSZU C043A	(0.001)	0.0004	.	.	0.006	.	.	.	.	0.041	0.092	.	.	40 mm Ø x 25 mm
IARM 229B	(0.0006)	(0.0003)	.	.	(0.0019)	(0.0017)	(0.0005)	(0.0006)	(0.003)	0.0019	(0.003)	.	(0.0008)	31 mm Ø x 2 mm
ECRM 197-1D	.	.	.	.	.	.	.	.	.	0.0005	.	.	.	38 mm Ø x 25 mm
BS 3961	.	.	.	.	.	.	.	.	.	(<0.003)	.	.	.	44 mm Ø x ~7 or 19+ mm
TL 1668	(0.00024)	0.0019	.	(0.0003)	(0.0002)	.	(0.0007)	(0.0003)	.	0.0032	.	0.0008	(0.0003)	37 mm Ø x 20 mm
BS 8620F	(0.0003)	0.0020	97.1	(0.0002)	0.0025	0.0026	(0.002)	(0.002)	17025	0.0016	0.0016	.	(0.0008)	38 mm Ø x ~7 or 19+ mm
DSZU C048	.	(0.0017)	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 25 mm
TL 1001	.	.	.	.	.	.	.	.	.	(0.0134)	.	.	.	40 mm Ø x 20 mm
IPT 502	.	.	.	.	.	.	.	.	.	0.0016	.	.	.	36 mm Ø x 20 mm
VS UG4/11	.	.	.	.	0.071	.	.	.	.	0.034	0.0092	.	.	-45 mm Ø x ~28 mm
IARM 33D	0.0002	(0.0003)	.	.	0.002	0.0013	<0.001	(0.002)	.	0.003	<0.005	.	<0.002	31 mm Ø x 2 or 18 mm
BS 3952	.	.	.	.	.	.	.	.	.	.	.	.	.	39 mm Ø x ~7 or 19+ mm
ECRM 187-2D	0.00048	.	.	.	.	.	.	.	.	.	.	.	.	39 mm Ø x 28 mm
Number	B	Ca	Fe	Mg	Nb	O	Pb	Sb	Ta	Ti	W	Zn	Zr	Units
BS 9325A	(0.0001)	0.0039	92.8	(0.0002)	0.0017	.	(0.0003)	.	(0.010)	0.0030	0.024	17025	(0.001)	-40 mm Ø x ~30 mm
BS 4820A	0.0002	0.0003	.	0.0003	(0.002)	0.0011	(0.0002)	0.0024	.	0.0012	(0.002)	17025	.	38 mm Ø x ~7 or 19+ mm
VS RG29/1	.	.	.	.	0.044	.	.	.	.	0.020	0.62	.	.	-45 mm Ø x ~28 mm
12X 12747V	.	.	.	.	.	.	.	.	.	0.099	0.0276	.	.	-40 mm Ø x ~15 mm
VS RG31/1	.	.	.	.	.	.	.	.	.	0.21	0.39	.	.	-45 mm Ø x ~28 mm
KUT B3	.	.	.	.	.	.	.	.	.	.	1.19	.	.	30-35mm Ø x 39 mm
VS UG5/5	.	.	.	.	(0.01)	.	.	.	.	(0.003)	0.38	.	.	-45 mm Ø x ~28 mm
IARM 155F	.	.	.	.	0.0016	(0.003)	.	.	.	0.0020	(0.004)	.	.	31 mm Ø x 2 or 18 mm
IMZ 112B ## BACKORDERED	.	.	.	.	0.013	.	.	.	.	0.010	.	.	.	40 mm Ø x 40 mm
VS UG8/10	.	.	.	.	(0.003)	.	.	.	.	0.0034	.	.	.	-45 mm Ø x ~28 mm
VS UG114	.	.	.	.	.	.	.	.	.	0.006	.	.	0.065	-45 mm Ø x ~25 mm
IMZ 162	.	.	.	.	.	.	.	.	.	0.12	.	.	.	40 mm Ø x 40 mm
VS UG113	.	.	.	.	.	.	.	.	.	0.006	0.007	.	0.169	-45 mm Ø x ~28 mm
BS 4620	0.00006	0.0001	.	0.0001	0.0001	0.0009	0.0002	0.0024	.	0.0026	0.0009	0.0002	.	38 mm Ø x ~7 or 19+ mm
BS 51F	(0.0002)	(0.0005)[96.7]	.	(0.0001)	(0.0007)	(0.002)	(0.0008)	(0.003)	(0.005)	0.0012	(0.0024)	17025	(0.0009)	38 mm Ø x ~7 or 19+ mm
ECRM 192-1D	.	.	.	.	.	.	.	.	.	.	.	.	.	-35 mm Ø x ~30 mm
VS UG112	.	.	.	.	.	.	.	.	.	0.0028	0.005	.	0.0047	-45 mm Ø x ~25 mm
BS LF3	0.0001	(0.0001)	.	.	.	0.004	.	.	.	.	.	.	.	38 mm Ø x ~7 or 19+ mm
HRT FE2012-N	.	.	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 20 mm
IMZ 74A	(0.002)	(0.0004)	.	.	0.041	.	.	.	.	0.022	.	.	.	43 mm Ø x 20 mm
12X 19MNV56A	.	.	.	.	.	.	.	.	.	.	.	.	.	-40 mm Ø x ~15 mm
ECRM 087-1D	.	.	.	.	.	.	.	0.0046	.	.	.	.	.	38 mm Ø x 25 or 30 mm
12X 15180A	.	.	.	.	.	.	.	.	.	.	.	0.0016	.	-40 mm Ø x ~20 mm
ECRM 194-2D	0.00155	.	.	.	0.0290	.	.	.	.	0.00322	.	.	.	39 mm Ø x 28 mm
BS 3962	.	.	.	.	.	.	.	.	.	.	.	.	.	37 mm Ø x ~7 or 19+ mm
VS UG7/11	.	.	.	.	.	.	.	.	.	0.20	0.385	.	.	-45 mm Ø x ~28 mm
HRT FE1999-N	0.0002	.	.	.	0.002	.	.	.	.	0.001	.	.	.	40 mm Ø x 20 mm
BS XCCT	.	.	.	.	(0.001)	(0.005)	(<0.001)	(0.0004)	.	(0.002)	.	.	(<0.002)	36 mm Ø x ~7 or 19+ mm
IMZ 176A	.	.	.	.	.	.	.	.	.	.	(0.015)	.	.	40 mm Ø x 40 mm
BS 15A	(0.0002)	(0.0005)	.	.	0.041	.	(0.0003)	(0.003)	.	0.008	(0.004)	.	0.022	32 mm Ø x 17 mm last
ECRM 193-1D	.	.	.	.	0.0232	.	.	.	.	(0.0013)	.	.	.	36-41 mm Ø x 28-35 mm
BS 47A	.	.	.	.	0.002	(0.003)	.	.	.	0.003	.	.	.	38 mm Ø x ~7 or 19+ mm
Number	B	Ca	Fe	Mg	Nb	O	Pb	Sb	Ta	Ti	W	Zn	Zr	Units

LOW ALLOY STEEL WITH C < 0.13 %

= Class, where 1 = CRM and 2 = RM

#	Number	C	Mn	P	S	Si	Cu	Ni	Cr	Al	Als	Co	Mo	N	Sn	V
1	IMZ 76	0.129	1.37	0.022	0.011	0.24	0.057	0.33	0.12	0.011	.	.	0.101	.	.	(0.006)
1	VS UG86	0.129	0.217	(0.005)	(0.007)	(0.3)	0.62	1.94	1.52	.	.	.	0.311	.	.	0.327
1	12X 15256Q	0.123	0.492	0.0125	0.0163	0.190	0.0550	5.33	0.362	0.1300	.	0.493	0.0740	0.0056	0.107	0.619
1	12X 93106A	0.122	0.605	0.0071	0.0103	0.206	0.199	3.255	1.107	0.0246	.	.	0.0879	0.0098	0.0094	0.0029
2	BS 47B	0.122	0.39	0.014	0.022	0.22	0.12	0.105	4.78	0.018	.	.	0.45	0.023	0.006	0.004
1	VS UG115	0.115	0.43	0.0084	0.012	0.227	0.173	1.63	0.81	0.024	.	.	0.0126	0.013	.	.
1	IMZ 75A	0.112	0.394	0.080	0.016	0.618	0.428	0.041	0.401	0.009	.	0.0037	0.018	0.0024	0.023	0.013
1	SRM 1138a	0.11	0.35	0.035	0.056	0.25	0.09	0.10	0.13	.	.	.	0.05	.	.	0.02
1	IPT 500	0.106	0.844	0.016	0.0048	0.282	0.270	0.018	0.612	0.046	.	0.0046	0.0013	0.0092	0.002	0.003
1	12X LA1B	0.104	1.262	0.0090	0.060	0.777	0.0572	0.210	1.026	0.0104	.	0.0144	0.068	0.0144	.	0.448
2	BS 58E	0.100	0.63	0.009	0.002	0.29	0.154	3.22	1.40	0.029	.	0.013	0.110	0.0033	0.003	0.006
1	IMZ 175	0.099	0.25	0.016	0.0040	0.22	0.130	3.12	0.515	0.043	.	(0.013)	0.025	0.0099	0.011	0.014
2	BS 58C	0.098	0.57	0.011	0.014	0.29	0.14	3.20	1.29	(0.055)	.	.	0.11	.	(0.012)	.
1	IMZ 73	0.097	0.68	0.019	0.013	0.12	0.17	0.13	0.079	0.010	.	.	0.013	.	.	0.022
1	VS UG6/11	0.091	0.691	0.028	0.022	0.96	0.449	0.640	0.759	0.0107	.	0.0392	0.0082	0.0083	.	0.0075
1	KUT T3/2	0.09	0.60	0.058	0.033	0.66	0.10	0.11	0.40	.	.	.	.	.	.	.
1	VS UG5/10	0.088	0.177	0.0067	0.0055	0.135	0.490	1.87	1.51	0.47	.	.	0.049	0.0059	0.0036	0.121
1	IARM 268B	0.087	0.58	0.011	0.035	0.21	0.31	0.127	0.094	0.002	.	0.003	0.033	0.0015	0.010	0.047
1	IMZ 204	0.085	0.36	0.014	0.008	0.40	0.075	0.034	0.111	4.21	.	.	(0.007)	(0.0052)	.	.
1	SRM 1226	0.085	0.274	0.0022	0.0044	0.231	0.125	5.42	0.467	0.054	.	0.029	0.446	.	(0.003)	0.0018
1	NCS HS20747	0.083	0.967	0.02	0.015	0.472	.	.	.	.	.	.	.	.	.	.
1	DSZU C050	0.082	1.21	0.040	0.065	0.287	0.304	0.118	0.075	(0.008)	.	.	0.48	.	(0.004)	0.007
1	IMZ 72	0.081	0.31	0.092	0.012	0.34	0.27	0.039	0.52	0.013	.	.	0.006	.	.	(0.002)
1	NCS HS20745	0.068	0.813	0.1	0.024	0.33	0.297	.	.	.	.	.	.	.	.	0.022
1	VS UG117	0.064	1.41	0.012	0.021	0.60	0.214	0.072	0.129	0.018	.	.	(0.005)	0.0085	.	.
1	SRM 1271	0.064	0.73	0.005	0.0013	0.334	1.48	3.34	0.552	0.020	.	.	0.543	.	.	0.003
1	SRM C1285	0.058	0.332	0.072	0.020	0.36	0.37	1.17	0.80	.	.	0.036	0.164	.	0.035	0.150
2	CZ CM-7A	0.05	1.17	0.011	0.016	0.56	0.09	0.05	0.10	0.13	.	0.007	0.015	0.01	0.008	0.012
1	SS 421	(0.049)	(0.11)	(0.012)	(0.027)	(0.07)	.	.	.	.	.	.	(0.028)	.	.	(<0.02)
1	VS UG82	0.046	1.83	(0.003)	(0.004)	0.334	0.056	0.201	0.59	.	.	.	0.93	.	.	0.56
1	VS UG97	0.041	0.59	0.0036	0.0025	0.194	0.0040	0.0048	0.0080	0.51	.	.	0.019	.	.	(0.001)
2	IARM 168A	0.003	0.12	0.030	0.064	0.46	0.009	2.32	0.004	0.19	.	0.003	0.69	0.0002	0.003	0.004
1	CKD 180B	(0.003)	0.047	0.004	0.0038	0.001	0.006	0.018	0.013	(0.001)	.	0.003	0.001	(0.0028)	0.0011	0.000
1	ECRM 064-2D	0.0026	0.1641	.	.	0.0065	0.0077	0.0115	.	.	.	0.0027	0.00077	0.0026	0.00051	0.00015

#	Number	C	Mn	P	S	Si	Cu	Ni	Cr	Al	Als	Co	Mo	N	Sn	V
		As	B	Ca	Ce	Fe	Nb	O	Pb	Sb	Ti	W	Zr	Units		
IMZ 76	.	(0.001)	.	.	.	.	0.068	.	.	.	(0.003)	.	.			40 mm \emptyset x 40 mm
VS UG86	.	.	.	.	.	.	.	.	.	.	.	.	.			~40 mm \emptyset x ~28 mm
12X 15256Q	.	.	.	.	.	.	0.0509	.	.	.	.	0.101	.			~40 mm \emptyset x ~15 mm
12X 93106A	0.0050	.	.	.	.	.	.	.	.	.	.	.	.			~38 mm \emptyset x ~15 mm
BS 47B	0.004	.	.	.	.	.	.	(0.004)	.	.	.	.	.			38 mm \emptyset x ~7 or 19+mm
VS UG115	.	.	.	.	.	.	.	.	.	.	0.0014	.	.			~45 mm \emptyset x ~25 mm
IMZ 75A	.	0.0021	.	.	.	.	0.024	.	.	.	0.023	.	.			38 mm \emptyset x 20 mm
SRM 1138a	.	.	.	.	.	.	.	.	.	.	.	.	.			32 mm \emptyset x 13 mm
IPT 500	0.0020	.	.	.	.	.	0.008	.	.	.	0.0014	.	.			34 mm \emptyset x 18 mm
12X LA1B	0.0212	.	.	.	.	.	.	.	.	.	.	.	.			~40 mm \emptyset x ~15 mm
BS 58E	0.003	(0.0002)	(0.0002)	.	.	.	.	0.0008	.	.	(0.002)	.	.			38 mm \emptyset x ~7 or 19+mm
IMZ 175	.	.	.	.	.	.	.	.	.	.	.	(0.019)	.			40 mm \emptyset x 40 mm
BS 58C	.	.	.	.	.	.	.	.	.	.	no uncertainties	.	.			39 mm \emptyset x ~17 mm last
IMZ 73	.	.	.	.	.	.	(0.01)	.	.	.	(0.002)	.	(0.0025)			40 mm \emptyset x 40 mm
VS UG6/11	.	.	.	.	.	.	.	.	.	.	.	.	.			~45 mm \emptyset x ~28 mm
KUT T3/2	.	.	.	.	.	.	.	.	.	.	(<0.01)	.	.			30-35mm \emptyset x 39 mm
VS UG5/10	.	.	.	.	.	.	(0.003)	.	.	.	0.027	0.43	.			~45 mm \emptyset x ~28 mm
IARM 268B	<0.005	0.0011	.	.	.	.	0.006	(0.015)	<0.003	<0.001	0.01	<0.001	<0.001			31 mm \emptyset x 2 mm
IMZ 204	.	.	.	.	.	.	.	.	.	.	0.035	.	.			36 mm \emptyset x 20 mm
SRM 1226	.	.	.	.	.	.	(0.005)	.	(0.0001)	.	0.0021	(0.005)	(0.010)			32 mm \emptyset x 19 mm
NCS HS20747	.	.	.	.	.	.	0.052	.	.	.	.	.	.			35 mm \emptyset x 40 mm
DSZU C050	(0.002)	(0.002)	.	.	.	.	.	.	.	.	(0.002)	.	.			40 mm \emptyset x 25 mm
IMZ 72	.	.	.	.	.	.	(0.001)	.	.	.	0.021	.	.			40 mm \emptyset x 40 mm
NCS HS20745	.	.	.	.	0.014	.	.	La: 0.0076	.	.	.	.	.			35 mm \emptyset x 40 mm
VS UG117	.	.	.	.	.	.	.	.	.	.	0.018	.	.			~45 mm \emptyset x ~25 mm
SRM 1271	.	.	.	.	.	.	0.025	.	.	.	.	.	.			32 mm \emptyset x 19 mm
SRM C1285	.	.	.	0.021	.	.	.	.	.	.	.	.	.			32 mm \emptyset x 19 mm
CZ CM-7A	0.005	0.0003	.	.	.	.	0.004	.	(0.0014)	(0.0003)	0.14	0.01	0.042			~39 mm \emptyset x 25 mm
SS 421	.	.	.	.	.	.	.	.	.	.	.	0.52	.			38 mm \emptyset x 19 mm
VS UG82	.	.	.	.	.	.	.	.	.	.	.	.	.			~40 mm \emptyset x ~28 mm
VS UG97	.	.	.	.	.	.	.	.	.	.	0.154	.	.			~40 mm \emptyset x ~28 mm
IARM 168A	(0.003)	0.0004	.	.	.	.	0.003	0.0008	(<0.01)	.	0.004	0.52	.			31 mm \emptyset x 2 mm
CKD 180B	0.001	0.0000	.	.	(99.9)	(0.0001)	.	.	(0.0002)	0.0004	0.000	(0.0001)	0.000			44 mm \emptyset x 13 mm last
ECRM 064-2D	0.0036	.	.	.	.	.	0.0146	.	0.00018	.	.	.	.			38 mm \emptyset x 25 or 30 mm

LOW ALLOY STEEL XRF SET

Part Number: BS LAS-24 Set of 24 samples, each 35 - 45 mm ø x 7 mm discs CRM, 17025 others are RM

Table with 18 columns: Alloy, Number, C, Mn, P, S, Si, Cu, Ni, Cr, Mo, Al, As, Ca, Co, N, Sn, V. Contains chemical composition data for various steel grades like 300M, 1345, 3115, 4130, etc.

this item sold out, most BS are available as XRF

CRM SOLUBLE ELEMENTS IN LOW ALLOY STEEL SET

available in set/7 only -S = Soluble, -T = Total 38 mm ø x 30 mm

Table with 14 columns: Number, C, Mn, P, S, Si, Cu, Ni, Cr, Al-S, Al-T, B-S, B-T, Mo. Contains data for NCS HSL1717a-1 through 7.

Table with 11 columns: Number, As, Bi, Co, N, Nb, Pb, Sb, Sn, Ti, V. Contains data for NCS HSL1717a-1 through 7.

RM TOOL STEEL XRF SET

Part Number: BS TS-18 AVAILABLE INDIVIDUALLY 17025 ~7 mm discs

Table with 16 columns: Grade, Number, C, Mn, P, S, Si, Cu, Ni, Cr, Mo, Al, W, V, Co, N. Contains data for various tool steel grades like A-2, A-10, D-2, H-10, etc.

ALUMINUM IN STAINLESS AND HIGH ALLOY STEEL

= Class, where 1 = CRM and 2 = RM

#	Number	Al	Ni	Cr	C	Mn	P	S	Si	Cu	Co	Mo	N	Nb	Ti	V
1	ECRM 299-1D	5.33	0.172	22.32	0.0154	0.2678	0.0152	0.00022	0.299	0.0382	0.0187	0.0186	0.0198	.	0.1289	0.0329
1	IMZ 158	1.56	0.24	25.51	0.091	1.34	0.015	0.007	2.23	0.097	.	0.025	.	.	0.12	0.078
1	13X PH17700A	1.172	6.98	16.88	0.0732	0.496	0.0181	0.0008	0.551	0.146	0.0464	0.340	0.0192	0.0201	0.051	0.0390
1	BS 192	1.17	7.11	16.44	0.074	0.835	0.025	0.0005	0.387	0.412	0.104	0.430	0.0290	0.168	0.076	0.124
2	CT X92834	1.14	8.32	12.57	0.035	0.044	0.003	0.003	0.019	0.030	0.030	2.20	.	0.001	0.019	<0.004
1	IARMPe177PH-18	1.09	7.11	17.08	0.080	0.730	0.020	(0.0005)	0.51	0.36	0.048	0.350	0.0153	0.009	0.083	0.062
1	13X PH13800A	1.075	8.04	12.53	0.0386	0.0332	0.0064	0.0030	0.081	0.0449	0.0220	2.10	0.0041	.	0.0122	0.0188
1	IARM 21D	1.03	8.29	12.69	0.032	0.052	0.008	(0.0014)	0.039	0.017	0.078	2.23	0.0037	(0.005)	0.016	0.017
2	BS 184A	1.00	8.34	12.66	0.035	0.06	0.007	0.001	0.080	0.041	0.036	2.20	0.0045	(0.006)	0.051	0.014
1	BS 192A	0.98	7.01	16.44	0.066	0.768	0.021	<0.002	0.300	0.334	0.114	0.28	0.029	0.208	0.083	0.077
1	IARM 152C	0.94	7.30	16.99	0.072	0.74	0.024	0.0006	0.263	0.316	0.113	0.36	0.0172	0.012	0.098	0.072

Number	As	B	Ca	O	Sn	Ta	W	Zr	Units
ECRM 299-1D	0.0054	0.0002	.	.	.	.	.	0.1775	40 mm Ø x 25 mm
IMZ 158	.	.	.	.	.	.	.	.	40 mm Ø x 40 mm
13X PH17700A	.	0.0033	.	.	0.0055	.	0.009	.	~38 mm Ø x ~15 mm
BS 192	(0.005)	(0.0003)	0.0007	0.0014	0.008	(0.001)	0.05	.	38 mm Ø x ~7 or 19+ mm
CT X92834	.	0.0009	.	.	0.002	.	.	<0.001	30-35 mm Ø x x ~19 mm
IARMPe177PH-18	.	(0.0017)	.	.	(0.006)	.	(0.011)	.	31 mm Ø x 2 or 18 mm
13X PH13800A	.	.	.	.	0.0051	.	.	.	~38 mm Ø x ~15 mm
IARM 21D	.	.	.	.	.	.	(0.012)	.	31 mm Ø x 2 or 18 mm
BS 184A	.	(0.0004)	(0.0003)	(0.0003)	(0.002)	.	0.032	.	38 mm Ø x ~7 or 19+ mm
BS 192A	(0.0035)	(0.0003)	(0.0006)	(0.0006)	0.008	.	0.048	.	38 mm Ø x ~7 or 19+ mm
IARM 152C	(0.004)	0.0029	(0.0005)	(0.001)	0.007	(0.005)	0.026	.	31 mm Ø x 2 mm

CALCIUM IN STAINLESS AND HIGH ALLOY STEEL

= Class, where 1 = CRM and 2 = RM

#	Number	Ca	Ni	Cr	C	Mn	P	S	Si	Cu	Co	Mo	N	Nb	V	W
1	BS Ca304-4	0.0075	8.77	18.26	0.096	0.783	0.0205	0.0070	0.887	0.143	(0.007)	0.0041	0.061	0.063	0.0686	0.0056
1	13X 14923A	0.0044	0.452	11.26	0.205	0.501	0.0197	0.0031	0.330	0.0563	0.0207	0.819	0.0321	0.005	0.295	.
1	ECRM 379-1D	0.0033	30.83	26.79	0.0121	1.804	0.0166	0.0006	0.393	0.984	0.0390	3.290	0.0550	(0.0028)	0.0663	(0.0091)
2	BS 193	0.0020	1.82	18.48	0.104	12.11	0.018	0.002	0.66	0.088	0.028	0.21	0.37	0.014	0.107	(0.007)
2	BS SS4952	0.0019	0.23	13.15	0.347	0.41	0.016	0.003	0.66	0.045	0.030	0.049	0.027	0.004	0.089	(0.007)
2	BS 82E	0.0014	12.49	22.38	0.062	1.61	0.027	0.001	0.58	0.26	0.12	0.31	0.072	0.062	0.064	0.041
1	BS 9942	0.0014	13.55	18.21	0.021	1.84	0.025	0.006	0.49	0.305	0.086	3.30	0.071	0.005	0.072	0.032
1	BS 9842	0.0010	20.02	24.19	0.059	1.50	0.025	0.0016	0.99	0.147	0.237	0.111	0.037	0.026	0.075	0.011
1	ECRM 272-1D	0.00090	0.2445	11.927	0.2815	0.600	0.0156	0.0196	0.420	0.0192	0.0145	0.0030	0.0508	0.0028	0.0167	.
2	BS 94C	0.0008	0.43	25.90	0.057	0.45	0.024	0.002	0.62	0.056	0.042	0.20	0.065	0.032	0.12	(0.03)
2	BS 87F	0.0007	10.12	17.30	0.055	1.64	0.024	0.025	0.67	0.28	0.17	0.29	0.037	0.57	0.13	0.050

Number	Al	As	B	O	Pb	Sb	Sn	Ti	Zn	Units
BS Ca304-4	0.017	0.0063	0.0031	0.013	0.0008	(0.0002)	0.0024	0.0046	Zr:0.0036	~38 mm Ø x ~38mm Fe: 70.7 17025
13X 14923A	0.003	.	.	.	.	.	0.004	.	.	~40 mm Ø x ~15 mm
ECRM 379-1D	(0.00246)	(0.0018)	0.00190	(0.0027)	(0.000038)	0.00057	0.0021	(0.0014)	.	38 or 45 mm Ø x 25 mm
BS 193	(0.003)	.	0.0007	(0.004)	.	.	0.004	0.003	.	32 mm Ø x ~7 or 19+ mm
BS SS4952	0.003	0.002	(0.0004)	0.005	.	.	0.004	0.002	.	38 mm Ø x ~7 or 19+ mm
BS 82E	0.006	.	0.0024	.	.	.	0.006	0.003	.	38 mm Ø x ~7 to 19 mm last
BS 9942	0.004	(0.004)	0.0014	(0.0023)	.	.	0.006	(0.002)	.	44 mm Ø x ~7 or 19+ mm 25(pre-17025)
BS 9842	0.014	(0.002)	0.0025	(0.0044)	.	.	0.005	0.003	.	38 mm Ø x ~7 or 19+ mm 25(pre-17025)
ECRM 272-1D	0.0046	0.0116	0.0018	.	.	0.0007	.	0.00096	0.0031	38 mm Ø x 25 or 30 mm
BS 94C	0.004	.	(0.0005)	0.0061	.	.	0.006	.	.	44 mm Ø x ~7 or 19+ mm
BS 87F	0.004	0.005	(0.0006)	0.005	.	.	0.004	0.004	.	41 mm Ø x ~7 or 19+ mm

COPPER IN STAINLESS AND HIGH ALLOY STEEL

= Class, where 1 = CRM and 2 = RM

* Provisional Analysis

Table with 17 columns: #, Number, Cu, Ni, Cr, C, Mn, P, S, Si, Co, Mo, N, Nb, Ti, V, W. Rows include materials like 13X PH 3N, BS 9621, BS 17-4PHB, etc.

Table with 17 columns: Number, Al, Ag, As, B, Ca, Cd, Fe, Mg, O, Pb, Sb, Sn, Ta, Units. Rows include materials like 13X PH 3N, BS 9621, BS 17-4PHB, etc., with units specified for many elements.

STAINLESS STEEL WITH NI < 5.0 %

CONTINUED FROM THE PREVIOUS PAGE

analysis listed in mass % except * which is mg/kg ** Provisional Analysis

Table with columns: Number, Al, As, B, Ca*, Mg*, Pb*, O, Sb, Se, Sn, Ta, Zn, Zr, Units. Contains multiple rows of material specifications with chemical compositions and mechanical properties.

STAINLESS STEEL WITH C > 0.05 % CONTINUED ON THE NEXT PAGE

= Class, where 1 = CRM, 2 = RM, and 3 = RM with no uncertainties

Table with columns: #, Number, C, Mn, P, S, Si, Cu, Ni, Cr, Co, Mo, N, Nb, Ti, V, W. It contains multiple rows of data for various stainless steel grades like 1 VS LG76, 1 VS LG74, etc.

Table with columns: #, Number, C, Mn, P, S, Si, Cu, Ni, Cr, Co, Mo, N, Nb, Ti, V, W. It continues the list of stainless steel grades and their compositions from the previous table.

STAINLESS STEEL WITH C > 0.05 %

CONTINUED FROM THE PREVIOUS PAGE

Number	Al	As	B	Bi	Ca	Ce	O	Pb	Sb	Sn	Ta	Zr	Units
VS LG76	0.034	.	.	.	.	.	.	.	.	.	.	.	-45 mm Ø x -28 mm
VS LG74	0.035	.	.	.	.	.	.	.	.	.	.	.	-45 mm Ø x -28 mm
KUT S21	.	.	.	.	.	.	.	.	.	.	.	.	30-35 mm Ø x 18 mm
CZ CM-19A	0.0788	.	(0.091)	.	(0.0036)	.	.	.	.	0.0283	.	.	-37 mm Ø x -25 mm
VS LG79	0.059	.	.	.	.	.	.	.	.	.	.	.	-45 mm Ø x -28 mm
CZ SP-3C	0.095	(0.03)	1.67	.	.	.	.	.	.	(0.02)	.	.	-39 mm Ø x 25 mm
DSZU C016	0.007	.	.	.	0.0004	.	.	.	.	.	.	.	40 mm Ø x 25 mm
CZ SP-3B	0.08	.	0.88	.	.	.	.	.	.	0.01	.	.	-39 mm Ø x 25 mm
KUT S19	.	.	.	.	.	.	.	.	.	.	.	.	30-35 mm Ø x 18 mm
SRM C1153a	.	.	.	.	.	.	.	0.006	.	.	.	.	32 mm Ø x 19 mm
13X 18001B	0.0157	.	.	.	.	.	.	.	.	.	.	.	-40 mm Ø x -15 mm
KUT H6/1	.	.	.	.	.	.	.	.	.	.	.	.	30-35 mm Ø x 18 mm
CZ SP-3D	0.037	(0.03)	2.45	.	.	.	.	.	.	(0.04)	.	.	-39 mm Ø x 25 mm
13X NSB1D	.	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 15 mm
IARM 339A	0.004	(0.001)	0.0006	.	0.0014	.	0.016	.	.	(0.002)	(0.005)	(0.003)	31 mm Ø x 2 or 18 mm
13X 18002D	0.0617	.	.	.	.	.	.	.	.	.	.	.	-40 mm Ø x -15 mm
CZ CM-18A	0.0344	.	.	.	.	.	.	.	.	.	.	.	-37 mm Ø x -25 mm
SS 468/1	.	.	.	.	.	.	.	.	.	.	.	.	38 mm Ø x 19 mm
SRM C1152a	.	.	.	.	.	.	.	0.0047	.	.	.	.	32 mm Ø x 19 mm
VS LG32/5	0.156	.	.	.	.	.	.	.	.	.	.	.	-38 mm Ø x -25 mm
13X NSA2J	.	.	.	.	.	.	.	.	.	.	.	.	-40 mm Ø x -15 mm
IARM 289A	0.01	.	0.0003	.	.	.	0.0104	.	.	(0.002)	<0.005	.	31 mm Ø x 2 mm
IARM 241D	0.022	(0.001)	0.0016	.	(0.0012)	.	(0.005)	(0.0003)	.	(0.0022)	(0.007)	(0.005)	31 mm Ø x 2 or 18 mm
DSZU C018	0.086	.	.	.	0.0003	.	.	.	.	.	.	.	40 mm Ø x 25 mm
13X NSB3G	.	.	.	.	.	.	.	0.006	.	.	.	.	42 mm Ø x 15 mm
KUT H5	.	.	.	.	.	.	.	.	.	.	.	.	30-35 mm Ø x 18 mm
13X 18003C	0.0292	.	.	.	.	.	.	.	.	.	.	.	-40 mm Ø x -15 mm
IRSID 1819	.	.	(0.0004)	.	.	.	.	.	.	.	.	.	47 mm x 47 mm x 30 mm
13X 17002E	(0.030)	.	0.0012	.	.	.	.	.	.	.	(0.012)	.	-40 mm Ø x -15 mm
NCS HS28743	0.0056	0.0042	.	.	.	.	.	0.0004	.	0.0025	.	.	38 mm Ø x 35 mm
IMZ 166A	0.036	(0.0026)	.	.	.	.	.	.	.	(0.0035)	.	.	40 mm Ø x 40 mm
13X 12855N	0.048	.	0.0098	.	.	.	.	.	0.093	.	0.122	.	-40 mm Ø x -15 mm
13X 14828A	0.008	.	.	.	.	.	.	.	.	0.0128	.	.	-40 mm Ø x -15 mm
VS LG81	0.409	.	.	.	.	.	.	.	.	.	.	.	-45 mm Ø x -28 mm
VS LG77	.	.	.	.	.	.	.	.	.	.	.	.	-45 mm Ø x -28 mm
IMZ 164	0.040	(0.005)	.	.	.	.	.	(0.002)	.	(0.003)	.	.	40 mm Ø x 40 mm
13X 17003A	.	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 15 mm
VS LG73	.	.	.	.	.	.	.	.	.	.	.	.	-45 mm Ø x -28 mm
KUT S20	.	.	.	.	.	.	.	.	.	.	.	.	30-35 mm Ø x 18 mm
VS LG80	0.025	.	.	.	.	.	.	.	.	.	.	.	-45 mm Ø x -28 mm
BS 253	0.016	0.005	.	.	.	.	0.044	.	.	0.006	25(pre-17025)	.	38 mm Ø x -7 or 19+ mm
IARM 234C	0.035	(0.001)	0.0023	.	(0.0017)	.	(0.005)	(0.001)	.	0.0017	(0.003)	(0.006)	31 mm Ø x 2 or 18 mm
SS 462	.	0.007	.	.	.	.	.	0.0005	.	.	.	.	38 mm Ø x 19 mm
DSZU C015	(0.008)	.	.	.	0.0017	.	.	.	.	.	.	.	40 mm Ø x 25 mm
SS 464/1	.	(0.003)	.	.	.	.	.	0.0004	.	.	.	.	38 mm Ø x 19 mm
13X 17004B	0.043	.	0.0066	.	.	.	.	.	.	.	0.057	.	-40 mm Ø x -15 mm
IMZ 165	0.038	(0.003)	.	.	.	.	.	(0.001)	.	0.003	.	.	40 mm Ø x 40 mm
SS 467/1	.	0.004	.	.	.	.	.	0.004	.	.	0.0017	.	38 mm Ø x 19 mm
13X 12854M	.	.	0.0101	0.0052	.	.	.	.	0.068	.	0.020	0.0146	-40 mm Ø x -15 mm
VS LG35/5	0.087	.	.	.	.	.	.	.	.	.	.	.	-38 mm Ø x -25 mm
Number	Al	As	B	Bi	Ca	Ce	O	Pb	Sb	Sn	Ta	Zr	Units
13X 17001C	0.0312	.	0.0085	.	.	.	.	.	.	.	0.0124	.	-40 mm Ø x -15 mm
KUT S26	.	.	.	.	.	.	.	.	.	.	.	.	30-35 mm Ø x 18 mm
NCS HS41750	0.009	.	.	.	.	.	.	.	.	.	.	.	38 mm Ø x 35 mm
ECRM 270-1D	(0.0023)	(0.0034)	Ce: 0.0487	La: 0.0154	.	.	.	.	(0.0007)	(0.0035)	.	(0.002)	38 mm Ø x 25 mm
VS LG78	0.15	.	.	.	.	.	.	.	.	.	.	.	-45 mm Ø x -28 mm
BS 192	1.17	(0.005)	(0.0003)	.	0.0007	.	0.0014	25(pre-17025)	.	0.008	(0.001)	.	38 mm Ø x -7 or 19+ mm
BS 83G	(0.004)	.	(0.001)	.	.	.	0.0064	.	.	0.003	.	.	38 mm Ø x -7 or 19+ mm
NM 301	.	.	.	.	.	.	.	.	.	.	.	.	35 mm Ø x 20 mm
VS LG72	0.089	.	.	.	.	.	.	.	.	.	.	.	-45 mm Ø x 28 mm
NM 302	.	.	.	.	.	.	.	.	.	.	.	.	35 mm Ø x 20 mm
13X 12534X	0.0485	.	.	.	.	.	.	.	.	.	0.031	.	-40 mm Ø x -15 mm
IARM 316A	0.006	0.007	(0.0003)	.	0.0017	0.064	0.0052	(0.0001)	.	0.006	(0.003)	.	31 mm Ø x 2 or 18 mm
IARM 18D	(0.006)	.	(0.0011)	.	.	.	.	.	.	(0.007)	.	.	31 mm Ø x 18 mm
13X 12853L	0.18	.	0.0018	.	.	.	.	.	.	.	0.034	.	-40 mm Ø x -15 mm
VS LG63	0.45	.	.	.	.	.	.	.	.	.	.	.	-47 mm Ø x -30 mm
KUT S25	.	.	.	.	.	.	.	.	.	.	.	.	30-35 mm Ø x 18 mm
SRM 1171	.	.	.	.	.	.	.	.	.	.	.	.	31 mm Ø x 19 mm
BS 9841	<(0.006)	(0.003)	0.0026	25(pre-17025)	.	.	(0.011)	(0.001)	(0.006)	0.006	.	(0.002)	44 mm Ø x -7 or 19+ mm
SS 465/1	0.026	.	0.0006	.	.	.	.	<(0.001)	.	.	.	.	38 mm Ø x 19 mm
BS 192A	0.98	(0.0035)	(0.0003)	.	(0.0006)	.	(0.0006)	.	.	0.008	25(pre-17025)	.	38 mm Ø x -7 or 19+ mm
IMZ 152	.	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 40 mm
IMZ 152A	(0.004)	(0.002)	0.0022	.	.	.	.	.	.	(0.001)	.	.	38 mm Ø x 20 mm
VS LG71	0.072	.	.	.	.	.	.	.	.	.	.	.	-45 mm Ø x -28 mm
CT 304	.	.	.	.	.	.	.	<0.001	.	0.017	.	.	30-35 mm Ø x -16 mm Ag: 7ppm
BS 82E	0.006	.	0.0024	.	0.0014	.	.	.	.	0.006	.	.	38 mm Ø x -7 to 19 mm last
13X 31008A	.	.	.	.	.	.	.	.	.	.	.	.	-38 mm Ø x -15 mm
KUT H7/1	.	.	.	.	.	.	.	.	.	.	.	.	30-35 mm Ø x 18 mm
CT 316	.	.	.	.	.	.	.	0.001	.	0.006	.	.	30-35 mm Ø x -19 mm Ag: 5ppm
VS LG36/5	0.080	.	.	.	.	.	.	.	.	.	.	.	-38 mm Ø x -25 mm
BS 321D	0.103	0.0040	0.0012	.	(0.0003)	.	0.0009	(0.0003)	(0.001)	0.0091	17025	(0.001)	44 mm Ø x -7 or 19+ mm Fe,Mg
13X NSB2D	.	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 15 mm
BS 9842	0.014	(0.002)	0.0025	.	0.0010	.	(0.0044)	.	.	0.005	25(pre-17025)	.	38 mm Ø x -7 or 19+ mm
BS 82D	(0.002)	.	0.0040	.	0.0007	.	0.007	.	.	0.004	.	last	38 mm Ø x -7 mm
SRM 1172	.	.	.	.	.	.	.	.	.	.	<0.001	.	32 mm Ø x 19 mm
VS LG82	0.076	.	.	.	.	.	.	.	.	.	.	.	-45 mm Ø x -28 mm
BS 87F	0.004	0.005	(0.0006)	.	0.0007	.	0.005	.	.	0.004	.	.	41 mm Ø x -7 or 19+ mm
BS 86F	(0.007)	(0.003)	0.0026	.	(0.001)	.	.	(0.001)	.	0.004	.	.	44 mm Ø x -7 or 19+ mm
DSZU C017	0.28	.	.	.	0.0031	.	.	.	.	.	.	.	40 mm Ø x 25 mm
IARM Fe304H-18	(0.005)	0.0076	.	.	.	.	(0.008)	.	.	(0.014)	.	.	31 mm Ø x 2 or 18 mm
BS 347B	0.002	(0.003)	0.0036	.	(0.0005)	.	0.005	.	.	0.006	<(0.004)	.	38 mm Ø x -7 or 19+ mm
BS 347A	(0.002)	(0.003)	(0.0004)	.	(0.0002)	.	0.0047	.	.	0.007	<(0.004)	.	38 mm Ø x 19+ mm
Number	Al	As	B	Bi	Ca	Ce	O	Pb	Sb	Sn	Ta	Zr	Units

STAINLESS STEEL WITH C < 0.05 % CONTINUED ON THE NEXT PAGE

= Class, where 1 = CRM, 2 = RM, and 3 = RM with no uncertainties

analysis listed in mass %

Table with columns: #, Number, C, Mn, P, S, Si, Cu, Ni, Cr, Co, Mo, N, Nb, Ti, V, W. Contains multiple rows of material data including grades like ECRM 269-1D, IARM 8H*, and various UNS numbers such as 304B and 316F.

Summary table with columns: #, Number, C, Mn, P, S, Si, Cu, Ni, Cr, Co, Mo, N, Nb, Ti, V, W.

RM TRACE ELEMENTS IN STAINLESS STEEL

Table with 20 columns: Number, As, Pb, Sb, Sn, Zn, C, Mn, P, Si, Cu, Ni, Cr, Mo, N, B, Ca, Ti, V. Rows include DSZU C25, DSZU C22, DSZU C33, DSZU C24, DSZU C31, DSZU C23, DSZU C21.

STAINLESS STEEL XRF SETS

AVAILABLE IN SETS OR INDIVIDUALLY

-7 mm discs

Table with 17 columns: Grade, Number, C, Mn, P, S, Si, Cu, Ni, Cr, Co, Mo, N, Nb, V, W. Rows include SET BS SS-17 (15-5PH, 17-4PH, etc.), SET BS 400-SS-16 (182PM, 410, 416, etc.), and 455.

Table with 7 columns: Number, Al, B, Ca, Se, Sn, Ti.

SET BS SS-17

Table with 7 columns: Number, Al, B, Ca, Se, Sn, Ti. Rows include BS 185A, BS 17-4PHA, BS 192, BS 253, BS 179C, BS 2205, BS 303, BS 81P, BS 82E, BS 83G.

SET BS 400-SS-16

Table with 7 columns: Number, Al, B, Ca, Se, Sn, Ti. Rows include BS 150, BS 410C, BS 90F, BS 151, BS 98, BS 152, BS 97, BS 91E, BS 153, BS 92B, BS 93E, BS 155, BS 156, BS 94C, BS 95A, BS 96A.

HIGH ALLOY STEEL XRF SET

Part Number:	BS HAS-12	RM except CRM as noted, available as set or individually										* Provisional Analysis					~7 mm Ø discs		
Number Grade	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Al	B	Co	N	Nb	Sn	Ti	V	W	O
BS 189A AL6XN CRM	0.0147	0.639	0.019	(0.001)	0.30	0.184	23.8	20.4	6.04	0.0129	(0.0002)	0.100	0.198	(0.13)	0.0035	0.0065	0.054	0.037	0.0024
		17025																	
BS 179A Alloy 255	0.017	1.04	0.021	0.001	0.44	1.94	5.84	25.45	3.24	(0.009)	(0.001)	0.58	0.184	0.030	0.005	0.006	0.070	(0.2)	.
BS 183B Greek Ascology CRM	0.181	0.344	0.018	0.0042	0.41	0.074	1.96	12.45	0.33	0.0009	(0.0007)	0.032	0.044	(0.0075)	0.0046	(0.0016)	0.165	3.5	(0.0054)
		17025																	
BS 186A Invar 36	0.040	0.72	0.008	0.0053	0.19	0.016	35.86	0.16	0.0032	(0.001)	.	0.028	0.0026	(<0.002)	(0.002)	(<0.003)	0.0012	(0.01)	.
BS 187A Carp. 20Cb3	0.022	0.52	0.017	0.0025	0.26	3.10	33.06	19.75	2.06	(0.009)	0.0022	0.32	0.0157	0.57	0.003	(0.002)	0.10	(0.02)	.
BS 188B A-286 CRM	0.046	0.247	0.016	(0.0007)	0.266	0.120	24.81	14.32	1.30	0.168	0.0047	0.274	0.0021	0.099	0.0051	2.20	0.264	0.043	0.0006
		17025																	
BS 190 Nitronic® 40	0.022	9.72	0.015	0.001	0.46	0.072	6.74	19.57	0.15	(0.004)	0.0005	0.044	0.255	(0.004)	0.003	0.002	0.11	0.015	0.0045
BS 180A Nitronic® 50	0.018	5.05	0.012	0.001	0.32	0.067	13.19	21.09	2.04	0.012	(0.0024)	0.039	0.334	0.20	(0.002)	(0.002)	0.20	0.02	0.003
BS 181A Nitronic® 60	0.071	8.16	0.019	0.001	4.03	0.18	8.15	16.52	0.21	0.022	0.0009	0.072	0.148	0.017	0.005	0.007	0.094	0.04	0.0010
BS 193 18Cr-12Mn	0.104	12.11	0.018	0.002	0.66	0.088	1.82	18.48	0.21	(0.003)	0.0007	0.028	0.37	0.014	0.004	0.003	0.107	(0.007)	.
BS 182 17Cr-15Mn	0.037	15.09	0.022	(0.003)	0.46	0.56	1.11	16.67	0.99	.	.	0.032	(0.40)	(0.005)	(0.003)	(0.003)	0.059	(0.01)	.
BS 191 16Cr-6Mn-4Si	0.098	5.71	0.024	0.023	3.66	0.33	5.34	16.33	0.36	(0.002)	(0.0006)	0.11	0.117	0.024	(0.006)	0.012	0.083	0.033	.

CRM

CAST IRON SETS

AVAILABLE IN SETS ONLY, as grouped

Number	C	Mn	P	S	Si	Cu	Ni	Cr	Al	Mo	Sn	Ti	V	Ce	La	Mg	N
30 mm Ø x 28 mm																	
NCS HS11712a-6	4.02	1.41	0.021	0.026	0.163	1.83	1.89	0.112	0.019	0.726	0.057	0.238	0.509	<0.0001	<0.0001	0.104	0.013
NCS HS11712a-7	3.94	1.38	0.085	0.0048	0.918	1.10	1.37	1.05	0.214	0.168	0.134	0.114	0.390	<0.0001	<0.0001	0.056	0.0063
NCS HS11712a-5	3.52	0.311	0.420	0.019	1.17	0.389	1.03	0.766	.	0.629	0.013	0.161	0.324	<0.0001	<0.0001	0.021	0.0047
NCS HS11712a-4	3.16	0.462	0.396	0.017	1.96	0.921	0.778	1.40	0.0073	0.428	0.024	0.065	0.166	<0.0001	<0.0001	0.025	0.0073
NCS HS11712a-2	2.22	0.301	0.043	0.058	2.44	0.458	0.341	2.13	0.060	0.087	0.044	0.065	0.055	0.0010	0.010	0.0085	0.024
NCS HS11712a-3	2.55	0.878	0.071	0.045	1.50	0.641	0.519	0.417	0.034	0.354	0.021	0.027	0.085	0.027	0.0061	0.024	0.024
NCS HS11712a-1	1.75	0.080	0.580	0.119	3.40	0.025	0.030	2.48	0.248	0.031	0.0031	0.038	0.021	<0.0001	<0.0001	0.0006	0.015
30 mm Ø x 30 mm																	
NCS HS19701-7	4.13	2.06	0.306	0.111	1.85	.	0.026	0.157	.	.	0.043	0.399	0.821	.	.	.	.
NCS HS19701-6	3.93	1.46	0.168	0.124	0.99	.	0.094	0.387	.	(0.112)	0.0018	0.105	0.506	.	.	.	.
NCS HS19701-5	3.67	0.596	0.072	0.117	0.183	.	0.502	0.171	.	(0.68)	0.0022	0.066	0.335	.	.	.	.
NCS HS19701-4	3.70	0.857	0.087	0.076	0.451	.	0.032	0.117	.	(0.031)	0.0017	0.030	0.158	.	.	.	.
NCS HS19701-3	3.29	1.22	0.045	0.056	0.689	.	0.046	0.030	.	.	0.009	0.043	0.071	.	.	.	.
NCS HS19701-2	2.99	0.329	0.033	0.038	0.937	.	0.194	0.080	.	.	0.024	0.216	0.044	.	.	.	.
NCS HS19701-1	2.46	0.072	0.011	0.019	0.099	.	0.183	0.511	.	.	0.005	0.0059	0.0090	.	.	.	.

RM GRAY IRON as cast (not chill cast) CONTAINS FREE GRAPHITE OBS regularly requires extension of preburn time to analyze correctly

Table with columns: Number, C, Mn, P, S, Si, Cu, Ni, Cr, Al, As, Co, Mo, Sb, Sn, Ti, V, mm Ø x mm H. Rows include BS 20G, BS 20W, BS 20R, BS 20E, BS 20P.

DUCTILE / NODULAR IRON

= Class, where 1 = CRM and 2 = RM

Main table for Ductile/Nodular Iron with columns: #, Number, C, Mn, P, S, Si, Cu, Ni, Cr, Al, Ce, Co, Mg, Mo, Ti, V. Rows include various grades like SCRM 666/12, BS 285BH, BS 286CF, etc.

Table with columns: Number, As, B, Ca, Fe, La, Nb, Pb, Sn, W, Zr, Units. Rows list chemical compositions and units for various iron grades.

RM Si-Mo CAST IRON BAS SIMO: 48 mm x 42 mm x 12 mm block CTIF: each unit = one pair 43 mm Ø x 5 mm discs

Table for Si-Mo Cast Iron with columns: Number, C, Mn, P, S, Si, Cu, Ni, Cr, Mo, Al, Ti, V, Co, As, Sn, Ce, Mg. Rows include CTIF Si-Mo-3, CTIF Si-Mo-1, CTIF Si-Mo-5, etc.

CAST IRON WITH MAGNESIUM - continued on the next page

= Class, where 1 = CRM and 2 = RM

* Provisional Analysis

#	Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mg	Te	Al	Ce	Co	Mo	Ti	V
1	CZ 20034 17b	4.38	0.501	0.089	0.0040	0.178	0.111	2.34	0.200	0.009	.	(0.002)	(0.003)	0.043	0.030	0.016	0.086
1	CZ 20034 17a	4.30	0.494	0.115	0.0034	0.170	0.082	2.38	0.200	0.007	.	(0.002)	(0.003)	0.043	0.030	0.016	0.086
1	CZ 20034 17c	4.08	0.503	0.104	0.0033	0.150	0.037	2.32	0.178	0.007	.	(0.002)	(0.003)	0.043	0.030	0.015	0.076
1	Y 2863-11	4.03	0.61	0.613	0.026	0.79	0.96	0.46	1.65	0.0075	.	.	.	.	0.94	0.29	0.079
2	CZ SPL17 43A	3.98	1.322	0.190	0.008	1.63	0.385	0.411	0.032	(0.04)	.	0.024	0.017	0.045	0.152	0.065	0.152
2	CZ SPL17 42A	3.94	0.764	0.294	0.0040	1.94	0.199	0.492	0.145	(0.06)	.	0.087	0.039	0.010	0.021	0.126	0.093
1	Y 451045	3.90	0.12	0.023	0.0027	2.29	0.022	0.45	0.028	0.033	.	.	.	.	0.0030	0.016	0.017
1	CZ 02033 2g	3.78	0.096	0.125	0.009	1.10	0.88	0.650	0.027	0.036	(0.004)	0.019	0.013	0.012	(0.002)	0.029	0.017
1	SCRM 668/14	3.77	0.702	0.045	0.0220	1.72	0.65	0.096	0.99	0.009	.	.	0.023	.	0.0179	0.086	0.195
1	Y 2863-12	3.77	0.158	0.053	0.057	0.150	0.55	0.192	2.31	0.0024	.	.	.	.	0.44	0.030	0.229
1	CZ 02033 2f	3.77	0.091	0.159	0.009	1.23	0.89	0.658	0.022	0.053	.	0.024	0.018	(0.003)	(0.002)	0.021	0.010
1	Y 4510251B-16	3.75	0.39	0.034	0.012	1.69	0.423	0.60	0.52	0.053	.	0.061	0.034	.	0.203	0.036	0.198
1	CZ 02033 3c	3.68	0.333	0.026	0.007	2.15	0.421	0.040	0.100	0.006	(0.005)	0.024	0.013	0.026	0.490	0.021	0.016
1	SCRM 666/12	3.599	0.106	.	.	1.763	0.0581	1.709	0.102	0.0838	.	.	.	.	0.0979	0.1069	0.0486
2	Y 4510058B-18	3.59	0.435	0.047	0.020	1.68	0.268	0.595	0.526	0.042	.	.	0.022	.	0.180	0.044	0.174
2	Y 4510058C-18	3.59	0.435	0.047	0.020	1.68	0.268	0.595	0.526	0.039	.	.	0.022	.	0.180	0.044	0.174
2	Y 4510058D-18	3.59	0.435	0.047	0.020	1.68	0.268	0.595	0.526	0.036	.	.	0.022	.	0.180	0.044	0.174
2	Y 4510058E-18	3.59	0.435	0.047	0.020	1.68	0.268	0.595	0.526	0.032	.	.	0.022	.	0.180	0.044	0.174
1	SCRM 670/22	3.55	0.300	0.040	0.009	2.25	0.96	0.87	0.49	0.044	.	.	0.013	.	0.014	0.104	0.019
2	CZ SPL17 31A	3.54	0.041	0.025	0.006	2.10	0.005	0.538	0.019	0.070	.	0.005	(0.004)	0.022	0.004	0.007	0.008
1	CZ 20034 15b	3.52	0.048	0.054	0.0031	1.66	1.322	0.681	0.067	0.037	.	0.029	0.021	0.027	0.004	0.025	0.013
2	CZ SPL17 34A	3.48	0.980	0.105	0.008	2.29	0.230	0.493	0.102	0.026	.	0.010	0.008	0.025	0.072	0.044	0.073
1	CZ 20034 15c	3.47	0.060	0.054	0.0028	1.68	1.123	0.728	0.078	0.040	.	0.010	0.030	0.026	(0.002)	0.036	0.019
2	CZ SPL17 32A	3.39	0.288	0.037	0.007	2.74	0.306	0.015	0.060	0.024	.	0.029	(0.004)	(0.002)	0.116	0.044	0.005
1	CZ 02033 3b	3.38	0.260	0.012	0.012	1.74	0.400	0.049	0.235	0.012	.	0.026	0.006	0.012	0.456	0.023	0.009
2	CZ SPL17 40A	3.38	0.042	0.021	0.0035	1.98	0.010	0.045	0.031	0.007	.	0.096	0.012	0.027	0.005	0.015	0.014
1	VS ChG 28	3.29	0.414	0.025	0.015	2.22	1.29	0.166	0.127	0.010	.	0.015	.	.	0.0024	0.0041	0.020
1	CZ 20034 14b	3.26	0.240	0.0115	0.0096	2.34	0.640	0.020	0.042	0.015	.	0.012	0.012	0.005	0.635	0.021	0.012
1	CZ 02033 3d	3.24	0.317	0.008	0.006	2.12	0.396	0.025	0.236	0.016	.	0.055	0.006	0.014	0.453	0.016	0.072
1	CZ 02033 1f	3.23	0.693	0.043	0.005	2.68	0.018	0.373	0.035	0.070	(0.007)	0.073	0.036	0.024	0.182	0.041	0.014
#	Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mg	Te	Al	Ce	Co	Mo	Ti	V
1	CZ 02033 1g	3.22	0.701	0.036	0.007	2.53	0.027	0.357	0.044	0.050	.	0.062	0.023	0.010	0.185	0.054	0.019
1	CZ 20034 13c	3.15	0.704	0.0261	0.0044	2.23	0.089	1.299	0.124	0.064	.	0.022	0.011	0.024	0.360	0.015	0.043
1	CZ 20034 14c	3.14	0.275	0.0162	0.0081	2.49	0.585	0.030	0.045	0.017	.	0.007	0.019	0.009	0.646	0.018	0.013
1	CZ 20034 13a	3.13	0.691	0.0244	0.0046	2.19	0.021	1.266	0.122	0.053	.	0.017	0.011	0.024	0.364	0.014	0.048
1	CZ 20034 13b	3.12	0.692	0.0243	0.0041	2.12	0.021	1.313	0.125	0.054	.	0.019	0.011	0.024	0.364	0.012	0.048
1	VS ChG 24	3.05	0.245	0.260	0.0048	2.50	0.100	0.87	0.031	0.015	.	0.007	.	.	0.031	0.060	0.0067
1	Y 2863-9	3.04	1.43	0.049	0.015	1.53	0.269	1.59	0.72	0.043	.	.	.	.	1.38	0.212	0.41
1	VS ChM5/1	3.04	0.311	0.056	0.016	1.37	.	.	.	0.045	.	0.013	.	.	.	.	.
1	SCRM 667/13	3.04	0.222	.	.	2.866	0.497	1.303	0.294	0.070	.	.	0.110	.	.	.	0.103
1	BS CC-11A	3.07	1.23	0.020	0.011	1.90	0.007	0.046	0.048	0.014	0.026	0.0055	0.018	(0.007)	0.0063	0.0091	0.0066
1	BS CC-11B	2.97	1.17	0.020	0.008	1.94	0.0210	0.173	0.189	0.025	0.019	0.028	0.045	(0.022)	0.018	0.031	0.0179
1	VS ChM6/1	3.03	0.54	0.055	0.0074	2.75	.	.	.	0.072	.	0.022	.	.	.	.	.
1	VS ChM8/1	3.02	0.83	0.055	0.0034	3.39	.	.	.	0.105	.	0.041	.	.	.	.	.
2	CZ SPL17 36A	3.02	0.057	0.026	0.010	2.13	0.007	0.011	0.014	0.012	.	(0.003)	0.0007	(0.004)	0.004	0.021	0.021
1	VS ChM13	2.96	1.05	0.043	0.009	2.98	0.062	1.65	0.273	0.09	.	0.065	.	.	.	0.018	0.0096
1	SCRM 669/14	2.955	0.526	.	.	2.201	0.194	0.473	0.214	0.0224	.	.	0.0415	.	0.0550	0.0499	0.532
1	Y 2863-26	(2.9)	0.126	0.123	0.0041	2.98	0.014	1.52	0.050	0.044	.	0.038	.	.	0.075	0.0026	0.040
1	VS ChM10	2.89	0.43	0.067	0.017	1.13	0.082	0.85	0.067	0.024	.	0.005	.	.	.	0.028	0.079
1	SRM C1137a	2.86	0.52	0.087	0.017	1.15	0.192	2.17	0.643	0.032	.	(0.007)	0.016	.	0.86	(0.04)	0.019
2	CZ SPL17 33A	2.75	0.710	0.060	0.007	3.10	0.730	0.389	0.239	0.021	.	0.054	0.026	0.015	0.220	0.130	0.356
1	SRM C2424	2.68	0.268	0.041	0.024	3.37	0.125	0.061	0.13	0.006	.	(<0.01)	0.0046	(0.05)	0.019	0.050	0.083
1	VS ChM9	2.61	1.28	0.075	0.021	1.59	0.095	0.38	0.083	0.011	.	0.016	.	.	.	0.027	0.068
1	VS ChM11	2.26	0.77	0.032	0.011	2.32	0.067	1.75	0.122	0.066	.	0.035	.	.	.	0.014	0.0044
1	Y 2863-7	1.98	3.42	0.067	0.0061	3.10	0.089	4.47	0.150	0.050	.	.	0.019	.	0.052	0.060	0.87
#	Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mg	Te	Al	Ce	Co	Mo	Ti	V
BS: 28-34 mm Ø x 17-35 mm		CKD 24x: 37 mm x 37 mm x ~15-20 mm				SCRM: 48 mm x 42 mm x 12 mm				VS: ~40 mm Ø x ~40 mm							
		CZ: 40 mm Ø x 18 mm				SRM: 32 mm Ø x 19 mm				Y: 30 mm Ø x 30 mm							

CAST IRON WITH MAGNESIUM - continued from the previous page

sizes shown below

Number	As	B	Bi	Ca	Fe	La	Nb	Pb	Sb	Se	Sn	W	Zr	Other
CZ 20034 17b	0.008	(0.0002)	(0.001)	.	.	.	.	(0.002)	.	.	(0.002)	0.004	.	.
CZ 20034 17a	0.007	(0.0002)	(0.001)	.	.	.	.	(0.002)	.	.	(0.002)	0.004	.	.
CZ 20034 17c	0.0005	(0.0006)	(0.002)	.	.	.	.	(0.002)	.	.	(0.002)	0.004	.	.
Y 2863-11	(0.022)	0.053	.	.	.	.	0.33	(0.0057)	(0.174)	.	(0.108)	0.010	.	.
CZ SPL17 43A	.	0.0014	(0.002)	.	.	.	0.008	0.014	(0.004)	.	0.067	0.038	Zn:0.013	.
CZ SPL17 42A	.	0.0036	(0.002)	.	.	.	0.045	0.020	0.015	.	0.027	0.020	Zn:0.013	.
Y 451045	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CZ 02033 2g	.	0.0023	0.006	.	.	.	.	0.008	0.029	.	0.015	(0.004)	.	Zn: 0.020
SCRM 668/14	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Y 2863-12	(0.0097)	0.0078	.	.	.	.	0.21	(0.056)	(0.471)	.	(0.307)	0.13	.	.
CZ 02033 2f	.	0.0020	(0.002)	.	.	.	.	0.005	0.028	.	0.014	(0.003)	(0.005)	Zn: 0.018
Y 4510251B-16	.	0.0044	.	.	.	0.016	.	.	.	.	0.030	.	.	last
CZ 02033 3c	(0.007)	0.0044	(0.002)	.	.	.	.	0.005	.	.	0.009	(0.003)	.	.
SCRM 666/12	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Y 4510058B-18	0.0021	0.024	.	.	.	.	.	.	.	.	.	.	.	.
Y 4510058C-18	0.0021	0.024	.	.	.	.	.	.	.	.	.	.	.	.
Y 4510058D-18	0.0021	0.024	.	.	.	.	.	.	.	.	.	.	.	.
Y 4510058E-18	0.0021	0.024	.	.	.	.	.	.	.	.	.	.	.	last
SCRM 670/22	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CZ SPL17 31A	.	(0.0004)	.	.	.	.	.	.	.	.	(0.003)	(0.005)	.	.
CZ 20034 15b	(0.003)	0.0033	0.010	.	.	.	.	.	0.058	.	0.005	0.007	.	.
CZ SPL17 34A	.	0.0076	(0.005)	.	.	.	0.014	(0.006)	0.007	.	0.051	0.016	Zn:0.007	.
CZ 20034 15c	(0.003)	0.0057	0.008	.	.	.	.	.	0.056	.	0.006	0.004	.	.
CZ SPL17 32A	.	(0.0005)	(0.007)	.	.	.	.	0.022	0.023	.	(0.012)	(0.008)	Zn:0.011	.
CZ 02033 3b	.	0.0042	0.001	.	.	.	.	0.009	.	.	0.019	.	.	.
CZ SPL17 40A	.	0.0008	.	.	.	.	.	.	.	.	(0.004)	.	Zn:(0.002)	.
VS ChG 28	.	.	.	.	.	.	.	.	0.015	.	0.0017	.	.	.
CZ 20034 14b	0.034	0.0100	0.007	.	.	.	.	(0.005)	0.016	.	0.028	(0.005)	0.014	Zn: 0.009
CZ 02033 3d	(0.018)	0.0071	(0.002)	.	.	.	.	0.005	0.007	.	0.009	.	.	.
CZ 02033 1f	.	0.0043	(0.001)	.	.	.	.	0.009	.	.	0.030	0.022	(0.008)	.

Number	As	B	Bi	Ca	Fe	La	Nb	Pb	Sb	Se	Sn	W	Zr	Other
CZ 02033 1g	.	0.0034	0.005	.	.	.	.	0.016	.	.	0.028	0.015	(0.004)	last
CZ 20034 13c	(0.002)	.	.	.	.	.	.	.	(0.002)	.	0.014	(0.003)	(0.02)	.
CZ 20034 14c	0.035	0.0123	.	.	.	.	.	.	0.020	.	0.025	(0.003)	0.013	Zn: 0.010
CZ 20034 13a	(0.002)	.	.	.	.	.	.	.	(0.002)	.	0.014	(0.003)	0.029	.
CZ 20034 13b	(0.002)	.	.	.	.	.	.	.	(0.002)	.	0.014	(0.003)	0.023	.
VS ChG 24	.	.	.	.	.	.	.	.	0.009	.	0.077	.	.	.
Y 2863-9	(0.041)	0.153	.	.	.	.	0.11	(0.093)	(0.116)	.	(0.124)	.	.	.
VS ChM5/1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SCRM 667/13	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BS CC-11A	0.0018	0.0008	(0.005)	(0.0009)	93.6	(0.004)	(0.007)	(0.002)	(0.01)	Zn:0.0032	(0.004)	(0.017)	(0.0025)	17025
BS CC-11B	0.0074	0.0033	(0.016)	(0.002)	93.2	(0.008)	0.043	0.014	0.026	Zn:0.008	0.021	0.028	0.0165	17025
VS ChM6/1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
VS ChM8/1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CZ SPL17 36A	.	0.022	(0.007)	.	.	.	.	0.016	.	.	(0.002)	.	Zn:(0.002)	.
VS ChM13	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SCRM 669/14	.	.	.	.	.	.	.	.	.	.	.	.	.	.
VS ChG 26	.	.	.	.	.	.	.	.	.	.	0.031	.	.	.
VS ChM10	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SRM C1137a	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CZ SPL17 33A	.	0.0064	(0.002)	.	.	.	0.032	0.010	0.019	.	0.039	0.079	Zn:0.009	.
SRM C2424	.	(0.002)	.	.	.	0.0011	.	.	.	.	.	.	.	.
VS ChM9	.	.	.	.	.	.	.	.	.	.	.	.	.	.
VS ChM11	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Y 2863-7	(0.021)	0.100	0.041	(0.0025)	(0.010)	.	(0.0073)	.	.	.

Number	As	B	Bi	Ca	Fe	La	Nb	Pb	Sb	Se	Sn	W	Zr	Other
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BS: 28-35 mm Ø x 17-35 mm

CZ: 40 mm Ø x 18 mm
SCRM: 48 mm x 42 mm x 12 mmSRM: 32 mm Ø x 19 mm
Y: 30-35 mm Ø x 18-30 mmVS ChM: ~39 mm Ø x ~39 mm
VS ChG: ~34 mm x ~35 mm X ~22 mm

RM CAST IRON WITH YOUR CHOICE OF MAGNESIUM LEVELS each unit: 2 pcs mushroom 43 mm Ø x 5 mm

Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mg	Al	Ce	Co	Sn	Ti	V	Zn	Other
CTIF 6134	3.70	0.25	0.030	<0.01	1.60	0.020	2.00	0.040	*	.	<0.03	.	.	.	.	.	.
CTIF 8532	3.7	0.288	0.05	.	2.6	0.0443	0.888	0.04	*	.	<0.025	.	0.0303	0.02	0.07	.	.
CTIF 6135	3.6	0.38	0.0130	(0.003)	0.9	0.0219	1.98	0.04	*	(0.006)	.	0.037	.	0.007	0.0155	.	.
CTIF 4500	3.38	0.60	0.059	(0.002)	1.97	.	1.45	0.014	*	0.033	0.023	0.065	.	.	.	.	.
CTIF 5781	3.35	0.26	0.030	(0.0025)	2.50	0.0061	0.83	0.040	*	.	.	(0.004)	.	0.0208	0.0150	.	.
CTIF 4497	3.12	0.605	0.043	(-0.002)	2.66	0.048	1.90	0.040	*	.	.	.	0.094	0.031	0.44	.	.
CTIF 7160	3.1	0.57	0.05	(0.001)	2.4	0.08	1.0	(0.1)	*	(0.02)	0.02	0.09	.	0.013	0.018	.	As: 0.009
CTIF 5037	3.04	0.76	0.043	(0.0025)	3.40	.	0.64	0.014	*	.	.	.	.	0.029	.	.	.
CTIF 3601B	3.0	0.35	0.037	(0.005)	2.1	0.019	1.08	0.029	*	.	<0.01	.	.	0.016	(0.005)	<0.05	Pb:(<0.002)
CTIF 8018	3.0	0.7	0.07	(0.0015)	3.0	0.08	0.127	0.09	*	0.02	(<0.02)	.	0.07	0.06	0.39	.	Sb:(0.01)
CTIF 6736	2.8	0.65	0.012	(0.002)	1.6	0.0258	1.7	0.03	*	.	.	.	.	0.008	(0.03)	.	.
CTIF 5783	2.55	0.2	0.0266	(0.003)	2.3	0.110	1.23	0.05	*	.	.	0.0074	.	0.015	0.0127	.	As: 0.0016

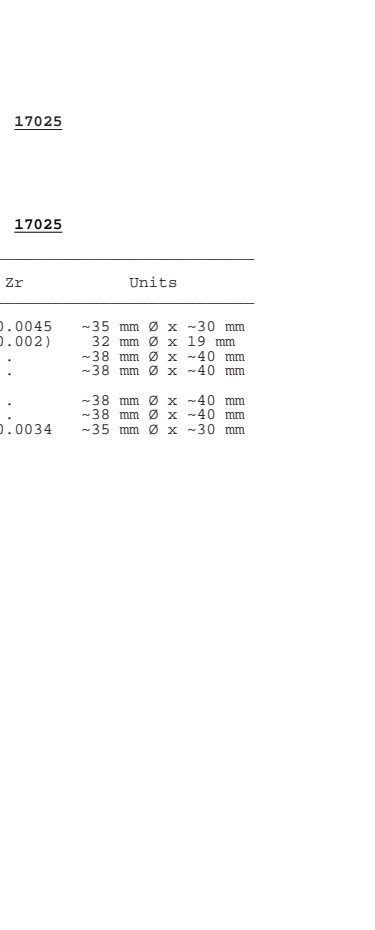
Magnesium level available in the below samples. X = available

For Mg Range	Order Suffix	3601B	4497	4500	5037	5781	5783	6134	6135	6736	7160	8018	8532
<0.005	<0.005	X	.	.	.	X	X	.	.	.	.	X	X
0.005 - 0.009	0.005	X	.	.	X	X	X	.	.	X	.	X	X
0.010 - 0.014	0.01	.	.	.	X	X	X	.	.	X	X	X	X
0.015 - 0.024	0.02	X	.	.	X	X	X	.	X	X	X	X	X
0.025 - 0.034	0.03	.	.	.	X	.	X	.	X	X	X	X	X
0.035 - 0.044	0.04	.	.	.	X	.	X	.	X	X	X	X	X
0.045 - 0.054	0.05	.	.	.	X	.	X	.	X	X	X	X	X
0.055 - 0.064	0.06	.	X	X	.	.	X	.	X	X	X	X	X
0.065 - 0.074	0.07	.	X	X	.	.	X	.	X	X	X	X	X
0.075 - 0.084	0.08	.	X	X	.	.	X	X	X	X	X	X	X
0.085 - 0.094	0.09	.	X	X	.	.	X	X	X	X	X	X	X
0.095 - 0.104	0.10	.	.	.	.	.	X	X	X	X	X	X	X
0.105 - 0.114	0.11	.	.	.	.	.	.	X	X	X	X	X	X
0.115 - 0.124	0.12	.	.	.	.	.	.	X	X	X	X	X	X
0.125 - 0.134	0.13	.	.	.	.	.	.	X	X	X	X	X	X
0.135 - 0.144	0.14	.	.	.	.	.	.	X	X	X	X	X	X
0.145 - 0.154	0.15	.	.	.	.	.	.	.	.	.	X	.	.
0.155 - 0.164	0.16	.	.	.	.	.	.	.	.	.	X	.	.
0.165 - 0.174	0.17	.	.	.	.	.	.	.	.	.	X	.	.
0.175 - 0.184	0.18	.	.	.	.	.	.	.	.	.	X	.	.

The above cast iron samples can be ordered with your choice of Magnesium. Examples:
 to order CTIF 6736 with Mg 0.035 - 0.044 then order as part number CTIF 6736 0.04
 to order CTIF 8018 with 0.08 % Mg, order as part number CTIF 8018 0.08

CRM WHITE IRON analysis listed in mass %

Number	C	Mn	P	S	Si	Cu	Ni	Cr	Co	Mo	Nb	Ti	V
BS WI-2	3.61	0.80	0.22	0.056	0.52	0.0124	0.254	0.229	0.0118	0.219	0.128	0.089	0.215
SRM CII45	2.92	0.187	0.215	0.191	0.271	0.46	0.62	0.63	0.058	0.48	.	0.012	0.112
VS ChG 8/6	(2.7)	1.51	0.040	0.013	3.93	.	.	(0.2)	.	.	.	.	(0.3)
VS ChG 10/6	(2.7)	0.86	0.103	0.0072	2.86	.	.	(0.2)	.	.	.	.	(0.3)
VS ChG 11/6	(2.7)	0.312	0.23	0.039	1.79	.	.	(0.2)	.	.	.	.	(0.3)
VS ChG 9/6	(2.7)	0.155	0.38	0.071	0.80	.	.	(0.2)	.	.	.	.	(0.3)
BS WI-1	1.75	0.24	0.051	0.114	1.90	0.027	0.053	0.048	0.0074	0.0103	0.027	0.020	0.008



Number	Al	As	B	Bi	Ca	Fe	Mg	Pb	Sb	Sn	W	Zr	Units
BS WI-2	0.0192	0.0016	0.0008	.	(0.00013)	[93.6]	(0.0002)	0.013	0.023	0.0042	0.023	0.0045	~35 mm Ø x ~30 mm
SRM CII45	(0.04)	(0.03)	(0.02)	(<0.01)	.	.	.	0.0012	(0.04)	(0.10)	.	(0.002)	32 mm Ø x 19 mm
VS ChG 8/6	.	(0.003-0.006)	.	.	.	.	.	.	.	.	.	.	~38 mm Ø x ~40 mm
VS ChG 10/6	.	(0.003-0.006)	.	.	.	.	.	.	.	.	.	.	~38 mm Ø x ~40 mm
VS ChG 11/6	.	(0.003-0.006)	.	.	.	.	.	.	.	.	.	.	~38 mm Ø x ~40 mm
VS ChG 9/6	.	(0.003-0.006)	.	.	.	.	.	.	.	.	.	.	~38 mm Ø x ~40 mm
BS WI-1	0.075	0.0067	0.0032	.	0.0005	[95.5]	0.0009	0.115	.	0.0081	0.185	0.0034	~35 mm Ø x ~30 mm

CAST IRON WITH C > 2.75%

CONTINUED ON THE NEXT PAGE

= Class, 1 = CRM and 2 = RM

Table with 19 columns: #, Number, C, Mn, P, S, Si, Cu, Ni, Cr, Al, Co, Mo, Nb, Sn, Ti, V, Zn. It contains multiple rows of data for various iron grades and classes.

CAST IRON WITH C < 2.75%

= Class, 1 = CRM and 2 = RM

analysis in mass % except * = mg/kg

#	Number	C	Mn	P	S	Si	Cu	Ni	Cr	Al	Co	Mo	Nb	Sn	Ti	V	Zn
1	VS ChL4/1	2.69	1.37	0.054	0.027	1.99	0.161	0.725	0.92	.	0.017	0.116	.	.	0.11	0.258	.
1	SRM C1291	2.67	1.14	0.028	0.032	1.34	0.26	4.34	2.78	.	.	0.32	.	.	.	0.031	.
1	VS ChG 6/9	2.65	0.83	0.54	0.027	0.53	0.34	.	0.241	.	.	.	.	.	0.028	0.130	.
1	DSZU CH01	2.61	0.258	0.012	0.0045	1.95	0.097	0.072	0.88	0.079	(0.06)	0.070	(0.010)	(0.05)	0.132	0.134	.
1	VS ChG 40	2.59	1.56	0.059	0.019	1.60	0.98	1.61	1.47	.	.	0.229	.	.	0.18	0.325	.
1	11X C8V	2.60	0.394	1.00	0.204	1.643	0.310	0.275	0.148	0.086	0.126	0.148	0.0217	0.1063	0.235	0.064	0.0068
1	SCRM 661/4	2.56	0.30	0.84	0.068	2.96	.	.	(1)	.	.	.	.	.	.	.	.
1	SCRM 656/9	2.537	0.820	0.060	0.108	2.504	.	.	.	.	.	.	.	.	.	.	.
1	Y 2863-2	2.50	1.83	0.069	0.026	3.14	0.020	3.73	0.136	.	.	0.096	.	.	0.066	0.61	.
1	VS ChG 37	2.49	0.92	0.038	0.046	2.03	0.512	0.90	0.82	.	.	0.55	.	.	0.092	0.227	.
1	SCRM 673/1	2.455	0.123	0.317	0.0112	1.702	.	0.103	0.0423	0.0287	0.053	0.0092	.	0.0206	0.0718	0.052	.
1	CZ 20034 11b	2.44	0.382	0.271	0.140	3.67	0.130	0.082	1.178	0.067	0.005	1.144	.	0.074	0.041	0.182	.
1	VS ChG 38	2.43	0.302	0.386	0.084	2.30	1.20	0.162	1.98	.	.	0.046	.	.	0.105	0.119	.
1	CZ 02033 5b	2.42	0.812	0.033	0.073	1.32	0.031	0.188	0.061	0.062	.	0.089	.	.	0.007	0.005	.
1	VS ChL2/1	2.38	1.03	0.054	0.023	0.55	0.97	0.114	0.077	.	0.013	.	.	.	0.009	0.050	.
1	CZ 20034 11a	2.37	0.343	0.271	0.163	3.31	0.086	0.084	1.219	0.046	0.005	1.130	.	0.070	0.028	0.184	.
1	SCRM 652/4	2.34	1.19	0.071	0.129	0.878	.	.	(1)	.	.	.	.	.	.	.	.
1	DSZU CH07	2.33	1.36	0.090	0.064	3.01	0.35	0.403	0.34	0.036	.	0.66	(0.08)	(0.07)	0.150	0.52	.
1	CZ 02033 5a	2.30	0.804	0.035	0.100	1.26	0.014	0.096	0.054	0.060	.	0.100	.	.	0.008	0.005	.
1	CZ 02033 5c	2.30	0.704	0.027	0.091	1.40	0.013	0.188	0.085	0.103	0.013	0.104	.	(0.002)	0.008	0.054	.
1	11X C4S	1.954	0.565	0.1014	0.096	2.98	0.095	3.21	1.382	0.006	0.0210	0.177	0.0233	0.0140	0.080	0.0165	0.0037
1	SCRM 675	1.92	1.81	0.045	0.072	1.29	0.012	0.210	0.080	0.007	0.023	0.034	.	0.0062	0.007	0.178	0.0006
1	SCRM 655/4	1.90	0.44	0.180	0.076	2.110	.	.	(1)	.	.	.	.	.	.	.	.
1	Y 2863-1	1.78	2.41	0.021	0.009	3.62	0.022	4.77	0.031	.	.	0.038	0.0052	.	0.068	1.13	.

#	Number	C	Mn	P	S	Si	Cu	Ni	Cr	Al	Co	Mo	Nb	Sn	Ti	V	Zn
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Number	As	B	Bi	Ca*	Ce	Mg	N	Pb	Sb	Se	Te	W	Zr	Units
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VS ChL4/1	~38 mm Ø x ~38 mm
SRM C1291	32 mm Ø x 19 mm
VS ChG 6/9	(0.003)	~38 mm Ø x ~40 mm
DSZU CH01	.	(0.03)	.	(10)	.	(0.0005)	(0.02)	.	~30 mm x ~35 mm
VS ChG 40	.	.	.	.	.	.	.	.	.	.	.	.	.	~34 mm Ø x ~37 mm
11X C8V	0.0812	0.0366	0.014	.	.	.	0.0065	0.0052	0.069	0.0210	0.0049	0.0258	0.0064	~40 mm Ø x ~15 mm
SCRM 661/4	.	.	.	.	.	.	.	.	.	.	.	.	.	48 mm x 42 mm x 12 mm
SCRM 656/9	.	.	.	.	.	.	.	.	.	.	.	.	.	48 mm x 42 mm x 12 mm
Y 2863-2	.	0.0025	.	.	.	.	.	.	.	.	.	.	.	30 mm Ø x 18-30 mm
VS ChG 37	.	.	.	.	.	.	.	.	.	.	.	.	.	~34 mm Ø x ~37 mm
SCRM 673/1	.	.	.	.	.	.	.	.	.	.	.	.	.	40 mm x 37 mm x 10 mm
CZ 20034 11b	0.005	0.0032	0.007	.	.	.	.	0.007	0.011	.	.	(0.005)	0.007	40 mm Ø x 18 mm
VS ChG 38	.	.	.	.	.	.	.	.	.	.	.	.	.	~34 mm Ø x ~37 mm
CZ 02033 5b	.	0.014	0.020	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 18 mm
VS ChL2/1	.	.	.	.	.	.	.	.	.	.	.	.	.	~38 mm Ø x ~38 mm
CZ 20034 11a	0.005	0.0018	0.011	.	.	.	.	0.017	0.013	.	.	(0.005)	0.007	40 mm Ø x 18 mm
SCRM 652/4	1.92	1.81	0.045	0.072	1.29	0.012	0.210	0.080	0.007	0.023	0.034	.	0.0062	48 mm x 42 mm x 12 mm
DSZU CH07	.	(0.13)	.	(10)	.	(0.01)	.	.	.	.	.	.	.	~35 mm x ~35 mm x ~19mm
CZ 02033 5a	.	.	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 18 mm
CZ 02033 5c	.	0.0078	0.007	.	.	.	.	.	.	(0.002)	(0.010)	.	(0.009)	40 mm Ø x 18 mm
11X C4S	0.0235	0.0351	0.0070	.	.	.	0.0126	0.034	0.0055	0.009	.	0.099	.	~40 mm Ø x ~15 mm
SCRM 675	0.035	.	.	.	.	.	.	.	.	.	.	.	.	40 mm x 37 mm x 10 mm
SCRM 655/4	48 mm x 42 mm x 12 mm
Y 2863-1	.	0.0024	30 mm Ø x 18-30 mm

Number	As	B	Bi	Ca*	Ce	Mg	N	Pb	Sb	Se	Te	W	Zr	Units
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ALLOYED CAST IRON, CHART 1 of 2

= Class, where 1 = CRM and 2 = RM

#	Number	C	Mn	P	S	Si	Cu	Ni	Cr	Al	Mo	Pb	Sn	Ti	V	Mg	N
2	DSZU CH021	3.93	3.66	0.064	0.009	0.52	0.369	5.86	9.07	0.168	4.42	.	.	0.093	0.61	.	.
2	BAS NCRM5	3.70	0.27	0.025	0.015	1.15	0.204	6.74	10.44	.	0.10	.	.	.	0.06	.	.
1	SRM C1292	3.47	0.55	0.049	0.016	0.59	0.36	5.04	11.4	.	0.25	.	.	.	0.041	.	.
2	BAS CCRM5/2	3.43	0.30	0.029	0.018	0.20	0.22	0.36	30.35	0.15	0.63	.	.	0.009	0.11	.	.
1	Y 451052-1	3.31	1.54	0.369	0.0047	0.098	0.449	2.57	1.17	.	1.47	.	.	.	0.952	.	.
1	BS PM15	3.54	0.416	0.0198	0.0127	0.912	0.142	0.203	5.33	0.0025	1.22	(0.00001)	0.0034	0.0029	14.79	(0.0002)	0.111
1	VS ChG 48	3.44	0.100	0.0070	0.0039	0.923	0.90	0.280	22.79	0.049	0.591	.	0.0018	0.0022	0.0016	0.072	.
1	Y 451052-7	3.13	0.201	0.024	0.116	2.48	0.154	0.129	31.26	.	0.086	.	.	0.033	0.087	.	.
2	58A SC01141	3.08	0.62	0.045	0.036	0.56	0.77	1.21	15.32	.	2.70	.	.	0.020	0.28	.	.
1	SRM C1290	3.04	0.66	0.030	0.013	0.971	0.065	0.917	30.5	.	(0.041)	.	.	.	0.442	.	.
1	Y TSK205	3.03	0.16	0.041	0.088	1.65	0.35	0.37	30.35	.	0.22	.	.	.	0.077	.	0.108
1	Y 451054-2	3.00	1.42	0.133	0.016	0.56	0.324	1.43	7.23	.	2.48	.	.	0.015	0.88	.	.
1	NCS HS11788	2.97	1.62	0.191	0.010	3.29	0.51	17.77	2.56	(0.0023)	0.0013	.	0.0003	0.043	0.017	.	.
1	Y 451052-2	2.96	1.24	0.211	0.0077	0.491	1.57	1.99	9.75	.	2.17	.	.	0.300	0.669	.	.
2	BAS NIRM5/1	2.95	1.01	0.103	0.005	1.50	0.21	21.7	0.51	.	.	.	.	.	0.055	.	.
2	58A ZS01036	2.95	0.719	0.077	0.024	0.970	0.448	0.806	13.89	.	0.683	.	0.048	0.035	0.135	.	.
2	BAS NIRM2/2	2.94	2.01	0.096	0.007	1.43	5.93	13.69	1.48	.	.	.	.	.	0.044	.	.
2	BAS CCRM4/2	2.93	0.58	0.049	0.042	0.45	0.53	0.58	21.93	<0.005	1.15	.	.	0.008	0.11	.	.
2	11X 20003K	2.91	1.53	0.174	0.007	3.03	0.52	17.8	2.53	.	.	.	.	.	.	.	.
1	11X S/1 Cr3J	2.91	0.861	0.072	0.023	1.07	9.01	14.53	1.61	.	.	.	.	.	.	.	.
2	DSZU CH022	2.90	1.76	0.033	0.018	0.43	2.53	2.19	14.85	0.053	2.65	.	.	0.078	0.45	.	.
2	11X 20001J	2.90	0.58	0.005	0.143	1.01	0.01	21.4	1.50	.	.	.	.	.	.	.	.
2	11X S/2 Cr1E	2.83	1.68	0.31	0.011	2.85	0.02	16.5	2.48	.	.	.	.	.	.	.	.
1	11X 15294W	2.76	0.451	0.082	0.029	0.36	0.103	0.309	29.3	(0.147)	0.091	0.012	0.036	.	0.132	.	.
1	Y 451054-3	2.73	1.09	0.105	0.036	0.99	0.451	1.20	12.97	.	2.08	.	.	0.045	0.66	.	.
1	VS ChG45	(2.7)	1.01	0.096	0.047	2.96	0.040	0.60	32.65	.	0.198	.	.	0.011	0.111	.	.
2	11X 20002J	2.67	1.06	0.060	0.045	2.04	0.30	20.0	2.03	.	.	.	.	.	.	.	.
2	BAS NCRM4	2.66	0.40	0.203	0.012	2.13	0.68	5.34	7.94	.	0.57	.	.	.	0.11	.	.
1	NCS HS11787	2.65	1.08	0.067	0.037	2.07	0.306	19.84	1.98	(0.085)	0.0014	.	0.0054	0.022	0.0096	.	.
1	Y TSK201	2.56	1.07	0.253	0.023	0.66	1.53	2.44	10.14	.	2.56	.	.	.	0.42	.	0.029
2	BAS NIRM6/1	2.53	4.07	0.225	0.049	2.68	0.11	26.9	1.02	.	0.51	.	.	.	.	.	.
2	BAS NIRM3	2.51	0.51	0.208	0.096	2.21	1.00	17.8	2.43	.	.	.	.	.	.	.	.
1	VS ChG 47	2.43	0.949	0.099	0.083	2.73	0.0104	0.149	14.45	0.0056	0.0019	.	0.093	0.041	0.129	.	.

#	Number	C	Mn	P	S	Si	Cu	Ni	Cr	Al	Mo	Pb	Sn	Ti	V	Mg	N
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Number	B	Ce	Co	Nb	W	Zr	Units	Other
DSZU CH021	35 mm x 35 mm x 16 mm	
BAS NCRM5	40 mm x 37 mm x 10 mm	
SRM C1292	.	.	.	.	.	.	32 mm Ø x 19 mm	
BAS CCRM5/2	.	.	.	.	.	.	48 mm x 42 mm x 12 mm	
Y 451052-1	0.177	.	.	0.018	0.015	.	30 mm Ø x 18-30 mm	
BS PM15	.	.	0.0330	0.014	0.109	(0.0005)	38 mm Ø x 19+ mm	17025 Fe:[73.0] As:0.0040 N:0.111 O:0.0129
VS ChG 48	As:0.0021	.	0.044	.	Sb:0.0017	.	-35 mm Ø x -17 mm	
Y 451052-7	0.015	.	.	0.010	0.175	.	30 mm Ø x 18-30 mm	
58A SC01141	.	.	.	.	.	.	-35 mm Ø x -30 mm	
SRM C1290	.	.	.	.	.	.	32 mm Ø x 19 mm	
Y TSK205	.	.	.	.	.	.	35 mm Ø x 18-30 mm	
Y 451054-2	.	.	.	.	.	.	30 mm Ø x 18-30 mm	
NCS HS11788	0.0008	.	(0.0063)	.	(0.0002)	.	31 mm Ø x 28 mm	As: 0.014
Y 451052-2	0.142	.	.	0.182	1.99	.	30 mm Ø x 18-30 mm	
BAS NIRM5/1	.	0.016	.	0.15	.	.	48 mm x 42 mm x 12 mm	
58A ZS01036	.	.	0.024	0.025	0.172	.	-32 mm Ø x -30 mm	As: (0.003)
BAS NIRM2/2	.	0.018	.	.	.	.	48 mm x 42 mm x 12 mm	
BAS CCRM4/2	.	.	.	.	.	.	48 mm x 42 mm x 12 mm	
11X 20003K	.	.	.	.	.	.	40 mm Ø x 15 mm	
11X S/1 Cr3J	.	.	.	.	.	.	-40 mm Ø x -15 mm	
11X 20001K	.	.	.	.	.	.	40 mm Ø x 15 mm	
11X S/2 Cr1E	.	.	.	.	.	.	40 mm Ø x 15 mm	
11X 15294W	.	.	0.128	.	0.265	.	-40 mm Ø x -15 mm	
Y 451054-3	.	.	.	.	.	.	30 mm Ø x 18-30 mm	
VS ChG45	.	.	.	.	.	.	-36 mm x -36 mm Ø x -18 mm	last
DSZU CH022	.	.	.	.	.	.	35 mm x 35 mm x 16 mm	
11X 20002J	.	.	.	.	.	.	40 mm Ø x 15 mm	
BAS NCRM4	.	.	.	.	.	.	40 mm x 37 mm x 10 mm	
NCS HS11787	0.0007	.	(0.0054)	.	(0.0002)	.	31 mm Ø x 28 mm	As: 0.0075
Y TSK201	.	.	.	.	.	.	35 mm Ø x 18-30 mm	
BAS NIRM6/1	.	0.006	.	.	.	.	48 mm x 42 mm x 12 mm	
BAS NIRM3	.	0.007	.	0.09	.	.	40 mm x 37 mm x 10 mm	
VS ChG 47	As:0.014	.	0.0042	.	.	Sb:0.040	-35 mm Ø x -17 mm	

Number	B	Ce	Co	Nb	W	Zr	Units	Other
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ALLOYED CAST IRON, CHART 2 of 2

= Class, where 1 = CRM and 2 = RM

#	Number	C	Mn	P	S	Si	Cu	Ni	Cr	Al	Mo	Pb	Sn	Ti	V	Mg	N
1	Y 451052-3	2.40	1.06	0.115	0.015	0.821	0.953	1.55	13.30	.	0.869	.	.	0.171	0.482	.	.
2	BAS CRRM3/2	2.37	0.92	0.073	0.087	1.21	1.09	1.35	18.78	0.102	1.58	.	.	0.015	0.042	.	.
2	DSZU CH023	2.33	0.43	0.023	0.073	0.98	0.054	0.715	23.45	0.255	1.46	.	.	0.38	0.288	.	.
1	Y 451054-4	2.31	0.725	0.071	0.046	1.40	0.739	0.914	17.60	.	1.44	.	.	0.084	0.46	.	.
1	Y TSK200	2.11	0.82	0.319	0.022	0.17	1.86	3.22	4.97	.	3.50	.	.	.	0.60	.	0.021
2	BAS NIRM1	2.05	6.72	0.055	0.005	3.15	0.20	11.80	0.246	.	.	.	.	.	.	0.021	.
2	DSZU CH024	2.01	1.22	0.102	0.037	2.18	0.88	0.222	27.84	0.096	3.86	.	.	0.099	0.164	.	.
1	Y 451052-4	2.00	0.803	0.090	0.025	1.16	0.738	1.07	18.28	.	0.598	.	.	0.087	0.380	.	.
2	BAS NIRM4	1.97	2.37	0.051	0.008	3.03	0.52	20.2	3.56	.	.	.	.	.	.	0.014	.
1	NCS HS11789	1.97	1.08	0.048	0.076	2.58	6.39	17.80	2.51	0.061	0.062	0.015	0.014	0.011	0.0093	.	.
2	BAS CRRM2/1	1.92	1.11	0.097	0.079	1.18	1.59	1.61	14.13	0.054	2.44	.	.	0.070	0.063	.	.
1	VS ChG 46	1.87	0.067	0.0106	0.108	3.24	0.0109	5.44	8.58	.	0.63	.	.	.	0.109	.	.
2	BAS CRRM1/1	1.83	1.45	0.132	0.099	1.53	2.01	2.03	11.18	0.117	3.05	.	.	0.096	0.040	.	.
1	Y 451054-5	1.83	0.466	0.043	0.091	1.80	0.904	0.517	23.40	.	0.739	.	.	0.068	0.26	.	.
1	Y TSK202	1.81	1.16	0.201	0.057	2.00	1.10	1.91	15.42	.	2.20	.	.	.	0.33	.	0.075
2	DSZU CH025	1.80	0.387	0.030	0.026	2.70	1.23	1.77	35.14	0.351	0.302	.	.	0.117	0.044	.	.
2	BAS CRRM1/2	1.70	1.43	0.16	0.099	1.84	1.97	2.03	11.28	0.140	3.06	.	.	0.054	0.063	.	.
2	DSZU CH026	1.62	0.305	0.050	0.032	1.14	0.288	3.63	35.87	0.059	0.96	.	.	0.013	0.067	.	.
1	Y 451052-5	1.48	0.579	0.041	0.058	1.37	0.583	0.708	22.55	.	0.359	.	.	0.056	0.314	.	.
2	BAS NIRM8/2	1.45	1.58	0.105	0.014	5.61	0.23	35.3	2.47	.	0.77	.	.	.	.	0.033	.
1	Y 451054-6	1.45	0.254	0.024	0.123	2.38	1.15	0.216	28.96	.	0.213	.	.	0.084	0.13	.	.
1	VS ChG44	1.24	0.87	(1.2)	0.076	1.50	2.27	0.175	25.44	.	0.035	.	.	0.104	0.079	.	.
1	Y TSK203	1.23	0.68	0.117	0.044	0.46	0.75	1.55	19.93	.	1.58	.	.	.	0.22	.	0.094
1	Y 451052-6	1.16	0.302	0.033	0.086	1.44	0.845	0.289	25.76	.	0.150	.	.	0.019	0.146	.	.
1	Y TSK204	0.91	0.34	0.078	0.063	1.00	0.53	0.97	25.37	.	0.95	.	.	.	0.14	.	0.114

#	Number	C	Mn	P	S	Si	Cu	Ni	Cr	Al	Mo	Pb	Sn	Ti	V	Mg	N
	Number	B	Ce	Co	Nb	W	Units		Other								
	Y 451052-3	0.102	.	.	0.149	1.57	30 mm Ø x 18-30 mm										
	BAS CRRM3/2	.	.	.	.	.	40 mm x 37 mm x 10 mm										
	DSZU CH023	.	.	.	.	.	35 mm x 35 mm x 16 mm										
	Y 451054-4	.	.	.	.	.	30 mm Ø x 18-30 mm										
	Y TSK200	.	.	.	.	.	35 mm Ø x 18-30 mm										
	BAS NIRM1	.	0.018	.	.	.	40 mm x 37 mm x 10 mm										
	DSZU CH024	.	.	.	.	.	35 mm x 35 mm x 16 mm										
	Y 451052-4	0.086	.	.	0.071	1.05	30 mm Ø x 18-30 mm										
	BAS NIRM4	.	0.011	.	0.37	.	40 mm x 37 mm x 10 mm										
	NCS HS11789	0.0008	.	(0.0075)	.	(0.0002)	31 mm Ø x 28 mm		As: 0.0076 Bi: 0.067								
	BAS CRRM2/1	.	.	.	.	.	40 mm x 37 mm x 10 mm										
	VS ChG 46	.	.	.	.	Sb:0.140	~35 mm Ø x ~17 mm										
	BAS CRRM1/1	.	.	.	.	.	40 mm x 37 mm x 10 mm		last								
	Y 451054-5	.	.	.	.	.	30 mm Ø x 18-30 mm										
	Y TSK202	.	.	.	.	.	35 mm Ø x 18-30 mm										
	DSZU CH025	.	.	.	.	.	35 mm x 35 mm x 16 mm										
	BAS CRRM1/2	.	.	.	.	.	40 mm x 37 mm x 10 mm										
	DSZU CH026	.	.	.	.	.	35 mm x 35 mm x 16 mm										
	Y 451052-5	0.076	.	.	0.022	0.694	30 mm Ø x 18-30 mm										
	BAS NIRM8/2	.	0.013	.	.	.	48 mm x 42 mm x 12 mm										
	Y 451054-6	.	.	.	.	.	30 mm Ø x 18-30 mm										
	VS ChG44	.	.	.	.	.	~36 mm x ~36 mm Ø x ~18 mm		last								
	Y TSK203	.	.	.	.	.	35 mm Ø x 18-30 mm										
	Y 451052-6	0.055	.	.	0.014	0.370	30 mm Ø x 18-30 mm										
	Y TSK204	.	.	.	.	.	35 mm Ø x 18-30 mm										
	Number	B	Ce	Co	Nb	W	Units		Other								

RM CAST IRON MUSHROOMS CONTINUED ON THE NEXT PAGE

typical analysis

each unit is one pair of 43 mm Ø x 5 mm mushroom discs

Number	C	Si	Mn	P	S	Cu	Ni	Cr	Al	Co	Mo	Sn	Ti	V	W
CTIF F019	4.04	1.05	1.05	0.032	0.057	.	.	.	.	.	.	.	.	.	.
CTIF F012	3.71	1.86	0.44	0.038	0.004	0.77	.	.	0.008	.	.	0.011	.	.	.
CTIF F08	3.6	1.04	0.37	0.107	0.021	0.215	0.30	0.30	.	.	0.005	0.05	0.055	0.014	.
CTIF FCR7	3.59	1.07	0.365	0.099	0.0427	0.704	0.947	33.65	.	.	2.62	.	.	.	.
CTIF F06	3.49	0.55	0.715	0.87	0.106	0.120	0.128	0.45	.	.	0.202	0.039	0.080	0.110	.
CTIF F010	3.5	0.67	1.05	0.20	0.101	0.114	0.118	0.38	.	.	0.20	.	0.1	0.08	.
CTIF NH3	3.47	0.85	0.175	0.36	0.024	0.031	2.53	1.76	.	.	0.73	.	.	.	.
CTIF F011	3.45	1.57	0.685	0.052	0.103	0.211	0.235	0.34	.	(0.013)	0.225	0.066	0.078	0.113	.
CTIF F018	3.43	1.24	0.590	1.34	0.136	0.049	0.140	0.170	.	.	0.179	0.046	0.057	0.102	.
CTIF NH7-1	3.43	0.95	0.63	0.035	0.022	0.105	5.53	9.02	.	.	.	.	.	.	.
CTIF FCR5	3.43	0.35	0.62	0.052	0.0175	1.02	2.69	28.5	.	.	3.27	.	.	.	.
CTIF FT2-1	3.39	1.415	0.78	0.045	0.095	0.01	0.070	0.030	.	.	.	.	0.100	0.405	.
CTIF NiMo1	3.22	2.585	0.200	0.0590	(0.0030)	0.376	2.165	0.0353	.	0.0205	0.457	0.0020	0.0190	0.0169	.
CTIF FL7	3.22	2.550	0.100	1.34	0.048	0.351	0.232	0.043	.	.	0.335	0.0291	0.0525	0.0796	.
CTIF FT3	3.2	1.55	0.345	0.063	0.051	0.015	0.092	0.685	.	.	.	.	0.2	0.016	.
CTIF NH7-2	3.2	1.20	0.91	0.034	0.0120	0.108	5.53	8.87	.	.	.	.	.	.	.
CTIF F05	3.2	0.7	0.2	1.30	0.027	0.12	0.172	0.3	.	.	0.41	0.109	0.04	0.14	.
CTIF NH9	3.13	1.24	0.65	0.087	0.029	0.203	4.11	11.70	.	.	0.059	.	.	.	.
CTIF NR Cu1	3.12	1.465	0.172	0.090	0.99	4.95	18.02	0.994	(0.095)	.	.	.	.	.	.
CTIF FL6	3.1	1.4	0.6	0.012	0.18	0.079	1.03	0.167	.	0.028	0.50	0.005	0.15	0.033	.
CTIF FL10	3.1	1.3	0.85	0.323	0.066	0.104	0.10	(0.07)	(0.03)	.	0.0335	0.028	0.045	0.048	(0.02)
CTIF FFA 1	3.090	0.0300	0.100	0.0022	0.0009	0.0622	0.0450	0.0710	.	0.0097	0.0109	.	0.0010	0.0010	.
CTIF NR 8S	3.05	1.41	4.39	0.124	0.071	14.20	0.191	.	.	.	.	.	.	.	.
CTIF F017	3.01	2.48	0.475	0.470	0.168	(0.006)	0.021	(0.016)	.	0.032	.	0.024	0.032	0.018	.
CTIF FAL 1	3.0	1.0	0.2	0.04	<0.001	0.2	0.06	0.04	2.1	.	0.015	.	0.01	.	.
CTIF NR 3L	2.99	3.05	0.72	0.088	0.052	0.26	21.58	2.97	.	.	.	.	.	.	.
CTIF NH1	2.98	1.35	0.90	0.060	0.105	1.99	1.38	0.83	.	.	1.45	.	.	.	.
CTIF NH8	2.98	0.80	0.57	0.052	0.076	0.065	8.16	5.03	.	.	0.125	.	.	.	.
CTIF NR 3S	2.92	2.91	0.77	0.024	0.025	0.33	24.63	3.05	.	.	.	.	.	.	.
CTIF FT1	2.9	2.12	0.71	0.12	0.025	0.012	0.11	0.057	.	.	.	0.067	0.19	0.525	.

Number	C	Si	Mn	P	S	Cu	Ni	Cr	Al	Co	Mo	Sn	Ti	V	W
CTIF NR 8L	2.89	1.70	5.19	0.054	0.030	0.075	13.33	0.165	.	.	.	.	.	.	.
CTIF NH4	2.84	0.49	0.28	0.12	0.022	0.09	3.60	2.46	.	.	0.30	.	.	.	.
CTIF F04	2.81	1.51	0.64	0.58	0.009	0.31	0.32	0.17	.	.	0.095	0.013	0.075	0.049	.
CTIF FCR2	2.86	1.07	0.740	0.137	0.055	0.135	1.87	11.8	.	.	3.88	.	.	.	.
CTIF FL5	2.8	2.3	0.4	0.02	(0.005)	0.5	0.05	0.35	.	0.010	0.01	0.07	0.01	0.01	.
CTIF FCR Ni3	2.74	0.69	0.47	0.036	0.011	.	11.05	31.65	.	.	.	.	.	.	.
CTIF NH6	2.70	2.28	0.355	0.066	0.036	0.115	7.06	6.60	.	.	0.11	.	.	.	.
CTIF F09	2.7	1.5	0.7	0.02	0.015	0.31	0.355	0.18	.	.	0.13	0.144	0.017	0.022	.
CTIF FL4	2.6	2.91	0.5	0.288	0.137	0.0168	0.061	0.45	.	.	0.090	0.011	0.0296	0.116	.
CTIF NR 1S	2.58	3.02	1.54	0.19	0.0015	0.11	20.60	2.00	.	.	.	.	.	.	.
CTIF NR 1L	2.50	3.00	1.34	0.125	0.10	0.49	25.87	1.74	.	.	.	.	.	.	.
CTIF NH2	2.50	1.81	1.04	0.047	0.058	1.02	1.78	1.26	.	.	1.01	.	.	.	.
CTIF NR Cu2	2.48	2.07	1.078	0.113	0.049	6.50	15.85	2.05	.	.	.	.	.	.	.
CTIF NR 4S	2.47	4.87	1.71	0.145	0.066	0.63	18.30	1.50	.	.	.	.	.	.	.
CTIF FCR4	2.47	1.40	2.05	0.097	0.066	1.32	0.571	24.2	.	.	2.16	.	.	.	.
CTIF FCR1	2.46	0.48	0.63	0.019	0.007	0.031	1.30	18.71	.	.	1.41	.	.	.	.
CTIF F07	2.45	0.675	0.70	0.84	0.085	0.125	0.15	0.455	.	.	0.26	.	0.065	0.13	.
CTIF NR 4L	2.41	5.89	1.495	0.155	0.010	0.758	15.90	1.403	.	.	.	.	.	.	.
CTIF NR 2S	2.32	1.43	0.530	0.062	0.0210	0.210	36.3	0.51	.	.	.	.	.	.	.
CTIF NH5	2.31	0.31	0.24	0.115	0.04	0.035	4.90	2.85	.	.	0.017	.	.	.	.
CTIF FL3	2.3	2.1	0.27	0.729	(0.013)	0.102	0.553	0.107	.	.	0.106	0.111	0.05	0.049	.
CTIF NR 4G	2.24	5.60	1.72	0.11	(0.002)	0.64	21.30	1.40	.	.	.	.	.	.	.
CTIF NR 2G	2.25	1.47	0.380	0.0476	(0.003)	0.232	36.34	0.395	.	.	.	.	.	.	.
CTIF FL2	2.18	3.61	0.0400	0.049	0.082	0.0497	0.0238	0.440	(0.006)	0.0263	(0.004)	0.140	0.0750	0.201	.
CTIF FL1	2.1	3.2	0.80	0.118	0.0765	0.0195	0.245	0.06	.	(0.022)	0.038	0.305	0.020	0.015	.
CTIF FCR Ni2	2.02	1.50	0.61	0.185	0.024	.	13.05	29.00	.	.	.	.	.	.	.
CTIF NR Cu3	1.94	3.12	0.60	0.046	0.016	8.05	13.3	3.50	.	.	.	.	.	.	.
CTIF NR 6S	1.82	2.44	0.99	0.019	0.031	0.03	30.75	1.06	.	.	.	.	.	.	.
CTIF NR 5L	1.77	2.99	1.207	0.037	0.083	0.48	33.89	0.27	.	.	.	.	.	.	.
CTIF NR 6L	1.76	2.07	0.70	0.031	0.063	0.020	30.37	3.49	.	.	.	.	.	.	.
CTIF NR 5S	1.67	1.97	1.23	0.035	.	0.50	27.05	0.24	.	.	.	.	.	.	.
CTIF FCR6	1.44	0.76	1.47	0.201	0.086	0.480	0.188	30.84	.	.	0.455	.	.	.	.
CTIF FCR Ni1	1.27	1.63	0.71	0.41	0.06	0.02	16.50	26.20

Number	C	Si	Mn	P	S	Cu	Ni	Cr	Al	Co	Mo	Sn	Ti	V	W
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CAST IRON MUSHROOMS

CONTINUED FROM THE PREVIOUS PAGE

Number	As	B	Bs	Bi	Ce	N	Nb	Pb	Sb	Te	Zn
CTIF F019	0.0005	.
CTIF F012
CTIF F08
CTIF FCR7
CTIF F06
CTIF F010
CTIF NH3
CTIF F011
CTIF F018	0.0040	.	.	.	.	.
CTIF NH7-1
CTIF FCR5
CTIF FT2-1
CTIF NiMo1
CTIF FL7	(0.0266)	(0.010)	.	(0.010)	.	0.0035	.	.	.	.	.
CTIF FT3
CTIF NH7-2
CTIF F05
CTIF NH9
CTIF NR Cu1
CTIF FL6	.	0.008	.	.	.	.	.	.	.	.	.
CTIF FL10	(0.022)	.	(0.012)	(0.004)	.	.	(0.018)	(0.002)	(0.032)	(0.001)	(0.029)
CTIF FFA 1	0.0109	.	.	.	.	0.0125	.	.	.	.	.
CTIF NR 8S
CTIF F017
CTIF FAL 1
CTIF NR 3L
CTIF NH1
CTIF NH8
CTIF NR 3S
CTIF FT1

Number	As	B	Bs	Bi	Ce	N	Nb	Pb	Sb	Te	Zn
CTIF NR 8L
CTIF NH4
CTIF F04	last of stock
CTIF FCR2
CTIF FL5	.	(0.002)	.	(0.0005)	.	.	.	.	.	.	.
CTIF FCR Ni3
CTIF NH6
CTIF F09
CTIF FL4	(0.05)	.	.	(0.003)	.	0.007	.	.	.	.	.
CTIF NR 1S
CTIF NR 1L
CTIF NH2
CTIF NR Cu2	(0.0079)	.	.	.	.	.
CTIF NR 4S
CTIF FCR4
CTIF FCR1
CTIF F07
CTIF NR 4L
CTIF NR 2S
CTIF NH5
CTIF FL3	0.008	.	.	.	.	.
CTIF NR 4G
CTIF NR 2G	0.27	.	.	.	.
CTIF FL2	.	.	.	(0.0135)	.	.	.	.	.	.	.
CTIF FL1
CTIF FCR Ni2
CTIF NR Cu3
CTIF NR 6S
CTIF NR 5L
CTIF NR 6L
CTIF NR 5S
CTIF FCR6
CTIF FCR Nil

Number	As	B	Bs	Bi	Ce	N	Nb	Pb	Sb	Te	Zn
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CARBON STEEL

= Class, where 1 = CRM and 2 = RM

* Provisional Analysis

Number	C	Mn	P	S	Si	Cu	Ni	Cr	Al	Co	Mo	N	V	W
1 VS UG128	0.816	0.405	0.014	0.0139	0.324	0.0235	0.032	0.038	0.0078	.	.	0.0088	0.0046	.
1 BS 54J *	0.77	0.78	0.009	0.011	0.55	0.079	0.04	0.17	0.002	0.004	0.015	<0.05	0.002	<0.05
1 VS UG129	0.728	.	.	0.013	.	.	.	.	0.0014	.	.	.	.	.
1 NM 309	0.57	0.80	0.037	0.046	0.20	.	0.034	0.081	.	.	.	.	.	.
1 IARM Fe1050-18	0.499	0.79	0.0045	0.027	0.223	0.179	0.068	0.100	(0.003)	0.0056	0.018	0.0097	0.0270	.
1 NM 306A	0.46	0.71	0.085	0.043	0.28	.	0.023	0.13	.	.	.	.	.	.
1 VS UG131	0.39	0.56	0.0100	0.0031	0.207	0.030	0.026	0.853	.	.	.	0.0070	.	.
1 BS 1030A *	0.34	0.75	0.006	0.015	0.26	0.19	0.14	0.11	0.002	0.006	0.029	<0.05	0.026	<0.005
1 SS 452/1	0.323	1.30	0.035	0.017	0.055	0.22	0.19	0.067	.	.	0.054	.	.	0.054
1 VS UG121	(0.3)	0.55	0.014	0.027	0.244	0.180	0.078	0.126	0.023	.	.	0.0068	0.0018	.
1 BS 1026A *	0.27	0.76	0.007	0.021	0.18	0.095	0.081	0.12	0.009	0.005	0.05	<0.05	0.026	0.001
1 IARM Fe1020-18	0.226	0.547	0.006	0.024	0.235	0.198	0.078	0.125	(0.003)	0.0065	0.0252	0.0098	0.036	.
1 IMZ 112A	0.212	0.471	0.0055	0.0188	0.257	0.068	0.055	0.099	0.017	0.080	0.054	0.0058	0.043	0.072
1 VS UG132	0.180	0.466	0.0075	0.0030	0.201	0.039	0.024	0.035	.	.	.	0.0054	.	.
1 12X 10180D	0.179	0.807	0.014	0.025	0.286	0.066	0.053	0.0251	(0.003)	0.007	0.0026	0.007	.	.
1 IMZ 71A	0.126	0.493	0.0126	0.0075	0.494	0.90	0.036	0.505	0.019	0.025	0.018	0.0065	0.055	0.023
1 NM 308	0.11	0.47	0.013	0.008	0.067	.	0.009	0.032	.	.	.	.	.	.
1 VS UG122	(0.1)	0.433	(0.02)	(0.02)	0.396	0.288	0.378	0.72	.	.	.	0.0038	0.0040	.
1 VS UG120	0.096	0.685	0.027	(0.02)	0.96	0.447	0.634	0.75	0.011	.	.	(0.008)	0.0078	.
1 BS XCAS *	0.029	0.47	0.008	0.006	0.34	0.022	0.032	0.038	0.029	0.009	0.007	0.006	0.021	0.009
1 BS XCCS-2 *	0.021	0.58	0.006	0.006	0.40	0.047	0.099	0.038	0.073	0.015	0.015	<0.5	0.018	0.021

Number	As	B	Fe	Nb	O	Sb	Sn	Ti	Alloy	Units	Others
VS UG128	.	.	.	.	.	.	.	.	.	~38 mm Ø x ~20 mm	.
BS 54J *	<0.05	<0.005	[97.5]	0.002	<0.05	<0.005	0.006	0.002	1070	38 mm Ø x 19 mm	.
VS UG129	.	.	.	.	.	.	.	.	.	~38 mm Ø x ~20 mm	.
NM 309	.	.	.	.	.	.	.	.	1060 + P	40 mm Ø x 20 mm	.
IARM Fe1050-18	(0.0030)	(0.0005)	98.0	(0.0013)	0.0026	0.0015	0.0103	0.0008	1050	31 mm Ø x 2 or 18 mm	.
NM 306A	.	.	.	.	.	.	.	.	1045 + P	40 mm Ø x 20 mm	.
VS UG131	.	.	.	.	.	.	.	.	.	~39 mm Ø x ~25 mm	.
BS 1030A *	0.006	<0.005	[98.0]	0.001	<0.05	0.001	0.016	0.001	1030	38 mm Ø x ~7 or 19+ mm	.
SS 452/1	0.015	.	.	.	.	.	0.094	0.031	.	38 mm Ø x 19 mm	.
VS UG121	.	.	.	.	.	.	.	.	.	~45 mm Ø x ~25 mm	.
BS 1026A *	<0.05	<0.005	[98.3]	0.001	<0.05	<0.05	0.008	<0.005	1026	38 mm Ø x ~7 or 19+ mm	.
IARM Fe1020-18	0.0044	.	98.5	(0.0012)	(0.007)	0.0018	0.0080	.	1020	31 mm Ø x 2 or 18 mm	.
IMZ 112A	0.023	0.0010	.	0.0123	Pb:0.008	0.021	0.162	0.0138	1023	38 mm Ø x 20 mm	Zn: 0.0020
VS UG132	.	.	.	.	.	.	.	.	.	~39 mm Ø x ~25 mm	.
12X 10180D	0.0068	.	.	.	.	.	0.0033	.	1018	~40 mm Ø x ~15 mm	.
IMZ 71A	0.016	0.0009	.	0.0100	.	0.013	0.015	0.0041	1010 - 1013	35 mm Ø x 20 mm	Zr: 0.0065
NM 308	.	.	.	.	.	.	.	.	1010	40 mm Ø x 20 mm	.
VS UG122	.	.	.	.	.	.	.	.	.	~45 mm Ø x ~25 mm	.
VS UG120	.	.	.	.	.	.	.	.	.	~45 mm Ø x ~25 mm	.
BS XCAS *	0.002	<0.005	[98.9]	0.002	<0.05	<0.05	0.002	0.001	1008	38 mm Ø x 30 mm	.
BS XCCS-2 *	<0.05	0.020	[98.6]	0.003	<0.05	0.002	0.002	0.011	1006 + Al	~37 mm Ø x ~30 mm	Ca: 0.003 Ta: 0.027

RESULFURIZED STEEL

= Class, where 1 = CRM and 2 = RM

Number	C	Mn	P	S	Si	Cu	Ni	Cr	Al	Co	Mo	N	V	W
1 IARM 307B	0.162	1.45	(0.012)	0.094	(0.30)	0.191	0.195	0.105	0.034	0.0101	0.045	(0.011)	(0.003)	.
2 CZ CM-22A	0.154	1.443	0.086	0.084	0.248	0.419	3.10	0.167	(0.004)	0.130	0.132	0.0065	0.653	0.59

Number	As	Nb	Sn	Ti	Alloy	Units
IARM 307B	.	(0.0013)	0.010	(0.003)	1118	31 mm Ø X 2 or 18 mm
CZ CM-22A	0.057	0.019	0.069	0.0038	.	~39 mm Ø x ~25 mm

SILICON STEEL

= Class, where 1 = CRM and 2 = RM

Number	Si	C	Mn	P	S	Cu	Ni	Cr	Al	Co	Mo	N	V	W
2 CZ CM-12C	3.7	0.038	0.275	0.0103	0.0110	0.175	0.046	0.081	0.145	0.0044	0.012	0.0056	0.027	(0.004)
1 ECRM 191-3C	3.226	0.0027	0.153	0.0097	0.0005	0.0097	0.0124	0.0242	0.81	.	0.00127	0.00105	0.00043	.
2 CZ CM-20A	1.74	0.63	0.594	0.0383	0.020	0.237	1.007	0.97	0.076	0.124	0.365	0.0086	0.225	0.104
1 SS 405/1	1.71	0.032	1.28	0.018	0.069	0.013	0.22	0.15	.	.	(0.002)	.	0.28	.
1 SS 409/1	1.46	0.082	0.44	0.025	0.021	0.048	3.06	0.94	.	0.014	0.65	.	0.09	.
1 IMZ 52/1	1.38	0.41	0.25	0.012	(0.009)	0.094	2.35	0.12	.	.	(0.041)	.	.	.
2 CZ LA-3G	1.29	0.626	0.68	0.047	0.035	0.236	1.01	1.377	0.047	0.127	0.326	0.011	0.232	0.105

Number	As	B	Nb	Pb	Sb	Sn	Ti	Zr	Units	Others
CZ CM-12C	0.0030	0.0033	0.0066	.	.	(0.005)	0.0128	.	~39 mm Ø x ~25 mm	Ca: 0.0010
ECRM 191-3C	0.0014	0.00024	.	.	.	0.0013	0.0020	.	~30 mm Ø x ~39 mm	Mg: 0.0036
CZ CM-20A	0.073	0.0071	0.074	0.015	0.025	0.033	0.175	0.083	~37 mm Ø x ~25 mm	Zn: 0.007
SS 405/1	.	.	.	.	.	.	.	.	38 mm Ø x 19 mm	.
SS 409/1	.	.	.	.	.	.	.	.	38 mm Ø x 19 mm	.
IMZ 52/1	.	.	.	.	.	.	.	.	40 mm Ø x 40 mm	.
CZ LA-3G	0.051	0.0039	0.071	0.0098	0.024	0.031	0.143	0.068	~39 mm Ø x ~25 mm	Ca: 0.0016

LOW ALLOY AND TOOL STEEL, CHART 1 of 2

= Class, where 1 = CRM and 2 = RM * Provisional Analysis

Number	C	Mn	P	S	Si	Cu	Ni	Cr	Al	Co	Mo	N	V	W
2 BS 37D	1.54	0.28	0.021	0.015	0.29	0.063	0.21	11.07	.	0.07	1.09	0.016	0.80	0.16
1 IARM FeM62-18	1.32	0.27	0.016	0.015	0.37	0.115	0.129	3.86	(0.006)	0.105	10.2	0.045	2.02	6.31
1 BS E52100 *	1.00	0.37	0.012	0.005	0.27	0.090	0.065	1.54	0.019	0.007	0.021	0.007	0.005	0.002
1 IARM FeM2-18	0.853	0.337	0.025	(0.0010)	0.26	0.098	0.182	4.23	(0.014)	0.28	4.92	0.0148	1.90	5.81
1 BS 33F	0.569	0.295	0.0134	0.0009	0.76	0.039	0.211	1.31	0.019	0.017	0.202	0.0124	0.25	2.28
1 BS TS-7A *	0.528	0.74	0.013	0.016	0.84	0.13	0.022	3.35	0.060	<0.05	1.6	0.12	0.27	<0.005
1 IARM FeS7-18	0.51	0.271	0.021	0.0032	0.47	0.128	0.170	3.28	(0.015)	0.0106	1.39	0.0102	0.233	(0.016)
1 BS D-6A *	0.48	0.78	0.008	0.001	0.23	0.14	0.59	0.99	0.038	0.014	0.98	0.003	0.12	0.002
1 12X 41400B	0.452	0.764	0.0095	0.041	0.32	0.161	0.156	0.999	0.0137	.	0.177	0.0124	.	.
1 BS 4140C	0.43	0.922	0.010	0.026	0.29	0.260	0.131	0.94	0.0215	0.0078	0.169	0.0064	0.0026	(0.003)
2 PV 101/1	0.424	0.798	0.014	0.027	0.177	0.108	0.091	1.013	.	.	0.099	.	0.0023	0.070
1 BS 300A **	0.416	0.716	0.0049	0.0008	1.71	0.118	1.87	0.798	0.098	0.0087	0.38	.	0.0023	0.070
1 IARM 170B	0.400	0.821	(0.005)	(0.004)	0.21	(0.005)	0.197	0.009	0.230	(0.005)	(0.003)	.	.	(0.002)
1 BS 8740	0.39	0.86	0.011	0.023	0.25	0.16	0.55	0.49	0.037	0.0086	0.27	0.0073	0.0024	0.0023
1 IARM Fe5140H-18	0.37	0.93	0.014	0.022	0.187	0.253	0.266	0.67	0.13	0.0081	0.031	0.007	0.0024	(0.003)
1 BS 4330MOD	0.316	0.92	0.0052	0.0010	0.269	0.105	1.83	0.848	0.031	0.034	0.478	0.0031	0.083	(0.001)
1 IARM 378A	0.274	1.38	0.018	0.037	0.307	0.299	0.142	0.187	(0.0029)	0.013	0.031	(0.02)	0.0844	(0.006)
1 IARM 169B	0.232	0.75	(0.004)	(0.004)	(0.32)	(0.005)	(0.010)	0.010	0.36	(0.003)	(0.004)	.	(0.002)	(0.003)
1 IARM Fe8620-18	0.211	0.857	0.012	0.026	0.23	0.197	0.446	0.536	0.0246	0.0085	0.197	0.007	0.0061	(0.004)
1 BS 4820B *	0.198	0.67	0.008	0.011	0.27	0.22	3.3	0.12	0.038	0.012	0.25	0.008	0.002	0.003
1 IARM Fe4820-18	0.192	0.541	(0.011)	0.0018	0.26	0.167	3.51	0.144	0.022	0.0107	0.287	0.007	0.0015	(0.004)
2 PV 102/1	0.186	1.226	0.024	0.018	0.184	0.109	0.140	0.995	.	.	0.030	.	.	.
1 IARM FeE9310-18	0.121	0.62	0.009	0.0128	0.256	0.158	3.07	1.09	0.036	0.009	0.086	0.0070	0.0030	.
1 IARM FeDP1080-18	0.110	1.88	0.014	(0.006)	0.11	0.042	0.554	0.554	(0.002)	0.069	0.445	(0.009)	(0.0043)	(0.030)
1 BS 3310	0.104	0.54	0.0092	0.0144	0.257	0.199	3.49	1.55	0.035	0.0096	(0.052)	0.0075	0.0029	(0.003)
2 HRT FE2003-H	0.104	0.46	0.013	0.002	0.43	0.05	0.26	8.66	(0.004)	0.013	0.93	.	0.217	.
1 IARM FeF9-18	0.104	0.459	(0.011)	0.0036	0.345	0.093	0.148	8.72	.	0.013	0.94	0.0323	0.214	0.0030
1 IARM Fe91-18	0.099	0.453	0.015	(0.002)	0.27	0.041	0.187	8.24	(0.006)	0.013	0.94	0.046	0.198	(0.003)
1 IARM FeP92-18	0.092	0.737	(0.005)	(0.005)	0.20	0.074	0.82	9.4	(0.005)	0.036	0.52	(0.0036)	0.188	1.97
1 IARM FeT23-18	0.068	0.82	0.012	0.006	0.18	0.046	0.53	2.47	.	0.085	0.261	(0.003)	0.238	1.60

Number	C	Mn	P	S	Si	Cu	Ni	Cr	Al	Co	Mo	N	V	W
BS 37D	.	.	.	.	0.0031	.	0.004	.	D-2	.	37 mm	Ø x ~7 or 19+ mm	.	.
IARM FeM62-18	.	(0.003)	.	(0.017)	(0.003)	.	.	(0.003)	M-62	.	31 mm	Ø x 2 or 18 mm	.	.
BS E52100 *	0.003	.	[96.6]	0.001	<0.005	<0.005	0.005	0.001	E52100	.	38 mm	Ø x 19 mm	.	.
IARM FeM2-18	(0.008)	.	81.4	(0.021)	(0.0016)	.	(0.007)	(0.0016)	M-2	.	31 mm	Ø x 2 or 18 mm	.	.
BS 33F	(0.003)	(0.0007)	94.0	(0.002)	0.0024	(0.01)	(0.004)	(0.002)	S-1 MOD	.	38 mm	Ø x ~7 to 19+ mm	.	17025
BS TS-7A *	0.006	<0.05	[92.39]	<0.05	0.005	0.004	0.007	0.003	S-7	.	36 mm	Ø x 25 mm	.	.
IARM FeS7-18	(0.005)	.	(93.6)	(0.005)	0.0023	(0.0016)	(0.006)	0.0014	S-7	.	31 mm	Ø x 2 or 18 mm	Pb:0.0003	.
BS D-6A *	0.010	<0.005	[95.6]	<0.05	<0.005	0.002	0.009	0.003	D-6	.	38 mm	Ø x ~7 or 19+ mm	.	.
12X 41400B	0.015	.	.	.	.	.	0.0099	.	4140	.	~38 mm	Ø x ~20 mm	Zn:0.0012	.
BS 4140C	0.0052	(0.0007)	96.8	0.0019	0.0011	0.0021	0.0095	0.0009	4140	.	38 mm	Ø x ~7 or 19+ mm	Ca:0.0010	17025
PV 101/1	.	.	.	.	.	.	.	.	42CrMo4	.	40 mm	Ø x 25 mm	.	.
BS 300A **	0.0029	(0.00032)	93.8	(0.002)	<0.01	0.0011	0.0065	0.0095	300M	.	38 mm	Ø x ~7 or 19+ mm	.	17025
IARM 170B	.	(0.0004)	.	(0.004)	.	.	(0.002)	(0.19)	CLA7	.	31 mm	Ø x 2 or 18 mm	.	.
BS 8740	0.0051	0.0003	96.91	(0.0007)	(0.001)	0.0017	0.008	0.0012	8740	.	38 mm	Ø x ~7 or 19+ mm	.	17025
IARM Fe5140H-18	(0.011)	.	.	(0.002)	.	.	0.0089	0.0015	5140H	.	31 mm	Ø x 2 or 18 mm	.	.
BS 4330MOD	0.0038	(0.0009)	95.1	0.007	(0.001)	(0.0007)	0.0062	0.0027	4330MOD	.	44 mm	Ø x ~7 or 19+ mm	Zr:0.0016	17025
IARM 378A	.	(0.0006)	.	(0.003)	.	.	0.0236	(0.003)	A615-75	.	31 mm	Ø x 2 or 18 mm	.	.
IARM 169B	.	0.0003	.	(0.004)	.	.	(0.002)	0.23	CLA6	.	31 mm	Ø x 2 or 18 mm	.	.
IARM Fe8620-18	0.009	.	.	.	.	.	0.0072	0.0015	8620	.	31 mm	Ø x 2 or 18 mm	.	.
BS 4820B *	0.006	<0.005	[98.86]	0.002	0.003	0.003	0.010	0.001	4820	.	38 mm	Ø x ~7 or 19+ mm	Ta:0.002	Zr:0.002
IARM Fe4820-18	(0.006)	.	.	(0.003)	(0.003)	.	.	(0.0011)	4820	.	31 mm	Ø x 2 or 18 mm	.	.
PV 102/1	.	.	.	.	.	.	.	.	16MnCr5	.	40 mm	Ø x 25 mm	.	.
IARM FeE9310-18	.	.	94.6	0.285	(0.0017)	.	0.008	.	9310	.	31 mm	Ø x 2 or 18 mm	.	.
IARM FeDP1080-18	.	.	.	0.014	(0.0055)	.	(0.0064)	(0.0013)	DP1080	.	31 mm	Ø x 2 or 18 mm	.	.
BS 3310	0.0058	(0.0008)	93.7	(0.0009)	(0.0008)	0.0019	0.0103	0.0010	3310	.	44 mm	Ø x ~7 or 19+ mm	17025	Ta:0.007
HRT FE2003-H	.	0.004	.	0.064	.	.	.	.	F-91	.	40 mm	Ø x 20 mm	.	.
IARM FeF9-18	0.006	.	88.9	0.078	0.0025	(0.0026)	0.0062	0.0028	F-9	.	31 mm	Ø x 2 or 18 mm	.	.
IARM Fe91-18	.	.	.	0.014	(0.003)	.	(0.0064)	(0.0021)	F-91	.	31 mm	Ø x 2 or 18 mm	.	.
IARM FeP92-18	.	0.0026	.	(0.011)	(0.013)	.	(0.006)	(0.003)	F-92 MOD	.	31 mm	Ø x 2 or 18 mm	.	.
IARM FeT23-18	.	0.0020	.	0.052	0.0044	.	(0.004)	(0.004)	T23	.	31 mm	Ø x 2 or 18 mm	.	.

** BS 300A also contains Ca: 0.0008 Pb: <0.0005 Ta: 0.0022 Zr: (0.002)

LOW ALLOY AND TOOL STEEL, CHART 2 of 2

= Class, where 1 = CRM and 2 = RM

Number	C	Mn	P	S	Si	Cu	Ni	Cr	Al	Co	Mo	N	V	W
2 HRT FE2019-H	1.54	0.39	0.025	(0.003)	0.51	0.08	0.14	11.89	0.015	.	0.86	.	0.80	.
2 CZ LA-4D	1.143	1.266	0.028	0.0091	0.181	0.066	0.367	1.83	0.067	0.037	0.136	0.0064	0.103	0.025
1 ECRM 268-1D	1.134	0.293	0.0209	0.0154	0.373	0.123	0.143	4.57	.	0.0290	3.20	2.03	8.47	3.70
1 VS UG127	0.962	0.93	0.020	0.029	0.427	0.145	0.151	0.188	0.0051	.	.	0.0155	0.141	.
1 VS UG126	0.856	0.78	0.0128	0.0077	0.348	0.030	0.029	0.591	0.0015	.	.	0.0123	0.075	.
1 VS UG130	0.80	0.228	0.0078	0.0071	0.226	0.252	0.104	0.258	.	.	.	.	.	.
2 CZ CM-1D	0.735	1.80	0.0218	0.026	0.341	0.186	0.547	0.456	0.024	0.029	0.100	0.0124	0.089	0.063
1 12X LA4C	0.657	0.374	0.050	0.0258	0.482	0.265	0.485	0.526	0.183	0.099	0.405	0.0116	0.372	0.091
1 NCS HSL3752	0.51	0.99	0.027	0.011	0.21	.	.	0.67	.	.	0.27	.	0.09	.
2 CZ LA-5C	0.439	1.87	0.017	0.0088	0.394	0.138	2.59	3.815	0.081	0.088	0.86	0.024	0.536	0.631
1 IMZ 54/1	0.43	0.14	(0.009)	0.010	0.17	(0.034)	4.01	0.12	.	.	(0.007)	.	0.19	.
1 SS 214/2	0.39	1.61	0.032	0.043	0.18	0.21	0.15	0.09	.	.	0.26	.	.	.
1 CKD 188A	0.332	0.169	0.006	0.033	0.775	0.057	0.445	5.11	0.093	0.006	1.28	0.0076	0.802	0.091
1 SS 408/1	0.285	0.51	0.037	0.028	0.23	0.66	4.45	0.102	.	.	0.09	.	0.031	.
2 CZ CM-8B	0.185	1.95	0.015	0.014	0.112	0.081	0.032	1.22	0.0028	0.007	0.011	0.0075	0.0078	(0.009)
1 IRSID 1658	0.180	0.618	0.014	0.032	0.160	0.345	0.241	0.147	0.029	.	0.046	.	(0.002)	.
2 HRT FE2019-N	0.17	1.27	0.015	(0.001)	0.30	0.03	0.33	0.75	0.068	(0.003)	0.40	0.0040	(0.003)	.
1 VS RG31	0.169	0.291	0.0048	0.006	0.39	0.46	2.08	1.31	.	.	0.28	0.306	0.207	0.39
1 12X 12746V	0.048	1.19	0.034	0.064	0.156	0.646	0.226	0.374	0.459	0.142	0.658	0.0208	0.105	.
1 VS UG102	0.045	1.78	0.0082	.	0.222	0.172	0.277	0.0143	0.036	.	0.209	.	.	.
1 12X LA6D	0.009	0.086	0.0041	0.0057	0.075	0.0250	0.033	0.099	0.174	0.0051	0.0110	0.0070	0.0033	.

Number	C	Mn	P	S	Si	Cu	Ni	Cr	Al	Co	Mo	N	V	W
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Number	As	B	Fe	Nb	O	Sb	Sn	Ti	Units	Others
HRT FE2019-H	.	.	.	0.071	.	.	.	0.012	40 mm Ø x 20 mm	.
CZ LA-4D	0.010	.	.	0.0046	.	.	0.014	0.0154	~39 mm Ø x ~25 mm	Pb:0.040
ECRM 268-1D	0.0062	0.0009	.	.	.	0.0017	0.0078	.	38 mm Ø x 25 mm	.
VS UG127	.	.	.	.	.	.	.	0.0094	~38 mm Ø x ~20 mm	Bi:0.011 Pb:0.0049
VS UG126	.	.	.	.	.	.	.	.	~38 mm Ø x ~20 mm	Bi:0.0055 Pb:0.009
VS UG130	0.0093	.	.	.	.	.	.	.	~39 mm Ø x ~25 mm	.
CZ CM-1D	.	0.0017	.	0.050	.	0.0112	0.0144	0.054	~39 mm Ø x ~25 mm	.
12X LA4C	0.018	.	.	.	.	.	.	.	~40 mm Ø x ~15 mm	Zn:0.006
NCS HSL3752	.	.	.	.	.	.	.	0.006	38 mm Ø x 38 mm	.
CZ LA-5C	0.026	.	.	0.057	Pb:0.015	0.018	0.031	0.048	~37 mm Ø x 25 mm	.
IMZ 54/1	.	.	.	.	.	.	.	.	40 mm Ø x 40 mm	.
SS 214/2	.	.	.	.	.	.	.	.	42 mm Ø x 19 mm	.
CKD 188A	(0.005)	0.0047	(90.53)	0.122	Ta:0.022	0.006	0.005	0.034	44 mm Ø x 25 mm	Pb:0.001 Zr:0.052 Al.Sol:0.083 last
SS 408/1	.	.	.	.	.	.	.	.	38 mm Ø x 19 mm	.
CZ CM-8B	0.0035	0.0023	.	(0.002)	.	(0.004)	0.0126	0.0008	~39 mm Ø x 25 mm	.
IRSID 1658	0.034	.	.	.	.	.	0.022	(0.002)	40 mm Ø x 30 mm	.
HRT FE2019-N	.	0.0016	.	0.029	.	.	.	0.004	40 mm x 40 mm x 20 mm	Ca:0.0014
VS RG31	.	.	.	.	.	.	.	0.21	~45 mm Ø x ~28 mm	.
12X 12746V	0.051	.	.	.	.	.	0.264	0.088	~40 mm Ø x ~15mm	.
VS UG102	.	.	.	0.071	~45 mm Ø x ~25 mm	Ca:0.0018
12X LA6D	~40 mm Ø x ~15 mm	Zn:0.0083

Number	As	B	Fe	Nb	O	Sb	Sn	Ti	Units	Others
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STAINLESS AND HIGH ALLOY STEEL

= Class, where 1 = CRM and 2 = RM

* Provisional Analysis

Table with columns: Number, C, Mn, P, S, Si, Cu, Ni, Cr, Al, Co, Mo, N, V, W. It lists chemical compositions for various stainless and high alloy steel grades including IARM FeAl100-18, BS 183B, BS 183C, BS 431A, BS 309, BS 347C, CZ SP-1B, PV 112/1, IARM Fe174PH-18, 13X 41500A, 13X 41008B, BS 2507, TL 2001D, IARM FeKovar-18, PV 111/1, BS 186B, BS 160B, BS 254, IARM Fe155PH-18, TL 2002D, IARM 99D, and BS 161B.

Table with columns: Number, As, B, Fe, Nb, O, Sb, Sn, Ti, Alloy, Units. It provides detailed material specifications and units for the same grades listed in the previous table, such as IARM FeAl100-18, BS 183B, BS 183C, BS 431A, BS 309, BS 347C, CZ SP-1B, PV 112/1, IARM Fe174PH-18, 13X 41500A, 13X 41008B, BS 2507, TL 2001D, IARM FeKovar-18, PV 111/1, BS 186B, BS 160B, BS 254, IARM Fe155PH-18, TL 2002D, IARM 99D, and BS 161B.

CRM CAST IRON

Table with columns: Number, C, Mn, P, S, Si, Cu, Ni, Cr, Al, Co, Ce, La, Mg, Se, Te. It lists chemical compositions for various cast iron grades including NCS AH11112, NCS HS11799, VS ChG 56, VS ChG 57, NCS HS11798, SCRM 660/11, NCS HS92744c, NCS HS92746a, SCRM 658/12, 11X C7P, NCS AH11353, BS CC-23, and CKD 242A.

continued

Table with columns: Number, As, B, Bi, Fe, Mo, Nb, Pb, Sb, Sn, Ti, V, W, Zn, Zr, Units in mm. It provides detailed material specifications for the same cast iron grades listed in the previous table, including NCS AH11112, NCS HS11799, VS ChG 56, VS ChG 57, NCS HS11798, SCRM 660/11, NCS HS92744c, NCS HS92746a, SCRM 658/12, 11X C7P, NCS AH11353, BS CC-23, and CKD 242A.

ALLOY	ISO?	NUMBER	ALLOY	ISO?	NUMBER	ALLOY	ISO?	NUMBER
1.0812		ECRM 191-2D	15-5PH		BS 9621	310		SS 464/1
1.2344		ECRM 271-1D	15-5PH		BS 9622	3115		BS XCCT
1.2367		HRT FE2012-H	15-5PH		IARM Fe155PH-18	314		IMZ 165
1.4435, 1.4436		JK 27B	15-5PH		ECRM 273-1D	314		IMZ 166A
1.4765		ECRM 299-1D	15-5PH		IARM 22C	316	17025	BS 316C
1.5415		HRT FE2012-N	16MnCr5		PV 102/1	316		IARM 5H
1.6587		HRT FE2013-N	17-4PH		13X PH2	316		IARM 5i
1.7149 20MnCrS5		ECRM 187-2D	17-4PH		BS 17-4PHA	316		NILAB 500HAD
1.7160		ECRM 194-1D	17-4PH	17025	BS 17-4PHB	316		SRM 1155A
1.8550		ECRM 129-3D	17-4PH	17025	BS 17-4PHC	316 H		13X NSA2
1.8519		HRT FE2010-N	17-4PH		IARM Fe174PH-18	316 H		CT 316
1.8928		ECRM 194-2D	17-4PH		SRM C2400	316 H		IARM 339A
1005	17025	BS 1005	17-7PH		13X PH17700	316 L	17025	BS 316F
1005		ECRM 064-2D	17-7PH 25(preceded 17025)		BS 192	316 L		CZ SL-2A
1005		RM Fe 1/5	17-7PH 25(preceded 17025)		BS 192A	316 L		IARM Fe316L-18
1005		SRM 1765	17-7PH		IARM 152C	316 L		IARM 163E
1005		SRM 1766	17-7PH		IARM Fe177PH-18	316 L		SS 466/2
1005		SS 111/1	182FM		BS 150	316 MOD		TL 2002
1008		BS XCAS	18Cr2Ni12Mn		CT ISO035A	316 Ti		IRSID 1821
1008		ECRM 057-2D	201		BS 191	316 Ti		PV 112/1
1009	17025	BS 1009	201		SRM 1297	316 Ti		VS LG72
100C6		IRSID 1747	20Cb3		BS 187A	317 L	17025	BS 317L
1010		IMZ 111	20Cb3		CT 20 Cb-3	317 L	25(pre-17025)	BS 9941
1010		NM 308	20MoCr4		ECRM 197-1D	317 L	25(pre-17025)	BS 9942
1011		IMZ 73	2101		IARM 292A	317 L		IARM 153C
1012, 1013		IMZ 71A	21Cr6Ni9Mn		CT ISO129A	318	17025	BS 2205
1016	17025	BS 1016	2205	17025	BS 2205	318		BS 2205A
1017		IMZ 112B	2205	17025	BS 2205A	321		13X 32100
1017		IRSID 1664	2205		IARM 212D	321	17025	BS 85D
1018		12X 10180B	2205		IARM Fe2205-18	321	17025	BS 321D
1018		12X 10180C	2304		IARM 317A	321		IARM 6i
1018	17025	BS 1018	2507	17025	BS 2507	321		IARM 6J
1018		ECRM 087-1D	2507		IARM 301B	321		SRM 1171
1018		IARM 28K	253 MA	25(pre-17025)	BS 253	321		SS 465/1
1020	17025	BS 1020	253 MA		IARM 316A	321 - Ti		IMZ 152
1020		IARM Fe1020-18	254 SMO	17025	BS 254	32750		13X NSA13
1023		IMZ 112A	254 SMO		NILAB 501HAD	3310		BS 3310
1026	17025	BS 1026	255, Duplex		IARM 239B	347		13X 34700
1026		IARM 359A	255, Duplex		IARM 239C	347		BS 347A
1030	17025	BS 1030	300M		12X 44220	347		BS 347B
1030		IARM 209D	300M	17025	BS 300	347		BS 347C
1033		IRSID 1663	300M	17025	BS 300A	347		IARM 8G
1035	17025	BS 1035	300M		IARM 340A	347		IARM 8H
1035		IARM 360A	301		IARM 289A	347		IARM 8i
1039		IRSID 1637	301		IARM 289B	347 H		BS 87F
1040		12X 10400	301		IRSID 1819	348		SRM 1172
1040	17025	BS 3941	302		IARM 241D	355	17025	BS 355
1040		IARM 210D	302 HQ		IARM 234C	355		IARM 335A
1040		IRSID 1657	303		13X 30300	35MV7		IRSID 1750
1042		IRSID 1656	303	17025	BS 303	405		SRM 1295
1042		NM EN-8	303		CT 303	409		13X 40900
1043		IRSID 1652	303		CZ SP-1A	409		13X 40930
1045	17025	BS 1045	303		IARM Fe303-18	409 + Cr		NCS HS20743
1045		BS 56E	303 Se		IARM 253A	410		13X 41008
1045		IARM 200D	303 Se		IARM 253B	410	25(pre-17025)	BS 0021
1045		IPT 503	304 H		13X NSB1	410, F6NM	25(pre-17025)	BS 0022
1045 + P		NM 306A	304 H + Ca	17025	BS CA304-4	410	17025	BS 410C
1050		IARM Fe1050-18	304 H		CT 304	410		CT 410
1060		IARM 373A	304 H		IARM Fe304H-18	410		IARM Fe410-18
1060 + P		NM 309	304 H		SS 468/1	410 + Mo		ECRM 296-1D
1069		ECRM 059-2D	304 L		13X 30403	410 + Mo		IMZ 161
1070	17025	BS 54H	304 L	17025	BS 304B	410 H		13X 41001
1070		BS 54J	304 L		IARM 162D	4130	17025	BS 4130
1078		ECRM 056-2D	304 L		IARM Fe304L-18	4130		IARM 143F
1078		SRM 1224	304 L		ECRM 287-1D	4130		SRM 1225
1090		SS 602/2	304 L		ECRM 292-1D	4130 H		IPT 501
1095		BS 64C	304 L		IARM 162C	4140		12X 41400
1095		SRM 1227	304 L		PV 111/1	4140	25(pre-17025)	BS 1962
1117	25(preceded 17025)	BS 3993	304 L		SS 463/1	4140	17025	BS 4140C
1117		BS 65C	305		ECRM 297-1D	4140		IARM 30H
1117		IARM 29E	306		13X 30600A	4140		IARM 30J
1118		IARM 307A	308		DSZU C017	4140 Bi		BS 4140A
1118		IARM 307B	309		BS 82E	4140 Bi		BS 4140B
1140 P		BS 52D	309	17025	BS 309	41L40MOD	17025	BS 70B
1141		BS 66B	310		13X 31008	41L40MOD	17025	BS 70C
1141		IARM 348A	310		BS 83G	4150 Bi & S		BS 4150MOD
1144	17025	BS 1144	310	25(pre-17025)	BS 9841	4150 S	17025	BS 4150MOD-A
1144	17025	BS 1144A	310	25(pre-17025)	BS 9842	4150 S	17025	BS 42
1144		IARM 199C	310		CZ SL-3A	4150 S		BS 42A
11L17	17025	BS 75F	310		IARM 4E	415		13X 41500A
11L17	17025	BS 75G	310		IARM 4F	416		BS 90F
1215	17025	BS 66L	310		IARM 4G	416	17025	BS 416
12L14	17025	BS 74C				416		CT 416
12L14		BS 74D				416		IARM 10D
12L14		IARM 183C				416		SRM 1223
12Mn18Cr		BS 193				416 H		13X 41600
1345		BS XCCV				416 Se		BS 151
13-8PH		13X PH13800				418		IARM Fe418-18
13-8PH		BS 184A				41CAD7		IRSID 1749
13-8PH		CT X92834				41L40	17025	BS 70B
13-8PH		IARM 21D				41L50	17025	BS 72B
1429		ECRM 058-2D				42		CT ISO138A
1513		IMZ 76				42		CT ISO139A
1526 MOD		SRM 1269				42CrMo4		PV 101/1
1541		IARM 349A				420		BS SS4951
1541		IPT 504				420		BS SS4952
1541		IRSID 1648				420		ECRM 272-1D
1544		IRSID 1644				420		IARM 154C
15-5PH		BS 185A				420		SS 469

Please use the Adobe Acrobat "search" function to find the complete chemistry of these samples listed within this catalog.

ALLOY	ISO?	NUMBER	ALLOY	ISO?	NUMBER	ALLOY	ISO?	NUMBER
420 F		BS 152	A-286		SRM 1230	Invar-36 + Se		IARM 24B
420 F S		IARM 352A	A-36		IARM 213C	Invar 42		14X 94100
422		13X 42200	A-36		IARM 213D	ISO 898-1		SS 457/2
422	17025	BS 422	A-36		SRM 1767	Kovar	17025	BS 160A
422		IARM 205D	A-485-1		BS A485-1	Kovar		BS 160B
430	17025	BS 430	A-6		BS 40B	Kovar		IARM 98B
430		IARM 11D	A-6		IARM 40B	Kovar		IARM FeKovar-18
430		NCS HS20742	A-6		IARM 40C	L-2	17025	BS 43A
430 F		BS 153	A615-75		IARM 378A	L-6	17025	BS 39B
430 F		BS 154	A706-60		IARM 380A	L-6		IARM 43B
430 F S		IARM 355A	A706-60		IARM 380B	LDX2101		13X 32101
431	17025	BS 431	A706-80		IARM 381A	LF-2	17025	BS LF2B
431		BS 92B	Aermet 100		CT ISO045A	LF-2		SS 601/2
431		IARM 12C	Aermet 100		IARM 242A	LF-3		BS LF3
431		HRT FE2010-H	Aermet 100		IARM FeA100-18	M-1		CT M1
431		SRM 1219	AL6XN	17025	BS 189A	M-1		IARM 304A
4320		BS 3961	AL6XN		IARM 157D	M-10		CT M10
4330 MOD		BS 4330MOD	C-.5Mo		BS 3952	M-10		IARM 324A
4330 MOD		IARM 330B	C-.5Mo		IARM 229B	M-152		13X 64152
4340	17025	BS 4340	C-250		IARM 308A	M-152		IARM 291A
4340	17025	BS 4340A	C-350		IARM 309A	M-2		BS 32D
4340		IARM 31G	CA6NM		HRT FE2009-H	M-2		CT M2
439 MOD		NCS HS11721-4	CA6NM		IARM 327A	M-2		IARM 44C
440 C		13X 44004	CD3MN		ECRM 298-1D	M-2		IARM FeM2-18
440 C	17025	BS 93F	CD4MCU	17025	BS CD4MCU	M-2		SRM 1157
440 C		IARM 13D	CD4MCU	17025	BS CD4MCU-A	M-35		IARM 320A
440 F		BS 155	CD6MN		VS LG58	M-4		IARM 251A
440 F Se		BS 156	CF-3		IRSID 1820	M-42		SS 487/1
440 F Se		IARM 353A	CLA6		IARM 169B	M-47	17025	BS M-47
441		NCS HS11721-4	CLA7		IARM 170B	M-50	17025	BS M-50
446		BS 94C	CLA11		IARM 180A	M-50		IARM 306B
450	17025	BS 450	CLA5		IARM 168A	M-65		IARM FeM62-18
450	25(pre-17025)	BS 9811	CLA9		IARM 172A	M-7		CT M7
450	25(pre-17025)	BS 9812	CPM15V	17025	BS PM15	Maraging 250		CT 250
450		IARM 15C	D-2		BS 37G	Maraging 250		ECRM 285-2
450		CT 450	D-2		CT D2	Maraging 300	25(pre17025)	BS 161A
455		13X 45500	D-2		IARM 41D	Maraging 300		BS 161B
455		BS SS1961	D-3, D-4		ECRM 288-1D	Maraging 300		CT 300
455		BS SS1962	D-6	17025	BS D-6	Maraging 300		IARM 99D
455		CT 455	D6-AC		IARM 299A	Mold Steel	17025	BS PP20
455		IARM 16C	DPI080		IARM FeDPI080-18	NIT 135M		IARM 305B
446		IARM 14C	Duplex		13X NSA9	Nitriding 135G		BS 68B
4615		BS 3962	Duplex	17025	BS 2205	Nitriding 135G	17025	BS 68E
4620		BS 4620	Duplex		IMZ 163A	Nitronic 40		13X NSC6
4620	17025	BS 51F	Duplex		IMZ 164	Nitronic 40		BS 190
4620		IARM 33D	Duplex		TL 2001	Nitronic 50		BS 180A
465		13X 46500	E52100		BS 53G	Nitronic 50	17025	BS 180B
465		IARM 354A	E52100		BS E52100	Nitronic 50		IARM 17D
465		CT ISO123A	E52100		IARM 49E	Nitronic 50		IARM FeN50-18
4820	17025	BS 4820A	E52100 Bi		BS 53MOD	Nitronic 60		13X 21800
4820		BS 4820B	Elect./ Magnetic		SRM 1159	Nitronic 60		BS 181A
4820		IARM 155F	Electrolytic		SRM 1265a	Nitronic 60	17025	BS 181B
4820		IARM Fe4820-18	F-11		BS 45A	Nitronic 60		IARM 18D
5140H		IARM Fe5140H-18	F-11	17025	BS 45B	NMS 100		IARM 214A
5160		IMZ 116	F-11		IARM 35L	NMS 140		IARM 295A
6150	17025	BS 43A	F-2		CT X27081	NMS J38		IARM 294A
6150		BS 4941	F-22	17025	BS 46B	O-1	17025	BS 35D
6150		IARM 34C	F-22		IARM 36C	O-1		CT O1
630		CT 630	F-22		SRM 1270	O-6	17025	BS 41
6418		BS 6418	F-22 + Cr		HRT FE2009-N	O-6	25(preceded 17025)	BS 41A
6418		BS 69B	F-5		BS 47A	O-6		IARM 45A
6526		BS 9-4-30	F-5		BS 47B	O-6		IARM 45B
709		CT X67975	F-5		IARM 37C	P-20	17025	BS 55G
8620		BS 8620A	F-51	17025	BS 2205	PP-20	17025	BS PP20
8620	17025	BS 8620F	F-51		BS 2205A	Permendur 2V		IARM 326A
8620		IARM Fe8620-18	F-9	17025	BS 48B	RA330		BS 86F
8620		IPT 502	F-9		IARM FeF9-18	Railroad Steel	17025	BS 54H
86L20	25(preceded 17025)	BS 73B	F-91		13X 90901	S-1		BS 33D
86L20		BS 73C	F-91	17025	BS 9905A	S-1		BS 33E
86L20		IARM 182B	F-91		HRT FE2003-H	S-1		IARM 46B
8630	17025	BS 8630	F-91		IARM Fe91-18	S-1 MOD	17025	BS 33F
8740	17025	BS 67C	Ferallium 255	17025	BS 179B	S-5		BS 38C
8740	17025	BS 8740	Ferallium 255	17025	BS 179C	S-5		IARM 47B
8740		IARM 252C	F6NM	25(preceded 17025)	BS 0022	S-7		BS TS-7A
8740		IARM 252D	Greek Ascoloy		BS 183A	S-7		IARM 259A
8740		IARM 252E	Greek Ascoloy	17025	BS 183B	S-7		IARM FeS7-18
8740		IARM 252F	Greek Ascoloy	17025	BS 183C	S-7		SRM 1772
904L		13X NSA12	Greek Ascoloy		IARM 20C	S42027		13X 42027A
904L		ECRM 295-1D	H-10		BS 49	SA213-T22		IMZ 159
9310		BS 58C	H-11		ECRM 276-2D	SA213-T22		IMZ 160
9310		BS 58E	H-11		IARM 255A	SA213-T22		IMZ 169
9310		IARM FeE9310-18	H-11		IARM 255B	SAE G2500		BS 20E
9325	17025	BS 9325A	H-11		IMZ 173	STA 361		IARM 268B
9-4-30		IARM 341A	H-13	17025	BS H-13A	T-1		14X HS1
A-10		BS A-10	H-13		CT H13	T-1	17025	BS 30D
A-11		BS 10V	H-13		IARM 42C	T-1		IARM FeT1-18
A-11	17025	BS A-11	H-13		IMZ 174	T-4		IARM 281A
A-106 Gr B		SRM 1228	H-19	17025	BS H-19	T-15	17025	BS TS15
A-193 B16		BS 4942	HC 250+V		SRM C1290	T23		IARM FeT23-18
A-193 B16	17025	BS 4942A	High Perm		CT ISO124A	VM12		IMZ 196
A-2		BS 36D	High Perm		CT ISO136A	W-5		14X 72305
A-2		CT A2	High Perm 49		CT ISO141A	Z30C13		IRSID 1825
A-2		IARM 39B	HSLA 100		SRM 1271	Zeron 100, Duplex		13X NSA8
A-2		IARM 39C	HY 130		SRM 1226	Zeron 100, Duplex		IARM 319A
A-242		IPT 500	HY 80		SRM 1286	Zeron 100, Duplex		IARM FeZ100-18
A-242 Mod		SRM C1285	Hy-Tuff		IARM 342A			
A-286		BS 188A	Invar		14X 93603			
A-286	17025	BS 188B	Invar-36	17025	BS 186B			
A-286		IARM 26D	Invar-36 + Se		BS 186A			

CARBON STEEL SPECIFICATIONS

Number	C	Mn	P	S
1005	<0.06	<0.35	<0.03	<0.05
1006	<0.08	0.25-0.40	<0.03	<0.05
1008	<0.10	0.30-0.50	<0.03	<0.05
1009	<0.15	<0.60	<0.03	<0.05
1010	0.08-0.13	0.30-0.60	<0.03	<0.05
1011	0.09-0.14	0.60-0.90	<0.03	<0.05
1012	0.10-0.15	0.30-0.60	<0.03	<0.05
1013	0.11-0.16	0.50-0.80	<0.03	<0.05
1015	0.13-0.18	0.30-0.60	<0.03	<0.05
1016	0.13-0.18	0.60-0.90	<0.03	<0.05
1017	0.15-0.20	0.30-0.60	<0.03	<0.05
1018	0.15-0.20	0.60-0.90	<0.03	<0.05
1019	0.15-0.20	0.70-1.00	<0.03	<0.05
1020	0.18-0.23	0.30-0.60	<0.03	<0.05
1021	0.18-0.23	0.60-0.90	<0.03	<0.05
1022	0.18-0.23	0.70-1.00	<0.03	<0.05
1023	0.20-0.25	0.30-0.60	<0.03	<0.05
1025	0.22-0.28	0.30-0.60	<0.03	<0.05
1026	0.22-0.28	0.60-0.90	<0.03	<0.05
1029	0.25-0.31	0.60-0.90	<0.03	<0.05
1030	0.28-0.34	0.60-0.90	<0.03	<0.05
1033	0.29-0.36	0.70-1.00	<0.03	<0.05
1034	0.32-0.38	0.50-0.80	<0.03	<0.05
1035	0.32-0.38	0.60-0.90	<0.03	<0.05
1037	0.32-0.38	0.70-1.00	<0.03	<0.05
1038	0.35-0.42	0.60-0.90	<0.03	<0.05
1039	0.37-0.44	0.70-1.00	<0.03	<0.05
1040	0.37-0.44	0.60-0.90	<0.03	<0.05
1042	0.40-0.47	0.60-0.90	<0.03	<0.05
1043	0.40-0.47	0.70-1.00	<0.03	<0.05
1044	0.43-0.50	0.30-0.60	<0.03	<0.05
1045	0.43-0.50	0.60-0.90	<0.03	<0.05
1046	0.43-0.50	0.70-1.00	<0.03	<0.05
1049	0.46-0.53	0.60-0.90	<0.03	<0.05
1050	0.48-0.55	0.60-0.90	<0.03	<0.05
1053	0.48-0.55	0.70-1.00	<0.03	<0.05
1055	0.50-0.60	0.60-0.90	<0.03	<0.05
1059	0.55-0.65	0.50-0.80	<0.03	<0.05
1060	0.55-0.65	0.60-0.90	<0.03	<0.05
1064	0.60-0.70	0.50-0.80	<0.03	<0.05
1065	0.60-0.70	0.60-0.90	<0.03	<0.05
1069	0.65-0.75	0.40-0.70	<0.03	<0.05
1070	0.65-0.75	0.60-0.90	<0.03	<0.05
1074	0.70-0.80	0.50-0.80	<0.03	<0.05
1078	0.72-0.85	0.30-0.60	<0.03	<0.05
1080	0.75-0.88	0.60-0.90	<0.03	<0.05
1084	0.83-0.93	0.60-0.90	<0.03	<0.05
1085	0.80-0.94	0.70-1.00	<0.03	<0.05
1086	0.80-0.93	0.30-0.50	<0.03	<0.05
1090	0.85-0.98	0.60-0.90	<0.03	<0.05
1095	0.90-1.03	0.30-0.50	<0.03	<0.05
Number	C	Mn	P	S

CARBON STEEL SPECIFICATIONS

Number	C	Mn	P	S	Si
1513	0.10-0.16	1.10-1.40	<0.03	<0.05	.
1522	0.18-0.24	1.10-1.40	<0.04	<0.05	.
1524	0.19-0.25	1.35-1.65	<0.04	<0.05	.
1526	0.22-0.29	1.10-1.40	<0.04	<0.05	.
1527	0.22-0.29	1.20-1.50	<0.04	<0.05	.
1533	0.30-0.37	1.10-1.40	<0.04	<0.05	.
1534	0.30-0.37	1.20-1.50	<0.04	<0.05	.
1541	0.36-0.44	1.35-1.65	<0.04	<0.05	.
1544	0.40-0.47	0.80-1.10	<0.04	<0.05	.
1545	0.43-0.50	0.80-1.10	<0.04	<0.05	.
1546	0.44-0.52	1.00-1.30	<0.04	<0.05	.
1548	0.44-0.52	1.10-1.40	<0.04	<0.05	.
1552	0.47-0.55	1.20-1.50	<0.04	<0.05	.
1553	0.48-0.55	0.80-1.10	<0.04	<0.05	.
1566	0.60-0.70	0.85-1.15	<0.04	<0.05	.
1570	0.65-0.75	0.80-1.10	<0.04	<0.05	.
1580	0.75-0.88	0.80-1.10	<0.04	<0.05	.
1590	0.85-0.98	0.80-1.10	<0.04	<0.05	.
LF2	<0.30	0.60-1.35	<0.035	<0.04	0.15-0.30

Number	C	Mn	P	S	Si
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RESULFURIZED STEEL SPECIFICATIONS

Number	C	Mn	P	S
1108	0.08-0.13	0.50-0.80	<0.04	0.08-0.13
1109	0.08-0.13	0.60-0.90	<0.04	0.08-0.13
1110	0.08-0.13	0.30-0.60	<0.04	0.08-0.13
1116	0.14-0.20	1.10-1.40	<0.04	0.16-0.23
1117	0.14-0.20	1.00-1.30	<0.04	0.08-0.13
1118	0.14-0.20	1.30-1.60	<0.04	0.08-0.13
1119	0.14-0.20	1.00-1.30	<0.04	0.24-0.33
1123	0.20-0.27	1.20-1.50	<0.04	0.06-0.09
1132	0.27-0.34	1.35-1.65	<0.04	0.09-0.13
1137	0.32-0.39	1.35-1.65	<0.03	0.08-0.13
1139	0.35-0.43	1.35-1.65	<0.04	0.13-0.20
1140	0.37-0.44	0.70-1.00	<0.03	0.08-0.13
1141	0.37-0.45	1.35-1.65	<0.03	0.08-0.13
1144	0.40-0.48	1.35-1.65	<0.03	0.24-0.33
1145	0.41-0.49	0.70-1.00	<0.04	0.08-0.13
1146	0.42-0.49	0.70-1.00	<0.04	0.08-0.13
1151	0.48-0.55	0.70-1.00	<0.04	0.08-0.13
1152	0.48-0.55	0.70-1.00	<0.04	0.06-0.09
1211	<0.13	0.60-0.90	0.07-0.12	0.10-0.15
1212	<0.13	0.70-1.00	0.07-0.12	0.16-0.23
1213	<0.13	0.70-1.00	0.07-0.12	0.24-0.33
1215	<0.09	0.75-1.05	0.04-0.09	0.26-0.35

Number	C	Mn	P	S
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These are specifications,
not samples for sale.

LOW ALLOY STEEL SPECIFICATIONS

Number	C	Mn	P	S	Si	Ni	Cr	Mo	Pb	Other
1330	0.28-0.33	1.60-1.90	<0.035	<0.04	0.15-0.35	.	.	.	.	.
1335	0.33-0.38	1.60-1.90	<0.035	<0.04	0.15-0.35	.	.	.	.	.
1340	0.38-0.43	1.60-1.90	<0.035	<0.04	0.15-0.35	.	.	.	.	.
1345	0.43-0.48	1.60-1.90	<0.035	<0.04	0.15-0.35	.	.	.	.	.
3140	0.38-0.43	0.70-0.90	<0.04	<0.04	0.15-0.35	1.10-1.40	0.55-0.75	.	.	.
4023	0.20-0.25	0.70-0.90	<0.035	<0.04	0.15-0.35	.	.	0.20-0.30	.	.
4027	0.25-0.30	0.70-0.90	<0.035	<0.04	0.15-0.35	.	.	0.20-0.30	.	.
4028	0.25-0.30	0.70-0.90	<0.035	0.035-0.050	0.15-0.35	.	.	0.20-0.30	.	.
4037	0.35-0.40	0.70-0.90	<0.035	<0.04	0.15-0.35	.	.	0.20-0.30	.	.
4047	0.45-0.50	0.70-0.90	<0.035	<0.04	0.15-0.35	.	.	0.20-0.30	.	.
4118	0.18-0.23	0.70-0.90	<0.035	<0.04	0.15-0.35	.	0.40-0.60	0.08-0.15	.	.
4120	0.18-0.23	0.80-1.20	<0.035	<0.04	0.15-0.35	.	0.40-0.60	0.15-0.25	.	.
4121	0.18-0.23	0.75-1.00	<0.035	<0.04	0.15-0.35	.	0.45-0.65	0.15-0.25	.	.
4130	0.28-0.33	0.40-0.60	<0.035	<0.04	0.15-0.35	.	0.80-1.10	0.15-0.25	.	.
4135	0.33-0.38	0.70-0.90	<0.035	<0.04	0.15-0.35	.	0.80-1.10	0.15-0.25	.	.
4137	0.35-0.40	0.70-0.90	<0.035	<0.04	0.15-0.35	.	0.80-1.10	0.15-0.25	.	.
4140	0.38-0.43	0.75-1.00	<0.035	<0.04	0.15-0.35	.	0.80-1.10	0.15-0.25	.	.
41L40	0.38-0.43	0.75-1.00	<0.035	0.02-0.04	0.15-0.35	.	0.80-1.10	0.15-0.25	0.15-0.35	.
4142	0.40-0.45	0.45-0.65	<0.035	<0.04	0.15-0.35	.	0.80-1.10	0.15-0.25	.	.
4145	0.43-0.48	0.75-1.00	<0.035	<0.04	0.15-0.35	.	0.80-1.10	0.15-0.25	.	.
4147	0.45-0.50	0.75-1.00	<0.035	<0.04	0.15-0.35	.	0.80-1.10	0.15-0.25	.	.
4150	0.48-0.53	0.75-1.00	<0.035	<0.04	0.15-0.35	.	0.80-1.10	0.15-0.25	.	.
41L50	0.48-0.53	0.75-1.00	<0.035	0.02-0.04	0.15-0.35	.	0.80-1.10	0.15-0.25	0.15-0.35	.
4320	0.17-0.22	0.45-0.65	<0.035	<0.04	0.15-0.35	1.65-2.00	0.40-0.60	0.20-0.30	.	.
4340	0.38-0.43	0.60-0.80	<0.035	<0.04	0.15-0.35	1.65-2.00	0.70-0.90	0.20-0.30	.	.
4615	0.13-0.18	0.45-0.65	<0.035	<0.04	0.15-0.35	1.65-2.00	.	0.20-0.30	.	.
4617	0.15-0.20	0.45-0.65	<0.035	<0.04	0.15-0.35	1.65-2.00	.	0.20-0.30	.	.
4620	0.17-0.22	0.45-0.65	<0.035	<0.04	0.15-0.35	1.65-2.00	.	0.20-0.30	.	.
4715	0.13-0.18	0.70-0.90	<0.035	<0.04	0.15-0.35	0.70-1.00	0.45-0.65	0.45-0.65	.	.
4720	0.17-0.22	0.50-0.70	<0.035	<0.04	0.15-0.35	0.90-1.20	0.35-0.55	0.15-0.25	.	.
4815	0.13-0.18	0.40-0.60	<0.035	<0.04	0.15-0.35	3.25-3.75	.	0.20-0.30	.	.
4820	0.18-0.23	0.50-0.70	<0.035	<0.04	0.15-0.35	3.25-3.75	.	0.20-0.30	.	.
50B46	0.44-0.49	0.75-1.00	<0.035	<0.04	0.15-0.35	.	0.20-0.35	.	.	B: 0.0005-0.003
5120	0.17-0.22	0.70-0.90	<0.035	<0.04	0.15-0.35	.	0.70-0.90	.	.	.
51L20	0.17-0.22	0.70-0.90	<0.035	<0.04	0.15-0.35	.	0.70-0.90	.	0.15-0.35	.
5130	0.28-0.33	0.70-0.90	<0.035	<0.04	0.15-0.35	.	0.80-1.10	.	.	.
5132	0.30-0.35	0.60-0.80	<0.035	<0.04	0.15-0.35	.	0.75-1.00	.	.	.
5140	0.38-0.43	0.70-0.90	<0.035	<0.04	0.15-0.35	.	0.70-0.90	.	.	.
5150	0.48-0.53	0.70-0.90	<0.035	<0.04	0.15-0.35	.	0.70-0.90	.	.	.
5160	0.56-0.64	0.75-1.00	<0.035	<0.04	0.15-0.35	.	0.70-0.90	.	.	.
51B60	0.56-0.64	0.75-1.00	<0.035	<0.04	0.15-0.35	.	0.70-0.90	.	.	B: >0.0005
6150	0.48-0.53	0.70-0.90	<0.035	<0.04	0.15-0.35	.	0.80-1.10	.	.	V: >0.15
8615	0.13-0.18	0.70-0.90	<0.035	<0.04	0.15-0.35	0.40-0.70	0.40-0.60	0.15-0.25	.	.
8617	0.15-0.20	0.70-0.90	<0.035	<0.04	0.15-0.35	0.40-0.70	0.40-0.60	0.15-0.25	.	.
8620	0.18-0.23	0.70-0.90	<0.035	<0.04	0.15-0.35	0.40-0.70	0.40-0.60	0.15-0.25	.	.
86L20	0.18-0.21	0.70-0.90	<0.035	0.02-0.04	0.15-0.35	0.40-0.70	0.40-0.60	0.15-0.25	0.15-0.35	.
8622	0.20-0.25	0.70-0.90	<0.035	<0.04	0.15-0.35	0.40-0.70	0.40-0.60	0.15-0.25	.	.
8630	0.28-0.33	0.70-0.90	<0.035	<0.04	0.15-0.35	0.40-0.70	0.40-0.60	0.15-0.25	.	.
8637	0.35-0.40	0.75-1.00	<0.035	<0.04	0.15-0.35	0.40-0.70	0.40-0.60	0.15-0.25	.	.
8640	0.38-0.43	0.75-1.00	<0.035	<0.04	0.15-0.35	0.40-0.70	0.40-0.60	0.15-0.25	.	.
8645	0.43-0.48	0.75-1.00	<0.035	<0.04	0.15-0.35	0.40-0.70	0.40-0.60	0.15-0.25	.	.
8720	0.18-0.23	0.70-0.90	<0.035	<0.04	0.15-0.35	0.40-0.70	0.40-0.60	0.20-0.30	.	.
8740	0.38-0.43	0.75-1.00	<0.035	<0.04	0.15-0.35	0.40-0.70	0.40-0.60	0.20-0.30	.	.
8822	0.20-0.25	0.75-1.00	<0.035	<0.04	0.15-0.35	0.40-0.70	0.40-0.60	0.30-0.40	.	.
9259	0.56-0.64	0.75-1.00	<0.035	<0.04	0.70-1.10	.	0.45-0.65	.	.	.
9260	0.56-0.64	0.75-1.00	<0.035	<0.04	1.80-2.20	.	.	.	.	.
E4340	0.38-0.43	0.65-0.85	<0.025	<0.025	0.15-0.35	1.65-2.00	0.70-0.90	0.20-0.30	.	.
E51100	0.98-1.10	0.25-0.45	<0.025	<0.025	0.15-0.35	.	0.90-1.15	.	.	.
E52100	0.98-1.10	0.25-0.45	<0.025	<0.025	0.15-0.35	.	1.30-1.60	.	.	.
E9310	0.08-0.13	0.45-0.65	<0.025	<0.025	0.15-0.35	3.00-3.50	1.00-1.40	0.08-0.15	.	.
F-11	0.10-0.20	0.30-0.80	<0.04	<0.04	0.50-1.00	.	1.00-1.50	0.44-0.65	.	.
F-22	<0.15	0.30-0.60	<0.03	<0.03	<0.50	.	2.00-2.50	0.90-1.10	.	.
F-5	<0.15	0.30-0.60	<0.03	<0.03	<0.50	.	4.00-6.00	0.45-0.65	.	.
F-9	<0.15	0.30-0.60	<0.03	<0.03	0.50-1.0	.	8.00-10.00	0.90-1.10	.	.
F-91	0.08-0.12	0.30-0.60	<0.02	<0.01	0.20-0.50	<0.40	8.00-9.50	0.85-1.05	.	Al: <0.04 N: 0.03-0.07
F-91	continued									Nb: 0.06-0.10 V: 0.18-0.25
LF2	<0.30	0.60-1.35	<0.035	<0.04	0.15-0.30	.	.	.	.	.
LF3	<0.20	<0.90	<0.035	<0.04	0.20-0.35	3.25-3.75	.	.	.	.
Number	C	Mn	P	S	Si	Ni	Cr	Mo	Pb	Other

These are specifications,
not samples for sale.

TOOL STEEL SPECIFICATIONS

* notes optional chemistry

Number	C	Mn	P	S	Si	Ni	Cr	Co	Mo	V	W	Other
A-2	0.95-1.05	<1.00	<0.03	<0.03	<0.50	.	4.75-5.50	.	0.90-1.40	0.15-0.50	.	.
A-4	0.95-1.05	1.80-2.20	<0.03	<0.03	<0.50	.	0.90-2.20	.	0.90-1.40	.	.	.
A-6	0.65-0.75	1.80-2.50	<0.03	<0.03	<0.50	.	0.90-1.20	.	0.90-1.40	.	.	.
A-7	2.00-2.85	<0.80	<0.03	<0.03	<0.50	.	5.00-5.75	.	0.90-1.40	3.90-5.15	0.50-1.50	.
A-8	0.50-0.60	<0.50	<0.03	<0.03	0.75-1.10	.	4.75-5.50	.	1.15-1.65	.	1.00-1.50	.
A-9	0.45-0.55	<0.50	<0.03	<0.03	0.95-1.15	1.25-1.75	4.75-5.50	.	1.30-1.80	0.80-1.40	.	.
A-10	1.25-1.50	1.60-2.10	<0.03	<0.03	1.00-1.50	1.55-2.05	.	.	1.25-1.75	.	.	.
A-11	2.45	0.50	.	.	0.90	.	5.25	.	1.30	9.75	.	.
D-2	1.40-1.60	<0.60	<0.03	<0.03	<0.60	.	11.00-13.00	<1.00	0.70-1.20	<1.10	.	.
D-3	2.00-2.35	<0.60	<0.03	<0.03	<0.60	.	11.00-13.50	.	.	<1.00	<1.00	.
D-4	2.05-2.40	<0.60	<0.03	<0.03	<0.60	.	11.00-13.00	.	0.70-1.20	<1.00	.	.
D-5	1.40-1.60	<0.60	<0.03	<0.03	<0.60	.	11.00-13.00	2.50-3.50	0.70-1.20	<1.00	.	.
D-7	2.15-2.50	<0.60	<0.03	<0.03	<0.60	.	11.50-13.50	.	0.70-1.20	3.80-4.40	.	.
H-10	0.35-0.45	0.25-0.70	<0.03	<0.03	0.80-1.20	.	3.00-3.75	.	2.00-3.00	0.25-0.75	.	.
H-11	0.33-0.43	0.20-0.50	<0.03	<0.03	0.80-1.20	.	4.75-5.50	.	1.10-1.60	0.30-0.60	.	.
H-12	0.30-0.40	0.20-0.50	<0.03	<0.03	0.80-1.20	.	4.75-5.50	.	1.25-1.75	<0.50	1.00-1.70	.
H-13	0.32-0.45	0.20-0.50	<0.03	<0.03	0.80-1.20	.	4.75-5.50	.	1.10-1.75	0.80-1.20	.	.
H-14	0.35-0.45	0.20-0.50	<0.03	<0.03	0.80-1.20	.	4.75-5.50	.	.	.	4.00-5.25	.
H-19	0.32-0.45	0.20-0.50	<0.03	<0.03	0.80-1.20	.	4.00-4.75	4.00-4.50	0.30-0.55	1.75-2.20	3.75-4.50	4.50
H-21	0.26-0.36	0.15-0.40	<0.03	<0.03	0.15-0.50	.	3.00-3.75	.	.	0.30-0.60	8.50-10.00	.
H-22	0.30-0.40	0.15-0.40	<0.03	<0.03	0.15-0.40	.	1.75-3.75	.	.	0.25-0.50	10.00-11.75	.
H-23	0.25-0.35	0.15-0.40	<0.03	<0.03	0.15-0.60	.	11.00-12.75	.	.	0.75-1.25	11.00-12.75	.
H-24	0.42-0.53	0.15-0.40	<0.03	<0.03	0.15-0.40	.	2.50-3.50	.	.	0.40-0.60	14.00-16.00	.
H-26	0.45-0.55	0.15-0.40	<0.03	<0.03	0.15-0.40	.	3.75-4.50	.	.	0.75-1.25	17.25-19.00	.
H-42	0.55-0.70	0.15-0.40	<0.03	<0.03	0.20-0.45	.	3.75-4.50	.	4.50-5.50	1.75-2.20	5.50-6.75	.
L-2	0.45-1.00	0.10-0.90	<0.03	<0.03	<0.50	.	0.70-1.20	.	<0.25	0.10-0.30	.	.
L-6	0.65-0.75	0.25-0.80	<0.03	<0.03	<0.50	1.25-2.00	0.60-1.20	.	<0.50	.	.	.
M-1	0.78-0.88	0.15-0.40	<0.03	<0.03	0.20-0.50	.	3.50-4.00	.	8.20-9.20	1.00-1.35	1.40-2.10	.
M-2	0.78-1.05	0.15-0.40	<0.03	<0.03	0.20-0.45	.	3.75-4.50	.	4.50-5.50	1.75-2.20	5.50-6.75	.
M-3.1	1.00-1.10	0.15-0.40	<0.03	<0.03	0.20-0.45	.	3.75-4.50	.	4.75-6.50	2.25-2.75	5.00-6.75	.
M-3.2	1.15-1.25	0.15-0.40	<0.03	<0.03	0.20-0.45	.	3.75-4.50	.	4.75-6.50	2.75-3.25	5.00-6.75	.
M-4	1.25-1.40	0.15-0.40	<0.03	<0.03	0.20-0.45	.	3.75-4.75	.	4.25-5.50	3.75-4.50	5.25-6.50	.
M-6	0.75-0.85	0.15-0.40	<0.03	<0.03	0.20-0.45	.	3.75-4.50	11.00-13.00	4.50-5.50	1.30-1.70	3.75-4.75	.
M-7	0.97-1.05	0.15-0.40	<0.03	<0.03	0.20-0.55	.	3.50-4.00	.	8.20-9.20	1.75-2.25	1.40-2.10	.
M-10	0.84-1.05	0.10-0.40	<0.03	<0.03	0.20-0.45	.	3.75-4.50	.	7.75-8.50	1.80-2.20	.	.
M-30	0.75-0.85	0.15-0.40	<0.03	<0.03	0.20-0.45	.	3.50-4.25	4.50-5.50	7.75-9.00	1.00-1.40	1.30-2.30	.
M-33	0.85-0.92	0.15-0.40	<0.03	<0.03	0.25-0.55	.	3.50-4.00	7.75-8.75	9.00-10.00	1.00-1.35	1.30-2.10	.
M-34	0.85-0.92	0.15-0.40	<0.03	<0.03	0.20-0.45	.	3.50-4.00	7.75-8.75	7.75-9.20	1.90-2.30	1.40-2.10	.
M-36	0.80-0.90	0.15-0.40	<0.03	<0.03	0.20-0.45	.	3.75-4.50	7.75-8.75	4.50-5.50	1.75-2.25	5.50-6.50	.
M-41	1.05-1.15	0.20-0.60	<0.03	<0.03	0.15-0.50	.	3.75-4.50	4.75-5.75	3.25-4.25	1.75-2.25	6.25-7.00	.
M-42	1.05-1.15	0.15-0.40	<0.03	<0.03	0.15-0.65	.	3.50-4.25	7.75-8.75	9.00-10.00	0.95-1.35	1.15-1.85	.
M-46	1.22-1.30	0.20-0.40	<0.03	<0.03	0.40-0.65	.	3.70-4.20	7.80-8.80	8.00-8.50	3.00-3.30	1.90-2.20	.
M-48	1.50	.	.	.	.	.	3.75	9.00	5.25	3.10	10.0	.
M-52	0.90	.	.	.	.	.	4.00	.	4.00	2.00	1.25	.
M-61	1.60	.	.	.	.	.	4.00	.	6.50	5.00	12.0	.
M-62	1.30	.	.	.	.	.	3.75	.	10.5	2.00	6.25	.
O-1	0.85-1.00	1.00-1.40	<0.03	<0.03	<0.50	.	0.40-0.60	.	.	<0.30	0.40-0.60	.
O-2	0.85-0.95	1.40-1.80	<0.03	<0.03	<0.50	.	<0.35	.	<0.30	<0.30	.	.
O-6	1.25-1.55	0.30-1.10	<0.03	<0.03	0.55-1.50	.	<0.30	.	0.20-0.30	.	.	.
O-7	1.10-1.30	<1.00	<0.03	<0.03	<0.60	.	0.35-0.85	.	<0.30	<0.40	1.00-2.00	.
P-20	0.28-0.40	0.60-1.00	<0.03	<0.03	0.20-0.80	.	1.40-2.00	.	0.30-0.55	.	.	.
P-21	0.18-0.22	0.20-0.40	<0.03	<0.03	0.20-0.40	4.00-4.25	0.20-0.30	.	.	0.15-0.25	.	Al: 1.05-1.25
P-6	0.05-0.15	0.35-0.70	<0.03	<0.03	0.10-0.40	3.25-3.75	1.25-1.75	.	.	.	.	.
S-1	0.40-0.55	0.10-0.40	<0.03	<0.03	0.15-1.20	.	1.00-1.80	.	<0.50	0.15-0.30	1.50-3.00	.
S-2	0.40-0.55	0.30-0.50	<0.03	<0.03	0.90-1.20	.	.	.	0.30-0.60	<0.50	.	.
S-4	0.50-0.65	0.60-0.95	<0.03	<0.03	1.75-2.25	.	<0.35	.	.	<0.35	.	.
S-5	0.50-0.65	0.60-1.00	<0.03	<0.03	1.75-2.25	.	<0.35	.	0.20-1.35	<0.35	.	.
S-6	0.40-0.50	1.20-1.50	<0.03	<0.03	2.00-2.50	.	1.20-1.50	.	0.30-0.50	0.20-0.40	.	.
S-7	0.45-0.55	0.20-0.80	<0.03	<0.03	0.20-1.00	.	3.00-3.50	.	1.30-1.80	0.20-0.30*	.	.
T-1	0.65-0.80	0.10-0.40	<0.03	<0.03	0.20-0.40	.	3.75-4.50	.	.	0.90-1.30	17.25-18.25	.
T-15	1.50-1.60	0.15-0.40	<0.03	<0.03	0.15-0.40	.	3.75-5.00	4.75-5.25	<1.00	4.50-5.25	11.75-13.00	.
T-4	0.70-0.80	0.10-0.40	<0.03	<0.03	0.20-0.40	.	3.75-4.50	4.25-5.75	0.40-1.00	0.80-1.20	17.50-19.00	.
T-5	0.75-0.85	0.20-0.40	<0.03	<0.03	0.20-0.40	.	3.75-5.00	7.00-9.50	0.50-1.25	1.80-2.40	17.50-19.00	.
T-6	0.75-0.85	0.20-0.40	<0.03	<0.03	0.20-0.40	.	4.00-4.75	11.00-13.00	0.40-1.00	1.50-2.10	18.50-21.00	.
T-8	0.75-0.85	0.20-0.40	<0.03	<0.03	0.20-0.40	.	3.75-4.50	4.25-5.75	0.40-1.00	1.80-2.40	13.25-14.75	.
W-1	0.70-1.50	0.10-0.40	<0.025	<0.025	0.10-0.40	<0.20	<0.15	.	<0.10	<0.10	<0.15	Cu: <0.20
W-2	0.85-1.50	0.10-0.40	<0.03	<0.03	0.10-0.40	<0.20	<0.15	.	<0.10	0.15-0.35	<0.15	Cu: <0.20
W-5	1.05-1.15	0.10-0.40	<0.03	<0.03	0.10-0.40	<0.20	0.40-0.60	.	<0.10	<0.10	<0.15	Cu: <0.20
Number	C	Mn	P	S	Si	Ni	Cr	Co	Mo	V	W	Other

**These are specifications,
not samples for sale.**

STAINLESS AND HIGH ALLOY STEEL SPECIFICATIONS

* notes optional chemistry

Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	N	Nb	Other
13-8PH	<0.05	<0.20	<0.01	<0.008	<0.10	.	7.50-8.50	12.25-13.25	2.00-2.50	<0.01	.	Al: 0.90-1.35
15-5PH	<0.07	<1.00	<0.04	<0.03	<1.00	2.50-4.50	3.50-5.50	14.00-15.50	.	.	0.15-0.45	
17-4PH	<0.07	<1.00	<0.04	<0.03	<1.00	3.00-5.00	3.00-5.00	15.00-17.50	.	.	0.15-0.45	
201	<0.15	5.5-7.5	<0.060	<0.03	<1.00	.	3.50-5.50	16.00-18.00	.	<0.25	.	
202	<0.15	7.5-10.0	<0.060	<0.03	<1.00	.	4.00-6.00	17.00-19.00	.	<0.25	.	
301	<0.15	<2.00	<0.045	<0.03	<1.00	.	6.00-8.00	16.00-18.00	.	.	.	
302	<0.15	<2.00	<0.045	<0.03	<1.00	.	8.00-10.00	17.00-19.00	.	.	.	
302B	<0.15	<2.00	<0.045	<0.03	2.00-3.00	.	8.00-10.00	17.00-19.00	.	.	.	
303	<0.15	<2.00	<0.20	>0.15	<1.00	.	8.00-10.00	17.00-19.00	<0.60*	.	.	Zr: <0.60*
304	<0.08	<2.00	<0.045	<0.03	<1.00	.	8.00-10.50	18.00-20.00	.	.	.	
304L	<0.03	<2.00	<0.045	<0.03	<1.00	.	8.00-12.00	18.00-20.00	.	.	.	
305	<0.12	<2.00	<0.045	<0.03	<1.00	.	10.00-13.00	17.00-19.00	.	.	.	
308	<0.08	<2.00	<0.045	<0.03	<1.00	.	10.00-12.00	19.00-21.00	.	.	.	
309	<0.20	<2.00	<0.045	<0.03	<1.00	.	12.00-15.00	22.00-24.00	.	.	.	
310	<0.25	<2.00	<0.045	<0.03	<1.50	.	19.00-22.00	24.00-26.00	.	.	.	
314	<0.25	<2.00	<0.045	<0.03	1.50-3.00	.	19.00-22.00	23.00-26.00	.	.	.	
316	<0.08	<2.00	<0.045	<0.03	<1.00	.	10.00-14.00	16.00-18.00	2.00-3.00	.	.	
316	<0.08	<2.00	<0.045	<0.03	<1.00	.	10.00-14.00	16.00-18.00	2.00-3.00	.	.	
316L	<0.03	<2.00	<0.045	<0.03	<1.00	.	10.00-14.00	16.00-18.00	2.00-3.00	.	.	
321	<0.08	<2.00	<0.045	<0.03	<1.00	.	9.00-12.00	17.00-19.00	.	.	.	Ti: >5xC
347	<0.08	<2.00	<0.045	<0.03	<1.00	.	9.00-13.00	17.00-19.00	.	.	>10xC	
348	<0.08	<2.00	<0.045	<0.03	<1.00	.	9.00-13.00	17.00-19.00	.	.	>10xC	Ta: <0.10
384	<0.08	<2.00	<0.045	<0.03	<1.00	.	17.00-19.00	15.00-17.00	.	.	.	
385	<0.08	<2.00	<0.045	<0.03	<1.00	.	14.00-16.00	11.50-13.50	.	.	.	
403	<0.15	<1.00	<0.04	<0.03	<0.50	.	.	11.50-13.00	.	.	.	
405	<0.08	<1.00	<0.04	<0.03	<1.00	.	.	11.50-14.50	.	.	.	Al: 0.10-0.30
409	<0.08	<1.00	<0.04	<0.01	<1.00	.	<0.50	10.50-11.75	.	.	.	Ti: 6\mtC-0.75
410	<0.15	<1.00	<0.04	<0.03	<1.00	.	.	11.50-13.50	.	.	.	
414	<0.15	<1.00	<0.04	<0.03	<1.00	.	1.25-2.50	11.50-13.50	.	.	.	
416	<0.15	<1.25	<0.06	>0.15	<1.00	.	.	12.00-14.00	<0.60*	.	.	Zr: <0.60*
420	>0.15	<1.00	<0.04	<0.03	<1.00	.	.	12.00-14.00	.	.	.	
422	0.20-0.25	<1.00	<0.04	<0.03	<0.75	<0.50	0.50-1.00	11.00-12.50	0.75-1.25	.	.	V: 0.15-0.30
422	continued											W: 0.75-1.25
430	<0.12	<1.00	<0.04	<0.03	<1.00	.	.	16.00-18.00	.	.	.	
430F	<0.12	<1.25	<0.06	>0.15	<1.00	.	.	16.00-18.00	<0.60*	.	.	Zr: <0.60*
431	<0.20	<1.00	<0.04	<0.03	<1.00	.	1.25-2.50	15.00-17.00	.	.	.	
440A	0.60-0.75	<1.00	<0.04	<0.03	<1.00	.	.	16.00-18.00	<0.75	.	.	
440B	0.75-0.95	<1.00	<0.04	<0.03	<1.00	.	.	16.00-18.00	<0.75	.	.	
440C	0.95-1.20	<1.00	<0.04	<0.03	<1.00	.	.	16.00-18.00	<0.75	.	.	
450	<0.05	<1.00	<0.03	<0.03	<1.00	1.25-1.75	5.00-7.00	14.00-16.00	0.50-1.00	.	.	8\mtC
455	<0.05	<0.50	<0.04	<0.03	<0.50	1.50-2.50	7.50-9.50	11.00-12.50	<0.50	.	0.10-0.50	Ti: 0.80-1.40
501	>0.10	<1.00	<0.04	<0.03	<1.00	.	.	4.00-6.00	0.40-0.65	.	.	
502	<0.10	<1.00	<0.04	<0.03	<1.00	.	.	4.00-6.00	0.40-0.65	.	.	
Duplex	<0.05	<3.00	<0.035	<0.03	<1.50	<2.50*	4.00-7.00	18.00-25.00	0.20-5.50	<0.40	.	

These are specifications,
not samples for sale.