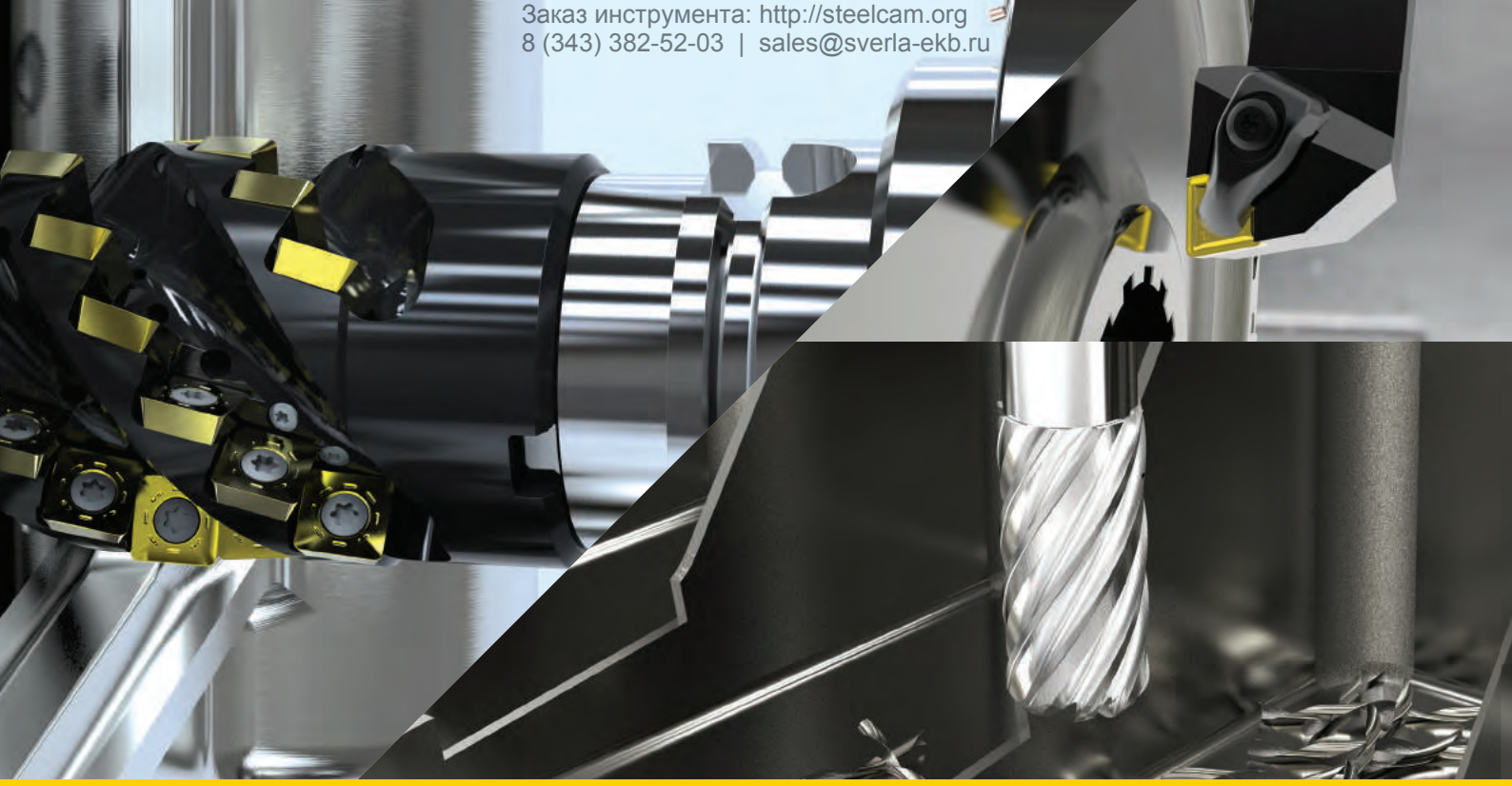

STELLRAM®

CUTTING TOOLS

Materials Cross Reference

KENNAMETAL®

Materials Cross Reference

Commercial Name	UNS Number	UK: BS,EN	Sweden: SS	USA: AISI/SAE	Germany: Wnr	Germany: DIN	France: AFNOR	Italy: UNI	Spain: UNF	Japan: JIS
Unalloyed Steels										
1006 / Fd5			1160	1006	1.0201	St36	Fd5			
1010 / XC10		045M10	1265	1010	1.1121	Ck10	XC10	C10	F.1510	
1015 / CC12		080M15	1350	1015	1.0401	C15	CC12	C15C16	F.111	
1020 / CC20		050A20	1450	1020	1.0402	C22	CC20	C20C21	F.112	
1022 / 20M5		120M19	1410	1022	1.1133	GS.20Mn5	20M5	G22Mn3	F.1515	
1025 /				1025	1.1158	Ck25				S25C
1035 / CC35		060A35	1550	1035	1.0501	C35	CC35	C35	F.113	
1035 / XC38TS		060A35	1572	1035	1.1183	Ck35	XC38TS	C36		S35C
1039 / 35M5		150M36		1039	1.1157	40Mn4	35M5			
1040 / 1C40		080M40		1040	1.0511	C40	1C40/AF60C40	C40/1C40	F.114.A	
1043 / CC45							CC45			
1045 / CC45		080M46	1650	1045	1.0503	C45	CC45	C45	F.114	
1045 / XC42		080M46	1672	1045	1.1191	Ck45	XC42	C45	C45K	S45C
1049 / XC42H1		080M46	1660	1049	1.1201	Cm45	3C45/XC42H1/XC48H1		F.1145.C45k-1/F.1147-C48k-1	S50C
1049 / XC48H1		080M50		1049/1050	1.1206	Ck50	2C50/XC48H1			
1050 / XC48TS		060A52	1674	1050	1.1213	Cf53	XC48TS	C53		S50C
1055 / XC55		070M55		1055	1.1203	Ck55	XC55	C50	C55K	S55C
105WC13		BO1	2140	O1	1.2510	105WCr6	105WC13	10WCr6-107WCr5KU	105WCr5	SKS31-SKS2-SKS3
1060 / CC55		080A62		1060	1.0601	C60	CC55	C60		
1070 / XC68		070A72	1770	1070	1.1231	Ck67	XC68	C70	F.5103	
1080 / XC75		060A78	1774	1080	1.1248	Ck75	XC75		F.5107	
1086 / XC90				1086	1.1269	Ck85	XC90	C90		
1095 / XC100		060A96	1870	1095	1.1274	Ck101	XC100		F.5117	SUP4
10PbF2					1.0722	10SPb20	10PbF2	CF10SPb20	10SPb20	
1108 / 10F1		(210M15)		1108/1109	1.0721	10S20	10F1	CF10S20	F.2121-10S20	
1140 / 35MF4		212M36	1957	1140	1.0726	35S20	35MF4		F210G	
1151 / 45MF4		212M44	1973	1151	1.0727	45S20	45MF4			
120WV10		BF1			1.2516	120WV4	120WV10	110W4KU		
1213 / S250		230M07	1912	1213	1.0715	9SMn28	S250	CF9SMn28	11SMn28	SUM22
1215 / S300		240M07		1215	1.0736	9SMn36	S300	CF9SMn36	12SMn35	
12L13 / S250Pb			1914	12L13	1.0718	9SMnPb28	S250Pb	CF9SMnPb28	11SMnPb28	SUM22L
12L14 / S300Pb			1926	12L14	1.0737	9SMnPb36	S300Pb	CF9SMnPb36	12SMnP35	
18NCD6		820A16			1.6587	17CrNiMo6	18NCD6		14NiCrMo13	
20MC5					1.7139	16MnSCr5	20MC5	20MnCr5	F.150.D	SMnC420H
2515 / Z18N5				2515	1.5680	12Ni19	Z18N5			
30CD12		722M24	2240		1.8515	32CrMo12	30CD12	32CrMo12	F.124.A	
3115 / 16NC6				3115	1.5919	15CrNi6	16NC6			
3415 / 12NC15		655M13-655A12		3415-3310	1.5752	14NiCr14	12NC15			SNC815(H)
38C2					1.7003	38Cr2	38C2/38Cr2	38Cr2/41Cr2KB	F.1200-38Cr3	
40CrMnNiMo8					1.2738	40CrMnNiMo8				
4130 / 25CD4		1717CDS110	2225	4130	1.7218	25CrMo4	25CD4	25CrMo4(KB)	55Cr3AM26CrMo4	SCM420-SCM430

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STELLRAM

Hardness HRB HRC HB	Rm N/mm²	Fe	Ni	Cr	Co	Mo	W	Si	Mn	C	Al	Ti	Li	P	S	Mg	Zn	Cu	Others
Unalloyed Steels																			
	390																		
	390																		
	590-780																		
	500-650																		
	500-650																		
	500-650																		
	550-750																		
	540-730																		
	690-930																		
	580-800																		
	630-800																		
	630-800																		
	630-800																		
	620-850																		
	650-900																		
	640-830																		
	640-830																		
	750-850																		
	750-900																		
	810																		
	630																		
	670																		
	1000-1100																		
	390-710																		
	350-780																		
	510-740																		
	650																		
	775																		
	410-710																		
	430-740																		
	410-710																		
	430-740																		
	980-1320																		
	480-640																		
	510-710																		
	980-1420																		
	500-850																		
	880-1230																		
	800-950																		
	785																		
	650-950																		

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Unalloyed Steels										
4137-4135 / 35CD4		708A37	2234	4137-4135	1.7220	34CrMo4	35CD4	35CrMo4	34CrMo4	SCM432;SCCRM3
4140 / 42CD4		708M40	2244	4140	1.7225	42CrMo4	42CD4	42CrMo4	42CrMo4	SCM440(H)
4140 / 42CD4(HT)		708M40	2244	4140	1.7225	42CrMo4	42CD4	42CrMo4	42CrMo4	SCM440(H)
4140-4142 / 42CD4TS		708M40	2244	4140-4142	1.7223	41CrMo4	42CD4TS	41CrMo4	42CrMo4	SCM440
4150 / 50CrMo4		708A47		4150	1.7228	50CrMo4	50CrMo4			SCM445(H)
4340 / 35NCD6		817M40	2541	4340	1.6582	35CrNiMo6	35NCD6	35NiCrMo6(KB)	F.1280	
4419 /		1503-243-430	2512	4419	1.5419	22Mo4		G20Mo5/G22Mo5		SCPH11
5015 / 12C3		523M15		5015	1.7015	15Cr3	12C3			SCr415(H)
5045 / 45Cr2				5045-5046	1.7006	46Cr2	42C2/46Cr2	45Cr2		
5130 /		530A30		5130	1.7030	28Cr4				
5132 / 32C4		530A32		5132	1.7033	34Cr4	32C4	34Cr4(KB)	35Cr4	SCr430(H)
5135 / 37Cr4		530A36/530H36		5135	1.7034	37Cr4	37Cr4/38C4	36CrMn4/36Cr-Mn5/38Cr4KB/38Cr-Mn4KB	F.1210-38Cr4DF/ F.1201-38Cr4	SCr435H
5140 / 42C4		530M40		5140	1.7035	41Cr4	42C4	41Cr4	42Cr4	SCr440(H)
5155 / 55C3		524A60	2253	5155	1.7176	55Cr3	55C3			SUP9(A)
55NCDV6					1.2711	54NiCrMoV6	55NCDV6			
57NiCrMoV77					1.2744	57NiCrMoV77				
6150 / 50CV4		735A50	2230	6150	1.8159	50CrV4	50CV4	50CrV4	51CrV4	SUP10
6F3 / 55NCDV7				6F3	1.2714	56NiCrMoV7	55NCDV7			
6F5 / 55NC10				6F5	1.2718	55NiCr10	55NC10			
75CrMoNiW67					1.2762	75CrMoNiW67				
8620 / 20NCD2		805M20	2506	8620	1.6523	21NiCrMo2	20NCD2	20NiCrMo2	20NiCrMo2	SNCM220(H)
90MCV8		BO2		2	1.2842	90MnCrV8	90MCV8	90MnCr8KU		
9310 / 16NCD13		832H13/832M13/S157		9310	1.6657	14NiCrMo134	16NCD13	15NiCrMo13	F.1560-14NiCrMo13/F. 1569-14NiCrMo131	
A105 / A48CP	K03501			A105		C22-8	A48CP			
A106GB / TUE250B						P235GH	TUE250B			
A182 / 12CD9		1501-622	2218	ASTMA182F22	1.7380	10CrMo910	12CD9.10	12CrMo910	TU.H	
A182 / 15CD3.5		1501-620Gr27		ASTMA182F11-F12	1.7335	13CrMo44	15CD3.5-15CD4.5	14CrMo45	14CrMo45	
A204Gr.A / 15D3		1501-240	2912	ASTMA204Gr.A	1.5415	15Mo3	15D3	16Mo3KW	16Mo3	
A234WPB / AE250B							AE250B			
A234WPL6 / 42BT	K03006						42BT			
A27 65.35 / E23.45M		A1	1305	A27 65.35	1.0443	GS.45	E23.45M		F.221	
A33		Fe310-0/144915HR,HS	1300		1.0035	Fe310.0 (St33)	A33	Fe320	A310-0/FE310-0	
A333G6 / TU42BT						P265GH	TU42BT			
A34-2					1.0028	Ust34-2	A34-2	Fe330Fe/330BFU		SS330
A34-2NE		144934/20HR,HS,CR,CS			1.0034	RSt34-2	A34-2NE	Fe330BFN		
A350LF2 / A48FP	K03504						A48FP			
A36 / E28				A36			E28			
A515.65 / A37CP		1501 161	1330	A515 65	1.0345	H I	A37CP		F.1110	
A516 / A48CP				A516Gr.70	1.0481	17Mn4/ A515Gr.70/ A414Gr.F	A48CP	Fe510-1KG;KT;KW/ Fe510-2KG;KT;KW	A47RCI/RAII	SG365/SGV410/ SGV450/SGV480
A516G60 / E24-2						P265GH	E24-2			
A516G70 / E36-4						P295GH	E36-4			

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Hardness HRB HRC HB	Rm N/mm²	Fe	Ni	Cr	Co	Mo	W	Si	Mn	C	Al	Ti	Li	P	S	Mg	Zn	Cu	Others
Unalloyed Steels																			
	750-1100																		
	740-1080																		
	800-1200																		
	750-1100																		
	1100-1300																		
241-277HB	890																		
	440-590																		
	690-880																		
	900-1100																		
	530-860																		
	700-950																		
	950-1150																		
	700-750																		
	1050-1100																		
	800																		
	850																		
	780-1180																		
	850																		
	800																		
	705																		
	510-710																		
	740																		
	560-1200																		
187HB	600		0.4	0.3		0.12		0.15-0.35	0.6-1.05	0.35				0.035	0.04			0.4	Nb 0.4
			0.4	0.4		0.15		0.10 min	0.29-1.06	0.3				0.048	0.058			0.4	Nb 0.4
	440-590																		
	440-590																		
	440-570																		
197HB	660		0.4	0.4		0.15		0.10 min	0.29-1.06	0.3				0.05	0.058			0.4	Nb 0.4
			0.4	0.3				0.10 min	0.6-1.35	0.3				0.035	0.04			0.4	
	750																		
	290-540																		
				0.4				0.10 min	0.29-1.06	0.3				0.025	0.025				
	300-500																		
	460-500																		
197HB	660		0.4	0.3		0.12		0.15-0.30	0.6-1.35	0.3				0.035	0.04			0.4	Nb 0.4
	750																		
	750																		
	460-580																		
								0.1-0.35	1.4	0.2				0.05	0.05				
								0.1-0.35	1.6	0.22				0.04	0.04				

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Unalloyed Steels										
A537 / A52CP			2101/2102	A537Cl.1/ A414Gr.G/A612	1.0473	19Mn6	A52CP		A52RCI/RAII	SGV410/SGV450/ SGV480
A570 / A50-2		Fe490-2FN/4360-50B	1550/2172	A570Gr.50/ A572Gr.50	1.0050	Fe490-2 (St50-2)	A50-2	Fe490	A490-2/Fe490-2FN	SS490
A570 / E24-2		Fe360B/4360-40B	1311/1312	A570Gr.33,36	1.0036	Fe360B (Ust37-2)	E24-2	Fe360BFU	AE235B/Fe360B	
A570 / E28-2		Fe430BFN/144943/25HR, HS/4360-43B	1411/1412	A570Gr.40	1.0044	Fe430B (St44-2)	E28-2	FE430B/Fe430BFN	AE275B/Fe430BFN	SM400A;B;C
A570.36 / E24.2Ne		4360 40 C	1311	A570 36	1.0038	RSt37.2	E24.2Ne			
A572 / A60-2		Fe590-2FN/4360-55E;55C	1650	A572Gr.65	1.0060	Fe590-2 (St60-2)	A60-2	Fe60-2/Fe590	A590-2/Fe590-2FN	SM570
A572.60 / E36							E36			
A573 / E38-3		Fe430D1FF/4360-43C;43D	1411/1412/1414	A573Gr.70/ A611Gr.D	1.0144	Fe430D1 (St44-3)	E28-3/E28-4	Fe430B/Fe430C(FN)/ Fe430D(FF)	AE275D/Fe430D1FF	SM400A;B;C
A573.81.65 / E24.U			1312	A573.81 65	1.0116	St37.3	E24.U	Fe37.3		
A619		14493CR		A619(1008)	1.0347	RRSt3	E	FeP02		
A633 / FeE355KGN		A588		A633Gr.C	1.0562	StE355	FeE355KGN/ E335R/FP	FeE355KG;KW	AE355KG;DD	SM490A;B;C;YA;YB
A70-2		Fe690-2FN	1655		1.0070	Fe690-2 (St70-2)	A70-2	Fe70-2/Fe690	A690-2/Fe690-2FN	
A738 / A52FP		Fe510D2F-F/1501Gr.224-460/1501Gr.224-490		A738	1.0577	Fe510D2 (Ast52)	A52FP		A52RBII	
C25		070M26		(M)1025	1.0406	C25	C25/1C25	C25/1C25		
E24-2		Fe360B/144937/23HR	1311		1.0037	Fe360B (St37-2)	E24-2	Fe360B;C;D	AE235B/Fe360B	STKM12A;C
E36-3		Fe510D1FF/144950/35HR, HS/4360-50D	2132/2133/2134		1.0570	Fe510D1 (St52-3)	E36-3/E36-4	Fe510CFN/ Fe510510B;C;D/ Fe510BFN	AE355D/Fe510D1FF	SM490A;B;C;YA;YB
L6 / 55NCDV07			2550	L6	1.2713	55NiCrMoV6	55NCDV7		F.520.S	SKT4
P2 / 20MC5				P2	1.2162	21MnCr5	20MC5			SCR420H
P20 / 40CMD8		P20		P20	1.2311	40CrMnMo7	40CMD8			
P20+S / 40CMD8+S		P20+S		P20+S	1.2312	40CrMnMoS86	40CMD8+S			
S1 / 55WC20		BS1	2710	S1	1.2542	45WCrV7	55WC20	45WCrV8KU	45WCrSi8	
S4				S4	1.2826	60MnSiCr4				
W110 / Y1105							Y1105			
W112 / Y2120				W112	1.1663	C125W	Y2120	C120KU	C120	SK2
W210 / Y1105V		BW2		W210	1.2833	100V1	Y1105V	102V2KUSKS43		
Alloyed Steels										
12CD4		1501620	2216	A38712-2	1.7262	15CrMo5	12CD4	12CrMo910	12CrMo4	SCM415(H)
1330 / 20M5		150M28		1330	1.1170	28Mn6	20M5	C28Mn		SCMn1
1335 / 40M5			2120	1335	1.1167	36Mn5	40M5		36Mn5	SMn438(H)
20AP										
22CMSD4							22CMS4			
3135 / 35NC6		640A35		3135	1.5710	36NiCr6	35NC6			SNC236
3415 / 14NC11				3415	1.5732	14NiCr10	14NC11	16NiCr11	15NiCr11	SNC415(H)
35NCD14							35NCD14			
40CMD8							40CMD8			
420 / Z40C14			2314	420	1.2083	X42Cr13	Z40C14			SUS420J2
429				429						
4340 / 35NCD6				4340			35NCD6			
440C / Z100CD17				440C	1.4125	X105CrMo17	Z100CD17			
4520				4520						

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Unalloyed Steels																			
	480-650																		
	470-800																		
	340-690																		
	410-790																		
	750																		
	570-920																		
	750																		
	790																		
	750																		
	210-690																		
	490-800																		
	670-1000																		
	450-680																		
	470-650																		
	340-690																		
	490-800																		
	800-850																		
	705																		
	790																		
	790																		
	750-800																		
	740																		
	640-830																		
	650-750																		
	675																		
Alloyed Steels																			
	640-1080																		
	640-840																		
	600																		
	720-950							0.3	0.25-0.50	1				0.035	0.045				Pb0.2
255-300HB	970																		
	690-930																		
	830-1180																		
	1100-1350																		
	1100-1300																		
	770																		
	600																		
	900-1200																		
	870																		
	450-590																		

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Alloyed Steels										
45NCD17 / 6F7		EN30B		6F7	1.2767	X45NiCrMo4	45NCD17	KV		
5115 / 16MC5		527M20	2511	5115	1.7131	16MnCr5	16MC5	16MnCr5	16MnCr5	
5120 / 20MC5		150M19	2172	5120	1.0841	St52-3	20MC5	Fe52BFN/Fe52CFN	F.431	
5140 / 42C4 (HT)		530M40		5140	1.7035	41Cr4	42C4	41Cr4	42Cr4	SCr440(H)
52100 / 100C6		534A99	2258	52100	1.3505	100Cr6	100C6	100Cr6	F.131	SUJ2
55MnSi4-4							55MS4-4			
55W1							XC55			
8630				8630						
8740 / 40NiCrMo22		311Type7		8740	1.6546	40NiCrMo22		40NiCrMo2(KB)	40NiCrMo2	SNCM240
9255 / 55S7		250A53	2090	9254	1.0904	55Si7	55S7	55Si8	F.144	
9262 / 60SC7				9262	1.0961	60SiCr7	60SC7	60SiCr8	60SiCr8	
9840 / 40NCD3		816M40		9840	1.6511	36CrNiMo4	40NCD3	38NiCrMo4(KB)	35NiCrMo4	
A128.75 / Z120M12		BW10	2183	A12875	1.3401	GX120Mn12	Z120M12	XG120Mn12	X120Mn12	
A2 / Z100CDV5		BA2	2260	A2	1.2363	X100CrMoV51	Z100CDV5	X100CrMoV51KU	X100CrMoV5F5227	SKD12
A350LF5 / 16N6				ASTMA350LF5	1.5622	14Ni6	16N6	14Ni6	15Ni6	
A355A / 40CAD06.12				A335A			40CAD0612			
A6				A6						
A7				A7						
Aermet 100	UNSK92580									
Aermet 310										
Aermet 340										
D2 / Z160CDV12		BD2	2310	D2	1.2601	X165CrMoV12	Z160CDV12	X165CrMoW12KU	X160CrMoV12	
D2 / Z210CW12		BD2		D2	1.2379	X155CrVMo12.1	Z210CW12			
D3 / Z200Cr12		BD3		D3	1.2080	X210Cr12	Z200Cr12	X210Cr13KU / X250Cr12KU	X210Cr12	SKD1
D4(D6) / Z200CD12		BD6	2312	D4(D6)	1.2436	X210CrW12	Z200CD12	X215CrW121KU	X210CrW12	SKD2
FV535										
H10 / 30CDV12-28		BH10		H10	1.2365	X32CrMoV33	30CDV12-28	30CrMoV1227KU	F.5313	
H10A / 30CKDV28		BH10A		H10A	1.2885	X32CrMoCoV33.3	30CKDV28			
H11 / Z38CDV5		BH11		H11	1.2343	X38CrMoV51	Z38CDV5	X37CrMoV51KU	F.5137	SKD6
H13 / Z40CDV5		BH13	2242	H13	1.2344	X40CrMoV51	Z40CDV5	X35CrMoV05KU / X40CrMoV511KU	X40CrMoV5	SKD61
H21 / Z30WCV9-3		BH21		H21	1.2581	X30WCrV93	Z30WCV9-3	X30WCrV93KU	F.5323	SKD5
Hardox400										
HardoxHiTuf										
HW3 / Z45CS9		401S45		HW3	1.4718	X45GrSi93	Z45CS9	X45GrSi8	F.322	SUH1
L1				L1						
L3 / Y100C6		BL3		L3	1.2067	100Cr6	Y100C6		100Cr6	
M2 / Z85WDCV06050402				M2			Z85WDCV06050402			
M3				M3						
M35 / Z85WDKCV			2723	M35	1.3243	S6/5/2/5	Z85WDKCV	HS6.5.2.5	F.5613	SKH55
M7 / Z100WCV09040202							Z100WCV09040202			
O1				O1						
P21				P21	1.2764	X19NiCrMo4				
P4				P4	1.2341	X6CrMo4				
S7				S7						
T1 / Z80WCV180401		BT1		T1	1.3355	S18.0.1	Z80WCV180401	X75W18KU	HS18.0.1	SKH2

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STELLRAM

Hardness HRB HRC HB	Rm N/mm²	Fe	Ni	Cr	Co	Mo	W	Si	Mn	C	Al	Ti	Li	P	S	Mg	Zn	Cu	Others
Alloyed Steels																			
	880																		
	640-1080																		
	650																		
	800-1100																		
	650-750																		
269-302HB	970																		
248-285HB	900																		
	690-930																		
	690-930																		
	950-1050																		
	1050-1100																		
	800-1100																		
	780-1080																		
	750-850																		
	490-640																		
	700																		
	720-775																		
	795-910																		
40HRC	1250	71	11.1	3	13.4	1.2				0.23									
40HRC	1250	70	11	2.4	15	1.4				0.25									
37-42HRC	1330	68	12	2.25	15.6	1.85				0.33									
	850-900																		
	850																		
	850-900																		
	850-900																		
34HRC	1070		0.2-0.8	9.8-11.2		0.5-1.0	0.7	0.1-0.7	0.6-1.15	0.06-0.11									
	770																		
	770																		
	770																		
	1180-1620																		
	850																		
400HBW	1300																		
350HBW	1130																		
	970																		
	630																		
	750-850																		
	775-990																		
	795-870																		
	775-990																		
	775-990																		
	640-670																		
	850																		
	400																		
	640-720																		
	800-1050																		

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Alloyed Steels										
T4 / Z80WKCV18050401		BT4		T4	1.3255	S18.1.2.5	Z80WKCV18050401	X78WCo1805KU	HS18.1.1.5	SKH3
Z2NKDT18-10-5					1.2709	X3NiCoMoTi18.9.5	Z2NKDT18-10-5			
Z38CDV5-3					1.2367	X40CrMoV53	Z38CDV5-3	Z155CVD12-1		
Stainless Steels										
50	UNS S20910									
202		284S16		202	1.4371	X3CrMnNiN18-8-7	Z8CMN18.08.05			
215										
284										
301			2331	301	1.4310	X12CrNi17-7	Z12CN17.07	X12CrNi17 07	F.3517	SUS301
302		302S31	2330	302	1.4319	X12CrNi18-9	Z10CN18.09	X10CrNi18 09	F.314	
303		303S21, 58M	2346	303	1.4305	X8CrNiS18-9	Z10CNF18.09	X10CrNiS 18.09	F.3508	SUS303
304		304S31, 58E	2332/2333	304	1.4350	X5CrNi18-9	Z6CN18.09	X5CrNi18 10	F.3551;F.3541;F.3504	SUS304
305		305S19		305	1.4312	X8CrNi18-12		X8CrNi1910	F.3503	
311										
315										
316		316S33, 58J	2343	316	1.4401	X5CrNiMo17-13-3	Z6CND19.12.03	X5CrNiMo1713	F.3543	SUS316
317		317S16		317	1.4449	X5CrNiMo17-13				
318				318	1.4583	X10CrNiMoNb18-12	Z6CNDNb17.13B	X6CrNiMoNb17 13		
320										
321	UNS S32100	321S12, 58B	2337	321	1.4541	X10CrNiTi18-9	Z6CNT18.10	X6CrNiTi18 11	F.3553;F.3523	SUS321
325										
326										
329			2324	329	1.4460	X8CrNiMo27-5	Z5CND27.05AZ			SUS329L
331										
332										
334				70334		X8CrNiAlTi20-20				
347	UNS S34700	347S17, 58F	2338	347	1.4550	X10CrNiNb18-9	Z6CNNb18.10	X6CrNiNb18 11	F.3552;F.3524	SUS347
348	UNS S34800				1.4546	X5CrNiNb18-10	Z10CrNiNb18 10			
394										
403		403S17	2301	403	1.4000	X7Cr13	Z6C13	X6Cr13	F.3110	SUS403
409		409S19		409	1.4510	X6CrTi12	Z6CT12	X6CrTi12		
410		410S21, 56A	2302	410	1.4006	X10Cr13	Z10C14	X12Cr13	F.3401	SUS410
416		416S21	2380	41600	1.4005	X12CrS13	Z11CF13	X12CrS13	F.3411	SUS416
420		420S37	2303	420	1.4021	X20Cr13	Z20C13	X20Cr13	F.5261	
425										
430		430S15, 60	2320	430	1.4016	X8Cr17	Z8C17	X8Cr17	F.3113	SUS430
431		431S29, 57	2321	431	1.4057	X22CrNi17	Z15CNi16.02	X16CrNi16	F.3427	SUS431
433										
434		434S17	2325	434	1.4113	X6CrMo17	Z8CD17.01	X8CrMo17		SUS434
441										
444	UNS S44400		2326	444	1.4521		Z3CDT18 02			
452										
455	UNS S45500									

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STELLRAM

Hardness HRB HRC HB	Rm N/mm²	Fe	Ni	Cr	Co	Mo	W	Si	Mn	C	Al	Ti	Li	P	S	Mg	Zn	Cu	Others
Alloyed Steels																			
	820-1050																		
	1125																		
	785																		
Stainless Steels																			
		63.7	6	21					9										
			4.0/6.0	17.0/19.0		-		1	7.5/10.0	0.15				0.06	0.03				
			9.00/11.00	14.0/16.0		0.08/1.20		0.20/1.00	5.50/7.00	0.06/0.15				0.04	0.03				
			4.00/6.50	16.5/18.5		-		1	7.00/10.0	0.07				0.06	0.03				
	700-950		7.00	17.00				1.00	2.00	0.14				0.05	0.03				
			6.0/10.0	17.0/22.0		1.5		2	2	0.2/0.4				0.05	0.05				
	500-700		10.50	19.50		0.60		2.00	1.50	0.16				0.04	0.30				
	500-700		9.00	19.50				2.00	1.50	0.08				0.04	0.04				
	490-690		11.50	18.00				1.00	2.00	0.12				0.04	0.03				
			23.0/28.0	17.0/23.0		1.5		3	2	0.5				0.05	0.05				
			9.0/11.0	16.5/18.5		1.25/1.75		1	2	0.07				0.045	0.03				
	510-710		13.00	17.00		1.50		0.75	2.00	0.08				0.04	0.03				Cu 0.5
	490-690		13.00	19.00		3.50		1.00	1.00	0.02				0.02	0.02				
	490-740		9.0 min	17.0/21.0		2.0/3.0		1.5	2	0.08				0.04	0.04				
			10.5/13.5	16.5/18.5		2.00/2.50		1	2	0.08		5C/0.80		0.045	0.03				
	500-730		9.50	18.00				1.00	2.00	0.08		0.40		0.04	0.03				
			8.0/11.0	17.0/19.0		0.7		1	2	0.12		5C/0.90		0.06	0.15/0.35				
			10.0/13.0	16.5/18.5		2.25/3.00		1	2	0.12				0.06	0.06				
	640-900		3.50	25.50		1.00				0.10				0.04	0.03				
			36.0/46.0	15.0/25.0		1.5		3	2	0.75				0.05	0.05				
			4.0/7.00	21.0/27.0		1.75/3.00		1.5	1.5	0.08				0.04	0.04				
			55.0/65.0	10.0/20.0		1.5		3	2	0.75				0.05	0.05				
	510-740		9.0/13.0	17.0/19.0				0.75	2.00	0.08				0.05	0.03				
	510-740		9.0/13.0	17.0/19.0	0.2			0.75	2.00	0.08				0.05	0.03				Ta 0.10
			8.0/10.5	17.0/19.0		-		1	2	0.07				0.045	0.03				Cu 3.00/4.00
	400-600		0.50	12.00				0.50	0.50	0.15				0.02	0.01				
			1	10.5/12.5		-		1	1	0.08		6C/1.0		0.04	0.03				
	450-650		1.00	12.00		0.50		0.50	0.50	0.15				0.02	0.01				Cu 0.5
	590-780		1.00	13.00		0.60		1.00	1.25	0.15				0.07	0.07				
	750-950		1.00	12.50				1.00	1.00	0.20				0.04	0.04				
			3.5/4.5	11.5/14.0		0.40/1.0		1	1	0.06				0.04	0.03				
	450-650		1.00	16.00				1.00	1.00	0.08				0.04	0.03				
	950		2.00	16.00				1.00	1.00	0.20				0.04	0.03				
79HRB	510	78	0.25	20.00				0.39	0.30	0.01				0.02	0.00			0.50	Nb 0.8
	450-650		1.00	17.00		0.75				0.08									
			2.0/3.0	15.0/18.0		0.6		1	1.5	0.12/0.20				0.04	0.03				
80HRB	500		0.5	18.2		1.9		0.45	0.3	0.013		0.13		0.03	0.002				
			4	25.0/30.0		1.5		2	1	1.0/2.0				0.05	0.05				
40-49HRC	1270-1650		7.5/9.5	11.0/12.5		0.5		0.5	0.5	0.05		0.8/1.4		0.04	0.03			1.5/2.5	

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Stainless Steels										
610	UNS S30600									
611	UNS S30601									
0Cr19Ni9										
1Cr12Ni3Mo2VN-5										
201LN	UNS S20153									
304 L		304S11	2352	304L	1.4306		Z2CN1810	X2CrNi18 11		
304 LN		304S62	2371	304LN	1.4311	X2CrNiN18-10	Z2CN18.10	X2CrNiN1811		SUS304LN
316 L	UNS S31603 & S31673	316S13	2348	316L	1.4404	X2CrNiMo18-12	Z2CND17.12	X2CrNiMo17 12		SCS16;SUS316L
316 LN		316S63	2375	316LN	1.4429	X2CrNiMoN18-13	Z2CND17.13			SUS316LN
316 LXN					1.4429	X2CrNiMoN17-13-3	Z2CND17 13	X2CrNiMoN17-13-3		
316 Ti		320S31		316Ti	1.4571	X8CrNiMoTi17-12-2		X6CrNiTi18 11	F.3535	
316L (S+Cu)						X2CrNiMo17-12-2+S+Cu				
316L Decolletage						X2CrNiMo17-12-2 improved				
317 L	UNS S31703	317S12	2367	317L	1.4438	X2CrNiMo18-16	Z2CND19.15	X2CrNiMo18 16		SUS317L
321 H						X8CrNiTi18-10				
403Cb				403Cb						
403Cb+					1.4914	X19CrMoVNb11-1	Z20CDNbV11			SUH600
409 Cb										
409 HP	UNS S40930									
410 S	UNS S41008									
420 F	UNS S42020	420S45	2304	420F	1.4028	X30Cr13	Z29CF13 / Z40C14	X40Cr14	F.3404 / X40Cr13	SUS420J2
430 F			2383	430F	1.4104	X12CrMoS17	Z10CF17	X10CrS17	F.3117	SUS430F
431 (HT)				431	1.4057	X17CrNi16-2				
436 S										
439 HP	UNS S43035									
440 A					1.4109	X70CrMo15				
440 C				440C		X105CrMo17	Z100CD17	X102CrMo17KU		SUS 440C
441 HP										
904 L	UNS N08904		2562		1.4539	X1CrNiMoCu25-20-5				
A286	UNS S66286	HR5152		ASTM 638		X5NiCrTi26-15	Z06NCT25			
AL 29-4C	UNS S44735									
AL-6XN	UNS N08367									
AL-6XN Plus	UNS N08367									
AM 350										
Bioline 4C27A				420F						
CF-8		304C15	2333	CF-8	1.4308	X6CrNi18-9	Z6CN18.10M			SCS13
CF-8M		316C6 ANC4B	2343	CF-8M	1.4408	X6CrNiMo18-10		X2CrNiMoN17-12	F.8414-AM-X7CrNiMo20-10	SCS14
Custom 465										
Datalloy 2										
Duplex 2003	UNS S32003									
Duplex 2102	UNS S80211									

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Stainless Steels																			
HRB86	560	58.9/65.3	14/15.5	17/18.5		2		3.7/4.3	2	0.018				0.02	0.02			0.5	
HRB91	620	58/60	17/18	17/18.5		0.2		5.0/5.6	0.5/0.8	0.015				0.03	0.013			0.35	
			9.00	19.00															
			3.00	12.00		2.00													
217-241HB	840	67.7	5.5	18				1	7.5	0.15				0.06	0.03				
	460-680		10.00	19.00				0.50	1.00	0.02				0.02	0.02				
	550-760		10.00	18.00				1.00	2.00	0.03				0.05	0.03				
	490-690		12.00	17.00		2.50		0.50	1.00	0.02				0.02	0.02				
	490-600		12.00	17.00		2.50		0.50	1.00	0.02				0.02	0.02				Nitrogene 0.14
	580-800		13.00	17.50		2.75		1.00	2.00	0.03				0.05	0.03				
	500-730		12.00	17.50		2.25		1.00	2.00	0.08		5.00		0.05	0.03				
	600-980																		
	600-980																		
HB217	900	63	11.0/15.0	18.0/20.0		3.0/4.0		0.75	2.00	0.03				0.04	0.03				
			9.0/12.0	17.0/19.0		-		1	2	0.04/0.10		5C/0.80		0.04	0.03				
	800-950		0.50	12.00				0.35	0.50	0.14									Nb 0.18
	930-1080		0.55	11.10		0.60		0.35	0.70	0.17									V 0.3 Nb 0.28
84-97HRB	700	86	0.25	12.3		0.04		0.35	0.35	0.15	0.1	0.005		0.025	0.005				Nb 0.45
71HRB	430																		
75HRB	450	87	0.60	12.00				1.00	1.00	0.08				0.04	0.03				
300-500HB	1050-1300			12/14		0.60		1.00	1.25	0.15				0.06	0.15				
	640-840		1.00	17.00		0.50		1.00	1.25	0.12				0.06	0.15				
45/56HRc	1270-1650																		
			-	16.0/18.0		0.75/1.25		1	1	0.12				0.04	0.03				
	568-818	81	0.23	17.0/19.0				0.55	0.45	0.012		0.4		0.02	0.001				
31-54HRC	1000-1800	81	0.5	16.0/18.0		0.75		1	1	0.07				0.04	0.03				
		82		16.5						1									
HRB82	520	79	0.3	18				0.34	0.35	0.009	0.05	0.29		0.023	0.002				Nb 0.71
	620		24.50	20.50		4.50		0.50	1.60	0.02				0.04					Cu 1.5
	620		25.00	14.50		1.25		0.20	0.20	0.04		2.10		0.02	0.00				
90HRB	610	65	0.3	29		4		0.35	0.5	0.02				0.03	0.01				Nb 0.6
183HB	600	48	24	20.5		6.3		0.4	0.4	0.02								0.2	N 0.22
183HB	600	45	25.3	21.8		6.7		0.3	0.3	0.02				0.02				0.2	N 0.24
	1175		4.30	16.50		2.80		0.30	0.80	0.09				0.02					
350-575HV	1130-1860	82.4	< 0.8	13		1.2		0.6	1.6	0.22				0.03	0.18				
	440-640																		
	440-640																		
	1300-1700		10.8/11.3	11/12		0.8/1.2						1.5/1.8							
300-350HB	1100		2.30	15.30		2.10		0.30	15.10	0.03									N 0.4
31HRC	1000	73.8	3.5	21		1.7													
246HB	800		1.5	22		0.55		0.75	2.5	0.03				0.04	0.02			0.4	

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Stainless Steels										
Duplex 2205	UNS S31803 & S32205			ASTM A240						
Duplex 2304	UNS S32304									
Duplex 255	UNS S32550									
Duplex F51		318S13	2377	F51	1.4462	X2CrNiMoN22-5-3	Z2CND22.05.03			
Duplex F55										
Duplex LDX2101										
E-Brite Alloy				ASTM B625						
FV607										
H46										
Jethete M152	UNS S64152			5718.9	1.4939	X12CrNiMoV12-3	Z12CND12			
Jethete M448										
Jethete X19						X19CrMoNbVN11-1				
Jethete X20					1.4923	X21CrMoV12-1	Z21CDV12			
Nitronic 50										
Nitronic 60										
REX 734	UNS S31675			ASTM F1586						
S240										
Staballoy AG17										
Staybrite® 4435NCu						X2CrNi18-13-3				
Super duplex 2507						X2CrNiMoCuN25-6-3				
Super Duplex 4565	UNS S34565									
Super Duplex Zeron 100				ASTM 32760						
Uranus 35N	UNS S32304					X2CrNiN23-4				
Uranus 45N+	UNS S31803		2377		1.4462	X2CrNiMoN22-5-3	Z3CND2205Az			
Uranus 45N22CrMo						X2CrNiMoN22-5-3				
Uranus 47N+						X2CrNiMoN25-6-3				
Uranus 52N+						X2CrNiMoCuN25-6-3				
Uranus 65						X1CrNi25-21				
Uranus B25 6Mo						X1NiCrMoCuN20-18-7				
Uranus B26 6Mo	UNS N08926					X1NiCrMoCuN25-20-7				
Uranus B28	UNS N08028					X1NiCrMoCu31-27-4				
Uranus B6	UNS N08904		2562		1.4539	X1NiCrMoCuN25-20-5				
Uranus B66						X1NiCrMoCu22-24-6				
Uranus S1 4%Si	UNS S30600					X1CrNiSi18-15-4				
X12CrNiMoS18-11					1.4427	X12CrNiMoS18-11	Z3CNDF17.13			
X12CrNiWTi16-3						X12CrNiWTi16-3				
X17CrNi16-02					1.4057	X17CrNi16-02				
X20CrNi17-2						X20CrNi17-2				
X20CrNiMo22-5-3						X20CrNiMo22-5-3				
X20CrNiMoS13-1						X20CrNiMoS13-1				
X22CrMoV12.1				ASTM A437-76 Grade B4B		X22CrMoV12-1 = ST12T				
X2CrNiMo18-15-3						X2CrNiMo18-15-3				
X30Cr13						X30Cr13				
X30CrMoN15-1		420S45	2304		1.4028	X30CrMoN15-1	Z33C13			
X3CrNiCuTiNb12-9						X3CrNiCuTiNb12-9				

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STELLRAM

Hardness HRB HRC HB	Rm N/mm²	Fe	Ni	Cr	Co	Mo	W	Si	Mn	C	Al	Ti	Li	P	S	Mg	Zn	Cu	Others
Stainless Steels																			
	1000	68.9	5.8	22		3.3													
	950		4.50	22.50				1.00	2.00	0.03				0.04	0.02				
HRC32	1000	57.0/64.0	4.5/6.5	24.0/27.0		2.9/3.9		1	1.5	0.04				0.04	0.03			1.5/2.5	
225-290HB	900	72.6	4.5/6.5	21.0/23.0		2.50/3.5		1	2	0.03				0.035	0.015				
335HB	1100	58.7	4.5/6.5	24.0/26.0		3.0/4.0	0.08/0.2	1	2	0.03				0.03	0.02				N 2.5/3.5
248HB	850																		
	550			26.00		1.00				0.00									
290-349HV	930-1130		0.62	11.6		0.89		0.4	0.77	0.13									
304HB	1050	86	0.60	11.00		0.75		0.45	0.65	0.16				0.01	0.01			0.20	
	1100		2.60	16.80		1.80		0.18	0.70	0.12				0.03	0.02				
	> 930		1.00	10.50		0.60		0.40	1.00	0.13									Nb 0.4
	980		0.40	10.80		0.70		0.30	0.60	0.20									
			0.60	11.80		1.00		0.30	0.60	0.20									
260HB	860		13.50	23.50		3.00		1.00	6.00	0.06									
260HB	860		9.00	18.00		0.75		4.50	9.00	0.10									
22HRC	780	62	10.00	20.80		2.50		0.38	3.12	0.04				0.01	0.01			0.12	
32-34HRC	1070	69.2	10.75	12.5		1.75	1.5	0.25	0.25	0.03	1.5	0.7		0.01	0.01			1.5	
			0.50	17.00		0.05		0.30	20.00	0.03									N 0.5
	490-690		13	18		2.5		0.7	1.3	0.02								0.5	N 0.12
			7.50	25.00		4.00		0.70	2.00	0.03					0.02			2.50	
180HB	600		16.0/18.0	23.0/25.0		4.0/5.0			5.0/7.0	0.03									
284HB	1000		7	25		3.5		0.75	1	0.05				0.03	0.01			0.75	W 0.75
220HB	770	69.5	3.5/5.5	22.0/24.0		0.10/0.60		1	2	0.03				0.035	0.015				Cu 0.10/0.60
225HB	800	67.8	6	22.6		3.4				0.02					0.001				
225HB	800	72.6	4	23		2		1	2	0.03				0.035	0.015				
28HRC	1000	64.6	6.5	25		3.6				0.03									
28HRC	1000	63	6.5	25		3.5				0.03								1.5	
155HB	600	52.5	20.5	25		0.3			2	0.015									
230HV	810	55	18	20		6.1				0.01					0.001			0.7	
220HV	800	47	25	20.5		6.3				0.01					0.001			1	
300HB	1050	37.4	31	27		3.5		0.7	2	0.02				0.03	0.01			1	
200HB	620		24.50	20.50		4.50		0.50	1.60	0.02				0.04				1.5	
240HB	840	41.1	22	24		6	2		3									1.5	
		64.5	14.5	17				4		0.015									
	750-1000																		
			13.50	16.00				0.50	1.00	0.15		0.50		0.05	0.03				
296HB	950		1.5-2.5	16				1	1.5	0.12-0.22				0.04	0.03				
	750-950		2.00	17.00				0.80	0.80	0.20				0.04	0.03				
			5.00	22.00		3.00													
	1500																		
	980		0.60	11.80		1.00		0.30	0.60	0.21				0.04	0.04				
	900-1150																		
	1000		1	13				1	1	0.26-0.35				0.04	0.03				
53-57HRc																			
	1300-1700																		

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Stainless Steels										
X40CrMoVN16-2		420S25		ASTM F899	1.4123	X40CrMoVN16-2	Z40CDV16.02			
X46CrS13						X46CrS13				
X4CrNiMo16-5-1					1.4418	X4CrNiMo16-5-1	Z8CND17.04			
X8CrCoNiMo10-6										
X8CrMnMoN23-21-1						X8CrMnMoN23-21-1				
X8CrNiSCu18-9						X8CrNiSCu18-9				
X90CrMoV18						X90CrMoV18				
XM19	UNS S20910			ASTM F1314						
Stainless Steel Refractory PH										
13-8PH	UNS S13800									
15-5PH	UNS S15500				1.454	X4CrNiCuNb16.4	Z6CNU15.05			
15-7PH					1.4532	X7CrNiMoAl15.7	Z8CNDA15.07			
17-4PH	UNS S17400				1.4542	X5CrNiCuNb17-4 = 0Cr17Ni4Cu4Nb	Z6CNU17.04			
17-7PH		316S111		177PH	1.4568/1.4504	X7CrNiAl17.7	Z8CNA17.07	X2CrNiMo17 12		
309		309S24		309	1.4828	X15CrNiSi20-12	Z15CNS20.12			SUH309
309 S		309S24		309 S	1.4833	X7CrNi23-14	Z20CN24-13	X6CrNi23-14		SUS309S
310 S		310S24	2361	310S	1.4845	X12CrNi25-20	Z12CN25.20	X6CrNi25 20	F.331	SUH310
314		314		30314	1.4841	X15CrNiSi25-20				
330		NA17		330	1.4864	X12NiCrSi36-16	Z12NCS35.16			SUH330
405		405S17		405	1.4724	X10CrAl13	Z10C13	X6CrAl112	F.311	SUS405
446			2322	446	1.4762	X10CrAl24	Z10CAS24	X16Cr26		SUH446
B163		NA15(H)		B163	1.4876	X10NiCrAlTi32-20	Z10NC32.21		F.3314-X10NiCrAlTi32-20	NCF800(TP)
EV8		349S54		EV8	1.4871	X53CrMnNiN21-9	Z52CMN21.09	X53CrMnNiN21-9	F.3217-X53CrMnNiN21-09	SUH35 / SUH36
HK		310C40 / 310C45		HK	1.4848	X40CrNiSi25-20		GX40CrNi26-20	F.8452-AM-X40CrNi2520	SCH21 / SCH22
HNV3		401S45		HNV3	1.4718	X45CrSi9-3	Z45CS9	X45CrSi8	F.3220-X4SCrSi09-03	SUH1
X10CrAl18					1.4742	X10CrAl18	Z10CAS18	X8Cr17	F.3153-X10CrAl18	SUH21
X40CrSiMo10-2					1.4731	X40CrSiMo10-2	Z40CSD10		F.3221-X40CrSiMo10-02	SUH3
X40NiCrSi38-18		330C11 / 330C40 / 331C40			1.4865	X40NiCrSi38-18		GX50NiCr39-19		SCH15 / SCH16
X45CrNiW18-9					1.4873	X45CrNiW18-9	Z35CNWS14.14	X45CrNiW18-9	F.3211-X45CrNiSiW18-09	SUH31

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STELLRAM

Hardness HRB HRC HB	Rm N/mm²	Fe	Ni	Cr	Co	Mo	W	Si	Mn	C	Al	Ti	Li	P	S	Mg	Zn	Cu	Others
Stainless Steels																			
58HRc																			
55HRc																			
	1200		6.00	15.50		1.50		1.00	1.50	0.05				0.04	0.02				
34HRC	1070		0.2-0.8	9.8-11.2		0.5-1.0	0.7	0.1-0.7	0.6-1.15	0.06-0.11									
	1300																		
	500-700																		
60HRC																			
90HRB	600	57	12.00	22.00		2.30		0.50	5.00	0.03				0.02	0.02				
Stainless Steel Refractory PH																			
	1300		8.00	13.00		2.20		0.10	0.20	0.05				0.01	0.01				
	<1400		4.50	14.80				0.50	0.50	0.03				0.02	0.02			3.50	
	<1620		7.00	15.00		2.50		0.50	0.50	0.05				0.02	0.02				
	<1380		4.00	16.30				0.50	0.50	0.04				0.02	0.02			4.00	
	<1560		7.00	17.00				0.50	0.50	0.05				0.02	0.02				
	500-750		14.00	23.50				2.00	1.50	0.20				0.04	0.04				
	500-700																		
	500-750		20.50	25.00				0.75	2.00	0.15				0.05	0.03				
			19.0/22.0	23.0/26.0		-		1.50/3.00	2.5	0.25				0.045	0.03				
	390-590		38.00	18.80				1.75	1.00	0.40				0.05	0.03				
	450-650		0.50	12.00				0.50	1.00	0.08				0.04	0.03				
	520-720			25.00				1.00	1.00	0.12				0.04	0.03				
	450-680																		
	950-1300																		
	440-640																		
	900-1100																		
	500-700																		
	130-1100																		
	400-600																		
	800-1300																		

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Gray Iron										
GG-30 / EN-GJL-300		Grade 300	130-00	A48-45B	0.6030	GG-30	Ft30D	G30	FG30	FC30
GG-35 / EN-GJL-350		Grade 350	135-00	A48-50B	0.6035	GG-35	Ft35D	G35	FG35	FC35
GG-40 / EN-GJL-400		Grade 400	140-00	A48-55B	0.6040	GG-40	Ft40D			
GG10 / EN-GJL-100		Grade 100	110-00	A48-20B	0.6010	GG10	Ft10D	G10	FG10	FC10
GG15 / EN-GJL-150		Grade 150	115-00	A48-25B	0.6015	GG15	Ft15D	G15	FG15	Fc15
GG20 / EN-GJL-200		Grade 200	120-00	A48-30B	0.6020	GG20	Ft20D	G20	FG20	FC20
GG25 / EN-GJL-250		Grade 250	125-00	A48-35B	0.6025	GG25	Ft25D	G25	FG25	FC25
Spheroidal-Ductile Iron										
GGG--40Mo0.5		500/7	0727-02	65-45-12	0.7050	GGG-50	FGS 500-7	GS 500/7	FGE 50-7	FCD 50
GGG--SiMo3.08										
GGG--SiMo4.10										
GGG--SiMo5.10										
GGG-35.3 / EN-GJS350-22			0717-15		0.7033	GGG-35.3				
GGG-40 / EN-GJS400-1		420/12	0717-02	60-40-18	0.7040	GGG-40	FGS 400-12	GS 400-12	FGE 38-17	FCD 40
GGG-50 / EN-GJS500-7										
GGG-60 / EN-GJS600-3		600/3	0732-03	80-55-06	0.7060	GGG-60	FGS 600-3	GS 600/3		FCD 60
GGG-70 / EN-GJS700-2		700/2	0737-01	100-70-03	0.7070	GGG-70	FGS 700-2	GS 700-2	FGS 70-2	FCD 70
GGG-80 / EN-GJS800-2		800/2		120-90-02	0.7080	GGG-80	FGS 800-2	GS 800-2		
GGG-Ni22 / EN-GJSAXNi22		S-Ni 22		A 439 Type D-2C	0.7670	GGG-Ni22	S-N 22			
GGG-Ni35 / EN-GJSAXNi35		S-Ni 35		A 439 Type D-5	0.7683	GGG-Ni35	S-N 35			
GGG-NiCr20.3		S-NiCr 20 3		A 439 Type D-2B	0.7661	GGG-NiCr20.3	S-NC 20 3			
GGG-NiCr202 / EN-GJSAXNiCr20-2		S-NiCr 20 2		A 439 Type D-2	0.7660	GGG-NiCr20.2	S-NC 20 2			
GGG-NiCr30.1		S-NiCr 30 1		A 439 Type D-3A	0.7677	GGG-NiCr30.1	S-NC 30 1			
GGG-NiCr303 / EN-GJSAXNiCr30-3		S-NiCr 30 3		A 439 Type D-3	0.7676	GGG-NiCr30.3	S-NC 30 3			
GGG-NiCr353 / EN-GJSAXNiCr35-3		S-NiCr 35 3		A 439 Type D-5B	0.7685	GGG-NiCr35.3	S-NC 35 3			
GGG-NiCrNb20.2					0.7659	GGG-NiCrNb20.2				
GGG-NiMn13.7		S-NiMn 13 7			0.7652	GGG-NiMn13.7	S-NM 13 7			
GGG-NiMn234 / EN-GJSAXNiMn23-4		S-NiMn 23 4		A 571 Type D-2M	0.7673	GGG-NiMn23.4	S-NM 23 4			
GGG-NiSi3055 / EN-GJSAXNiSiCr30-5-5		S-NiSiCr 30 5 5		A 439 Type D-4	0.7680	GGG-NiSiCr30.5.5	S-NSC 30 5 5			
GGG-NiSiCr20.5.2		S-NiSiCr 20 5 2			0.7665	GGG-NiSiCr20.5.2	S-NSC 20 5 2			
GGG-NiSiCr30.5.2					0.7679	GGG-NiSiCr30.5.2				
GGG-NiSiCr35.5.2					0.7688	GGG-NiSiCr35.5.2				
Malleable Iron										
GTS-35-10 / MN35-10		B 340/12	815	32510	0.8135	GTS-35-10	MN 35-10			
GTS-45-06 / MN450-6						GTS-45-06	MN450-6			
GTS-55-04 / MP50-5							MP50-5			
GTS-65-02 / MN650-3		P 570/3	858	70003	0.8165	GTS-65-02	MN650-3			
GTS-70-02 / MN700-2		P 690/2	862	A220-80002	0.8170	GTS-70-02	MN700-2	GMN 70		
GTW-35-04					0.8035	GTW-35-04				
GTW-40-05					0.8040	GTW-40-05				
GTW-45-07					0.8045	GTW-45-07				

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STELLRAM

Hardness HRB HRC HB	Rm N/mm²	Fe	Ni	Cr	Co	Mo	W	Si	Mn	C	Al	Ti	Li	P	S	Mg	Zn	Cu	Others
Gray Iron																			
230HB	760																		
235HB	770																		
250HB	810																		
175HB	570																		
185HB	620																		
205HB	660																		
220HB	730																		
Spheroidal-Ductile Iron																			
150-200HB	660																		
200-250HB	810																		
200-250HB	810																		
200-250HB	810																		
150-180HB	600																		
155-220HB	730																		
190-255HB	820																		
200-260HB	840																		
240-300HB	970																		
265-300HB	970																		
130-170HB	570																		
130-180HB	600																		
	390																		
140-200HB	660																		
	370																		
140-200HB	660																		
140-190HB	630																		
	370																		
	390																		
120-170HB	570																		
170-240HB	780																		
	370																		
	380																		
	370																		
Malleable Iron																			
150HB	350-500																		
175HB	580																		
205HB	670																		
230HB	650-880																		
265HB	700-950																		
	340-740																		
	360-740																		
	400-740																		

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STELLRAM

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Aluminum & Alloys <16% Si										
1050		1B			3.0255	Al99,5	A5	4507		
1070					3.0275	Al99,7		4508		
1080		1A			3.0128	Al99,8	A8	4509		
1100										
2011		FC1		2011	3.1655	AlCuBiPb	A-U5PbBi	6362		
2014		H15			3.1255	AlCuSiMn	A-U4SG	3581		
2017				2017	3.1325	AlCuMg1	A-U4G	3579		
2024		L97		2024	3.1355	AlCuMg2	A-U4G1			
2117										
2218						AlCuMgNi2				
2224										
3003					3.0517	AlMnCu	A-M1	3568		
3004					3.0526	AlMn1Mg1	A-M1G			
3005					3.0525	AlMn1Mg0.5	A-MG0.5			
3103		N3			3.0515	AlMn1		7780		
3105										
5005		N41		5005	3.3315	AlMg1	A-G0,6	5764-66		
5052		2L56		5052	3.3523	AlMg2,5	A-G2,5C	4574		
5056		N6		5056	3.3555	AlMg5	A-G5	3576		
5083		N8		5083	3.3547	ASlMg4,5Mn	A-G4,5MC	7790		
5086					3.3545	AlMg4Mn				
5154		N5			3.3535	AlMg3,5	A-G3	3575		
5251		N4			3.3525	AlMg2Mo3	A-G2M	3574		
5454		N51		5454	3.3537	AlMg2,5Mn	A-G2,5MC	7789		
5657						AlMg0,8Si				
5754		N5		5754	3.3535	AlMg3	A-G3M	3575		
6061		H20					A-GSUC	6170		
6063		H9		6063	3.3206	AlMgSi0,5	A-GS	3569		
6070										
6151										
6262										
6351		H30		6351	3.2315	AlMgSi1	A-SGM0,7	3571		
6463		91E			3.3207	EAlMgSi0,5		3570		
7001										
7003										
7020		H17			3.4335	AlZn4,5Mg1	A-Z5G	7791		
7022					3.4345	AlZnMgCu0,5				
7050										
7075		DTD5074		7075	3.4365	AlZnMgCu1,5	A-Z5GU	3735		
7175							AS5U3			
7178										
7475										
AS7G						AlSi7Mg				
Aluminum & Alloys >16% Si										
4032										

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STELLRAM

Hardness HRB HRC HB	Rm N/mm²	Fe	Ni	Cr	Co	Mo	W	Si	Mn	C	Al	Ti	Li	P	S	Mg	Zn	Cu	Others
Aluminum & Alloys <16% Si																			
	105	0.4		-				0.25	0.5		99.50min	-				0.05	0.05	0.05	-
	100	0.25						0.25	0.03		rem	0.03				0.03	0.04	0.04	
	100	0.15						0.25	0.02		rem	0.03				0.02	0.03	0.03	
	90	Si+Fe1.0max		-					0.05		99.00min	-				-	0.1	0.05~0.20	-
	310	0.7		-				0.4	-		rem	-				-	0.3	50.~60.	Pb,Bi 0.2~0.6
	430	0.7		0.1				0.5~1.2	0.4~1.2		rem	0.15				0.2~0.8	0.25	3.9~5.0	-
	390	0.7		0.1				0.2~0.8	0.4~1.0		rem	0.15				0.4~0.8	0.25	3.5~4.5	-
	465	0.5		0.1				0.5	0.3~0.9		rem	0.15				1.2~1.8	0.25	3.8~4.9	-
	296	0.7		0.1				0.8	0.2		rem					0.2-0.5	0.25	2.2-3.0	
	331	1	1.7~2.3	0.1				0.9	0.2		rem	-				1.2~1.8	0.25	3.5~4.5	
		0.15		0.1				0.12	0.30~0.9		rem	0.15				1.2~1.8	0.25	3.8~4.4	-
	140	0.7		-				0.6	1.0~1.5		rem	-				-	0.1	0.05~0.20	-
	200	0.7						0.3	0.51-1.0		rem					0.8-1.3	0.25	0.25	
	165	0.7		0.1				0.6	1.0-1.5		rem	0.1				0.2-0.6	0.25	0.3	
		0.7		0.1				0.5	0.9-1.5		rem	0.1+Zr				0.3	0.2	0.1	
	175	0.7		0.2				0.6	0.3-0.8		rem	0.1				0.2-0.8	0.4	0.3	
	159	0.7		0.1				0.3	0.2		rem					0.5-1.1	0.25	0.2	
	260	0.4		0.15~0.35				0.25	0.1		rem	-				2.2~2.8	0.1	0.1	-
	300	0.4		0.05~0.20				0.3	0.05~0.20		rem	-				4.5~5.6	0.1	0.1	-
	335	0.4		0.05~0.25				0.4	0.4~1.0		rem	0.15				4.0~4.9	0.25	0.1	-
	300	0.5		0.05~0.25				0.4	0.20~0.7		rem	0.15				3.5~4.5	0.25	0.1	-
	269	0.4						0.45	0.1		rem					3.1-3.9	0.2	0.1	
		0.7		0.1				0.5	0.2-0.7		rem	0.1				1.6-2.2	0.25	0.25	
	276	0.4		0.05-0.2				0.25	0.5-1.0		rem	0.05-0.2				2.4-3.0	0.25	0.1	
	193	0.1						0.08	0.03		rem					0.6-1.0		0.1	
		0.4		0.3				0.4	0.5		rem	0.15				2.6-3.6	0.2	0.1	
	300	0.7		0.04~0.35				0.4~0.8	0.15		rem	0.15				0.8~1.2	0.25	0.15~0.40	-
	200	0.35		0.1				0.2~0.6	0.1		rem	0.1				0.45~0.9	0.1	0.1	-
	379	0.5		0.1				1.0~1.7	0.40~1.0		rem	0.15				0.50~1.2	0.25	0.15~0.40	-
		1		0.15~0.35				0.6~1.2	0.2		rem	0.15				0.45~0.8	0.25	0.35	-
	400	0.7		0.04~0.14				0.4~0.8	0.15		rem	0.15				0.8~1.2	0.25	0.15~0.40	Pb, Bi 0.40~0.7
	310	0.5		-				0.7~1.3	0.4~0.8		rem	0.2				0.40~0.8	0.2	0.1	-
	241	0.15		-				0.20~0.6	0.05		rem	-				0.45~0.9	0.05	0.2	-
		0.4		0.18~0.35				0.35	0.2		rem	0.2				2.6~3.4	6.8~8.0	1.6~2.6	-
	400	0.35		0.2				0.3	0.3		rem	0.2				0.50~1.0	5.0~6.5	0.2	Zr0.05~0.25
		0.4		0.1-0.35				0.35	0.05-0.5		rem					1.0-1.4	4.0-5.0	0.2	Zr0.08-0.2
		0.5		0.1-0.3				0.5	0.1-0.4		rem					2.6-3.7	4.3-5.2	0.5-1.0	
	530	0.15		0.04				0.12	0.1		rem	0.06				1.9~2.6	5.7~6.7	2.0~2.6	Zr0.08~0.15
	570	0.5		0.18~0.28				0.4	0.3		rem	0.2				2.1~2.9	5.1~6.1	1.2~2.0	-
	590	0.2		0.18-0.28				0.15	0.1		rem	0.1				2.1-2.9	5.1-6.1	1.2-2.0	
	600	0.5		0.18~0.35				0.4	0.3		rem	0.2				2.4~3.1	6.3~7.3	1.6~2.4	-
	565	0.12		0.18~0.25				0.1	0.06		rem	0.06				1.9~2.6	5.2~6.2	1.2~1.9	-
50/90HB	250																		
Aluminum & Alloys >16% Si																			
	379	1	0.5~1.3	0.1				11.0~13.5	-		rem	-				0.8~1.3	0.25	0.5~1.3	

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Material Designation

P Unalloyed Steels | P Alloyed Steels | M Stainless Steels | M PH Stainless | K Cast Irons | N Aluminum & Alloys | S High Temp. Alloys | H Hard Materials

Commercial Name	UNS Number	UK: BS,EN	Sweden: SS	USA: AISI/SAE	Germany: Wnr	Germany: DIN	France: AFNOR	Italy: UNI	Spain: UNF	Japan: JIS
Aluminum Lithium										
2050										
2090										
2091										
2094										
2095										
2097										
2098										
2099										
2195										
2196										
2197										
2198										
2199										
2297										
2397										
8017										
8024										
8090										
8091										
8093										
HTA Iron Based Alloys										
20CB-3				ASTM B463						
21-6-9				ASTM A666						
AL 4750				ASTM B753						
Armco 18										
Armco 20-45-5										
RA 330				5592, 5716						
Crucible A-286	UNS S66286	HR 5152		ASTM 368	1.4980	X5NiCrTi2515	Z06 NCT 25			
Discaloy 16/25/6				5725			Z3NCT25			
Discaloy 24				ASTM A638			Z3NCT25			
Greek Ascoloy				5508						
Haynes 556				5768		X12CrCoNi2120	Z12CKNDWNb21.20.20			
Incoloy 800	UNS N08800	3082.76		ASME SB409		X10NiCrAlTi3220	Z10NC3221			
Incoloy 801	UNS N08801			5552	1.4868	G.X50CrNi3030	Z5NCT3220			
Incoloy 802							Z4NC3221			
Incoloy 803										
Incoloy DS		3072.76				X12NiCrSi3616				
Invar 36	UNS K93600 K93603			ASTM F1684						
Invar 42				ASTM F30						
Maraging C200	UNS K92810									
Maraging C250	UNS K92890			6501, 6512, 6520			Z2NKD18.8			
Maraging C300	UNS K93120			6514						
Maraging C350										
Maraging T200										

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P Unalloyed Steels | P Alloyed Steels | M Stainless Steels | M PH Stainless | K Cast Irons | N Aluminum & Alloys | S High Temp. Alloys | H Hard Materials

Hardness HRB HRC HB	Rm N/mm²	Fe	Ni	Cr	Co	Mo	W	Si	Mn	C	Al	Ti	Li	P	S	Mg	Zn	Cu	Others
Aluminum Lithium																			
	520			0.05				0.08	0.20-0.50		rem	0.1	0.70-1.30			0.20-0.60	0.25	3.20-3.90	Zr0.25
	510			0.05				0.1	0.05		rem	0.15	1.90-2.60			0.25	0.1	2.40-3.0	Zr0.08-0.15
	400			0.1				0.2	0.1		rem	0.1	1.70-2.3			1.10-1.90	0.25	1.80-2.50	Zr0.04-0.16
								0.12	0.25		rem	0.1	0.70-1.40			0.25-0.80	0.25	4.40-5.20	Zr0.04-0.18
								0.12	0.25		rem	0.1	0.70-1.40			0.25-0.80	0.25	3.90-4.60	Zr0.04-0.18
								0.12	0.10-0.60		rem	0.15	1.20-1.80			0.35	0.35	2.50-3.10	Zr0.08-0.16
								0.12	0.35		rem	0.1	0.80-1.30			0.25-0.80	0.35	3.20-3.80	Zr0.04-0.18
								0.05	0.10-0.50		rem	0.1	1.60-2.00			0.10-0.50	0.40-1.00	2.40-3.00	Zr0.05-0.12
								0.12	0.25		rem	0.1	0.08-0.16			0.25-0.80	0.25	3.70-4.30	Zr0.08-0.16
								0.12	0.35		rem	0.1	1.40-2.10			0.25-0.80	0.35	2.50-3.30	Zr0.04-0.18
								0.1	0.10-0.50		rem	0.12	1.20-1.70			0.25	0.05	2.50-3.10	Zr0.08-0.15
				0.05				0.08	0.5		rem	0.1	0.80-1.10			0.25-0.80	0.35	2.90-3.50	Zr0.04-0.18
								0.05	0.10-0.50		rem	0.1	1.40-1.80			0.050-0.40	0.20-0.90	2.30-2.90	Zr0.05-0.12
								0.1	0.10-0.50		rem	0.12	1.10-1.70			0.25	0.05	2.50-3.10	Zr0.08-0.15
								0.1	0.10-0.50		rem	0.12	1.10-1.70			0.25	0.05-0.15	2.50-3.10	Zr0.08-0.15
								0.1	0.01-0.05		rem		0.003				0.05	0.10-0.20	
								0.1			rem		3.40-4.20						Zr0.08-0.25
	450			0.1				0.2	0.1		rem	0.1	2.20-2.70			0.60-1.30	0.25	1.00-1.60	Zr0.04-0.16
				0.1				0.3	0.1		rem	0.1	2.40-2.80			0.50-1.20	0.25	1.60-2.20	Zr0.08-0.16
				0.1				0.1	0.1		rem	0.1	1.90-2.60			0.90-1.60	0.25	1.00-1.60	Zr0.04-0.14
HTA Iron Based Alloys																			
95HRB	690	41.0	33.0	20.0		2.2		1	2	0.07									Cu 3.3
93HRB	660	62.0	6.5	21.0				1	9	0.08									No 0.3
55HRB	350	50.0	48.0	0.1	0.5	0.3			0.3	0.01				0.03	0.01				Cu 0.3
		66.0	3.7	17.2				0.47	12.5	0.06									
		25.6	46.0	20.0		2.3		1	5	0.08									Nb 0.4
		43.8	35.5	18.5				1.13	1	0.04				0.01	0.01				Cu 0.5
250HB	810	56.0	25.0	14.5		1.3		0.2	0.2	0.05	0.2	2.1							
290HB	930	50.1	25.0	16.0		6.0		0.7	1.35	0.12		0.3							Nb 0.4
280HB	900	54.3	26.0	13.5		2.7		0.8	0.9	0.04	0.1	1.7							
300HB	970	80.0	2.0	12.0		0.2	2.5	0.3	0.4	0.15									
260HB	840	29.0	20.0	21.0	20.0	3.0	2.5	0.4	1.5	0.1	0.3								Nb + Ta
184HB	630	44.5	32.5	21.0				0.5	0.75	0.05	0.37	0.37			0.007				Cu 0.37
180HB	600	45.1	32.0	20.5				0.5	0.8	0.05		1.1							
180HB	600	44.4	32.5	21.5				0.4	0.8	0.4									
		39.0	35.0	25.0						0.08	0.15	0.15							
180HB	600	41.7	37.0	18.0				2.3	1	0.06									
75HRB	460	62.0	36.0		0.4	0.0		0.15	0.3	0.008	0.03				0.001				
55HRB	350	58.0	41.0	0.2	0.0				0.2	0.01	0.001			0.01	0.007				
43-48HRC	1360	69.0	18.5		8.5	3.3		0.05	0.05	0.01		0.2		0.005	0.005				
48-52HRC	1590	68.0	18.5		7.8	4.8		0.05	0.05	0.02	0.1	0.4		0.005	0.005				
50-55HRC	1700	67.0	18.5		8.8	4.8		0.05	0.05	0.02	0.1	0.73		0.005	0.005				
55-60HRC	2010	63.0	18.5		12.0	4.8		0.05	0.05	0.02	0.1	1.4		0.005	0.005				
43-47HRC	1400	77.6	18.5			3.0		0.05	0.05	0.01		0.7		0.005	0.005				

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STELLRAM

Commercial Name	UNS Number	UK: BS,EN	Sweden: SS	USA: AISI/SAE	Germany: Wnr	Germany: DIN	France: AFNOR	Italy: UNI	Spain: UNF	Japan: JIS
HTA Iron Based Alloys										
Maraging T250				6518, 6519, 6591						
Maraging T300										
Marval 18										
Marval X12										
Multimet N-155				5768	1.4971		Z12CNKDW20			
Multimet N-156										
S 590				5533		X40CoCrNi2020	Z42CKNDW			
Sanicro 30						X2NiCrAlTi3220				
Super Invar 32-5										
Udimet B-250										
Udimet B-300										
W-545				AISI:665			Z8NCTDA2613			
HTA Cobalt Based Alloys										
F 1537	UNS R31537 & R31538			ASTM F1537			CoCr28Mo			
Fe50Co50										
HS 21		3531		ASTM F-75		CoCr28Mo	KC27D5NFe			
HS 25				AISI 670		CoCr20W15Ni	KC20WN			
HS 30				5380		CoCr26Ni14Mo				
HS 31		3146		ASTM A567		CoCr25NiW	KC25NW			
HS 36						CoCr19W14NiB				
Jetalloy 209										
K13C20N126	UNS R3003 & R3008			ASTM F1058		K13C20N126Fe15D7	K13C20N126Fe15D7			
L 251										
L 605	UNS R30605			5759	2.4964	CoCr20W15Ni	KC20WN			
M 203										
M 204										
M 205										
MAR-M 247										
MAR-M 302						CoCrW10TaZrB	KC21W10Ta9			
MAR-M 322						CoCr22W9TaZrNb	KC21W9Ta			
MAR-M 509		3146.3				CoCr24Ni10WTaZrB	KC23N10W7Ta			
MAR-M 905							KC20N20Ta7			
MAR-M 918						CoCr20Ni20Ta	KC20N20Ta7			
MP159	UNS R30159									
MP35N	UNS R30035									
S 816				5534	2.4979	CoCr20Ni20W				
Stellite 1							KC33W13			
Stellite 100										
Stellite 12							KC28W8			
Stellite 151										
Stellite 188							KC22N22W14Fe			
Stellite 19										
Stellite 20										
Stellite 21										
Stellite 23										

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Hardness HRB HRC HB	Rm N/mm²	Fe	Ni	Cr	Co	Mo	W	Si	Mn	C	Al	Ti	Li	P	S	Mg	Zn	Cu	Others
HTA Iron Based Alloys																			
49-52HRC	1600	76.8	18.5			3.0		0.03	0.05	0.02	0.1	1.4		0.005	0.005				
52-55HRC	1800	76.8	18.5			3.0		0.03	0.05	0.02	0.1	1.4		0.005	0.005				
50HRC	1700	68.0	18.0		8.5	5.0		0.1		0.01	0.1	0.5							
32HRC	1000	75.0	9.4	12.0		2.0		0.05	0.02	0.01	0.7	0.3							
266HB	850	32.0	20.0	21.0	20.0	3.0				0.1									
260HB	840	19.7	33.0	17.0	24.0	3.0	2.0			0.33									
270HB	870	24.9	20.0	21.0	20.0	4.0	4.0	1.25	0.4	0.43									
150HB	510	14.6	34.0	22.0				0.55	0.55	0.03	0.3	0.5							Cu 0.1
	600	62.0	31.8	0.03	5.4			0.09	0.39	0.05	0.07							.08	
470HB	1590	68.6	18.0		7.9	4.9		0.1	0.1	0.08	0.1								
470HB	1590	67.0	18.0		9.0	5.0		0.1	0.1	0.08	0.1								
280HB	900	53.0	26.0	13.3		1.8		0.8	1.5	0.08	0.15								
HTA Cobalt Based Alloys																			
41HRC	1290	0.3	0.2	28.0	64.0	6.0		0.5	0.5	0.1									N 0.2
1050HV																			
		1.0	3.0	27.0	62.0	5.0		0.6	0.6	0.2		0.3							
		3.0	10.0	20.0	48.0		15.0	2.0	1.5			0.1							
		1.0	16.0	24.0	51.4	6.0		0.6	0.6			0.4							
		1.5	10.0	25.0	54.0		8.0	0.8	0.6			0.4							
		2.0	10.0	18.0	53.1		15.0		1.5			0.4							
180/230HB		1.0	10.0	20.0	52.0		15.0				2.0	0.0							
500/700HV	1450-1650																		
		1.0	10.0	19.0	55.6		14.0					0.4							
80HRB	510	0.5	10.0	20.0	52.0		15.0		1.7	0.1									
		1.0	24.5	19.5	38.0		12.0	1.0	0.8	2.2	0.7	0.1							
			24.5	18.5	43.0		12.0	1.0	1.0			0.1							
			24.5	18.5	42.0		12.0			2.8		0.1							
	800	0.5	59.0	8.3	10.0	0.7	10.0				5.5	1.0							Ta 3.0
				21.5	57.0		10.0					0.9							Ta 9.0
				21.5	60.0		9.0	0.1	0.1	1.0	0.8	1.0							Ta 4.5, Zr 2.25
		1.0	10.0	21.5	50.0		7.0	0.1	0.1		0.2	0.6							Ta 3.5, Zr 0.5
			20.0	20.0	55.0						0.5	0.1							Ta 7.5, Zr 0.1
		0.5	20.0	20.0	50.0			0.1	0.1			0.1							Ta 7.5, Zr 0.1
		9.0	25.5	19.0	35.7	7.0					0.2	3.0							Zr 0.6
28HRC	900		35.0	20.0	35.0	9.8				0.013									
		4.0	20.0	20.0	46.0	4.0	4.0	0.4	1.2			0.4							
				33.0	50.0		13.0			2.5									
				34.0	43.0		19.0			2.0									
463HB	1560	2.0	3.0	29.0	59.0		9.0			1.8									
		2.0	1.0	20.0	65.0		13.0			0.5									
		3.0	22.0	22.0	37.0		14.0			0.1									
52HRC	1800	3.0	3.0	31.0	52.0		10.5			1.7									
				33.0	45.0		18.0			2.5									
		3.0	2.5	27.0	60.0	5.5				0.3									
		2.0	1.5	25.0	65.0		5.0			0.4									

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HTA Cobalt Based Alloys										
Stellite 25 (L605)				5759	2.4964	CoCr20W15Ni	KC20WN			
Stellite 3										
Stellite 30										
Stellite 31 (X40)		3146.2		ASTM A567		CoCr25NiW	KC25N10W7Fe			
Stellite 4										
Stellite 45										
Stellite 6							KC26NW			
Stellite 7										
Stellite 8 (F75)										
V-36						CoCr25Ni20MoWNb	KC25N20DFeWNb			
WI-52						CoCr21Mo11W	KC21W11ANbT			
X 40		3146.2		ASTM A567		CoCr25NiW	KC25N10W7Fe			
X 45							KC25N10W7Fe			
X 50										
X 63										
HTA Nickel Based Alloys										
200	UNS N02200									
201	UNS N02201									
718 Plus										
Allcorr										
Astroloy	UNS N13017						NK17C15D5AT			
Duraloy 22H										
Duraloy Super 22H										
GMR 235				AISI 686			NC15Fe10D5AT			
GMR 235-D						NiCr16MoAl	NC15D5FeAT			
Hastelloy B				5396A	2.48	S.NiMo30	ND27FeV			
Hastelloy B-2	UNS N10665									
Hastelloy C	UNS N10002			5388C		NiCr17Mo17FeW	NC17DWY			
Hastelloy C-22										
Hastelloy C-276	UNS N10276				2.4819	G-NiMo30	NC15D14KFe			
Hastelloy C-4	UNS N06455									
Hastelloy G	UNS N06007						NC22Fe19D6KTa			
Hastelloy G-3	UNS N06985				2.4619					
Hastelloy N	UNS N10003									
Hastelloy R235										
Hastelloy S	UNS N06635						NC15D14KFe			
Hastelloy W	UNS N10004									
Hastelloy X	UNS N06002	HR6, 204		5536	2.4603	NiCr22FeMo	NC22FeD			
Haynes 188	UNS R30188			5772			KC22N22W14Fe			
Haynes 25	UNS R30605			5759		LW2.4964	KC20WN			
Haynes 263	UNS N07263						NC20K20D6T			
Haynes 600	UNS N06600			5540	2.4816	NiCr15Fe				
Haynes 601	UNS N06601			5715	2.4851					
Haynes 625	UNS N06625			ASME SB443	2.4856	NiCr22Mo9Nb	NC22FeDNB			
Haynes 690	UNS N06690				2.4642	NiCr29Fe	NC30Fe			
Haynes 75										
Haynes X-750	UNS N07750			5542	2.4669		NC15TNbA			

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STELLRAM

Hardness HRB HRC HB	Rm N/mm²	Fe	Ni	Cr	Co	Mo	W	Si	Mn	C	Al	Ti	Li	P	S	Mg	Zn	Cu	Others
HTA Cobalt Based Alloys																			
350HB	1130	2.0	10.0	20.0	52.0		15.0			0.2									
450HB	1490			30.0	52.0		13.0			2.4									
		2.0	15.0	26.0	50.0	6.0				0.5									
			10.0	25.0	56.0		7.0			0.3									
47HRC	1560	3.0	3.0	31.0	53.0		14.0			1.0									
		2.0	10.5	25.0	56.0	0.5	7.5			0.3									
300HB	970	3.0	3.0	26.0	66.0		5.0			1.0									Nb 6.0
				26.0	66.0		5.0			0.4									
				20.0	63.0	6.0				0.2									
		3.0	20.0	25.0	43.2	4.0	2.0	0.4	1.0			0.3							Nb 2.0
		2.0	1.0	21.0	62.6		11.0	0.3	0.3		0.3	0.5							Nb 2.0
		2.0	10.5	25.5	53.0		7.5	0.8	0.8			0.5							
		2.0	10.5	25.5	54.7		7.0		0.7			0.3							B 0.01
		4.0	20.5	22.5	40.3		12.0					0.8							
		1.0	10.0	25.0	57.6	6.0													
HTA Nickel Based Alloys																			
45HRB	310	0.4	99.8					0.35	0.35	0.15					0.01			0.25	
45HRB	310	0.4	99.9					0.35	0.35	0.2					0.01			0.25	
42HRC	1330	9.0	53.0	19.0	9.0	2.8	1	0.01	0.35	0.06	1.6	0.75		0.02	0.01				
85HRB	550		56.0	31.0			2			0.02	0.25	0.25							Nb 0.4
40HRC	1270		55.4	15.0	17.0	5.25				0.06	4	3.5							
			50.0	30.0															
			48.0	28.0	3.0														
	620	10.0	63.3	15.5		5.2		0.4	0.2	0.15	3	2							
	620	4.5	63.0	15.5		5				0.15	3.5	2.5							
90HRB	600	5.0	62.0	1.5	2.5	28		0.05	0.5	0.02									V 0.4
90HRB	600	1.0	81.0	0.5	0.5	16		0.05	0.5	0.01				0.02	0.015				
200HB	660	6.0	54.1	15.0	2.0	17	5			0.04									
94HRB	660	3.0	56.0	22.0	2.5														
191HV	630	5.5	56.0	15.0	2.5														
	750	3.0	58.0	16.0	2.0														
		20.0	46.0	22.0	2.5														
		20.0	40.0	22.0	5.0														
80HRB	510	4.0	72.5	7.0		16.5				0.02									
		10.0	61.0	15.5	2.5	5.5				0.15	2	2.5							
61HRA	780	3.0	67.0	16.0	2.0														
94HRB	660	4.0	66.5	5.0	1.3	24.5				0.02									
80HRB	510	18.5	48.6	21.8	1.5	9	0.6			0.1									
		3.0	22.0	22.0	37.0														
	1000	3.0	10.0	20.0	bal		15		1.5	0.1									
		0.7	51.4	20.0	20.0	6				0.06	1	1.5							
85HRB	550	8.0	72.0	15.5						0.08									
65HRB	430	14.0	60.5	23.0															
95HRB	660	5.0	61.4	21.5		9				0.1									
88HRB	570	9.0	58.0	29.0				0.2	0.2	0.25					0.007				Cu 0.2
		5.0	73.7	20.0						0.12	0.25	0.4							Cu 0.5
		7.0	74.9	16.0						0.08	0.8	0.25							

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Commercial Name	UNS Number	UK: BS,EN	Sweden: SS	USA: AISI/SAE	Germany: Wnr	Germany: DIN	France: AFNOR	Italy: UNI	Spain: UNF	Japan: JIS
HTA Nickel Based Alloys										
IN100	UNS N13100			5397	2.4674	NiCo15Cr10MoAlTi	NK15CAT			
Incoloy 020				ASTM B463	2.4660		20CB-3			
Incoloy 804							NC29Fe25			
Incoloy 825	UNS N08825	3072.76		ASME SB163	2.4858	NiCr21Mo	NC21FeDU			
Incoloy 901	UNS N09901			5660	2.4662	NiFe35Cr14MoTi	Z8NCDT42			
Incoloy 903	UNS N19903					NiFe42K15Nb	Z3NK28			
Incoloy 925	UNS N09925									
Inconel alloy 050										
Inconel alloy 182										
Inconel alloy 22				ASME SB575			NiMo16Cr15			
Inconel alloy 230										
Inconel alloy 600	UNS N06600	3072.76		5540	2.4640	NiCr15Fe	NC15Fe			
Inconel alloy 600SP										
Inconel alloy 601	UNS N06601			5715	2.4851		NC23Fe14A			
Inconel alloy 601GC										
Inconel alloy 603XL										
Inconel alloy 604										
Inconel alloy 606										
Inconel alloy 613										
Inconel alloy 617	UNS N06617				2.4663	NiCr23Co12Mo	NC22K12D9A			
Inconel alloy 62										
Inconel alloy 622					2.4602					
Inconel alloy 625	UNS N06625			ASME SB443.4	2.4856	NiCr22Mo9Nb	NC22FeDNB			
Inconel alloy 625LCF	UNS N06626									
Inconel alloy 657										
Inconel alloy 671										
Inconel alloy 672										
Inconel alloy 686										
Inconel alloy 690	UNS N06690				2.4642		NC30Fe			
Inconel alloy 691										
Inconel alloy 693										
Inconel alloy 702				5550			NC15A			
Inconel alloy 706	UNS N09706			AMS 5702			NFe10C16NbT			
Inconel alloy 718	UNS N07718	HR8		5383	2.4668	NiCr19Fe19NbMo	NC19FeNb			
Inconel alloy 718 DA										
Inconel alloy 718 OP	UNS N07718									
Inconel alloy 720										
Inconel alloy 721							NC16Fe8TM			
Inconel alloy 722	UNS N07722			5541		NiCr16FeTi	NC16FeTi			
Inconel alloy 725										
Inconel alloy 725HS										
Inconel alloy 738										
Inconel alloy 740										
Inconel alloy 783	UNS R30783									
Inconel alloy 800										
Inconel alloy 800H	UNS N08810									

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HTA Nickel Based Alloys																			
			61.6	10.0	15.0	3				0.18	5.5	4.7							V 1.0
		38.0	34.0	20.0	2.5														Nb 0.6 Cu 3.5
		25.4	41.0	29.5				0.5	0.75	0.06	0.25	0.6							Cu 0.4
80HRB	510	29.5	42.0	21.5			3	0.5	0.65	0.03	0.2	0.9							Cu 2.25
180-300HB	600-970	34.0	44.3	12.5		6.2		0.22	0.48	0.05		2.5							
380HB	1250	41.0	39.0		15.0						0.7	1.4							Nb 3.0
32HRC	1000	25.4	45.0	21.0		3					0.3	2.1							Cu 1.8
36HRC	1130	18.0	50.0	20.0	3.0														
		7.5	66.0	16.0															
90HRB	600	2.5	58.0	22.0															
		1.0	60.0	22.0	1.0														
85HRB	550	8.0	76.0	16.0						0.075									
		8.0	77.0	15.0															
65HRB	400	14.0	61.0	24.0				0.2	0.5	0.05	1.3				0.008				Cu 0.5
77HRB	480	14.0	61.0	24.0															
			73.0	22.0															
		8.0	72.0	16.0				0.2	0.2	0.04									
		1.0	73.0	20.0															
		6.0	76.0	16.0															
180HB	600	1.0	53.0	22.0	13.0	9				0.07	1								
		8.0	74.0	15.0															
100HRB	780	2.5	58.0	22.0		14.2	3.2												
95HRB	690	4.0	61.0	22.0		9				0.05	0.3	0.3							Cb 3.7
		4.0	61.0	22.0															
		0.5	47.5	50.0															
			51.5	48.0															
			54.0	45.0															
90HRB	600	1.0	58.0	21.0															
85HRB	550	9.0	62.0	29.0				0.2	0.2	0.25					0.007				
		9.0	59.0	30.0															
		5.0	60.0	30.0															
		1.0	79.0	16.0				0.2	0.05	0.04	3.4	0.7							
40HRC	1270	37.0	42.0	16.0						0.03		1.8							Cb 2.9
42HRC	1330	18.0	54.0	18.0		3.1				0.02	0.5	0.9							Cb 5.2
40-47HRC	1560	bal	50-55	17-21	1.0	2.8-3.3		0.35	0.35	0.08	.2-.8	.65-1.15		0.015	0.015				Cb+Ta 5-5.5
38HRC	1200	18.0	54.0	18.0		3.1				0.02	0.5	0.9							Cb 5.2
43HRC	1380	14.7	58.0	18.0	14.7	3	1.25				2.5	5							
		7.0	71.0	16.0				0.15	2.25	0.07	0.1	3							Cu 0.2
34HRC	1070	7.0	74.0	16.0						0.04	0.7	2.4							
37HRC	1170	9.0	58.0	21.0		8					0.3	1.5							Nb 3.5
		9.0	58.0	21.0															
		0.5		16.0	8.5	1.8	2.6	0.3	0.2	0.17	3.4	3.4							Nb 0.9 Ta 1.8 Zr 0.1
		1.0	48.0	25.0	20.0														
34HRC	1070	26.0	28.5	3.0	34.0						5.4	0.1							Nb 0.3
86HRB	550	46.0	31.0	21.0															
70HRB	450	44.0	32.0	21.0				0.35	1	0.08	0.4	0.4		0.02	0.01			0.3	

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Commercial Name	UNS Number	UK: BS,EN	Sweden: SS	USA: AISI/SAE	Germany: Wnr	Germany: DIN	France: AFNOR	Italy: UNI	Spain: UNF	Japan: JIS
HTA Nickel Based Alloys										
Inconel alloy 82										
Inconel alloy 939										
Inconel alloy C-276	UNS N10276									
Inconel alloy G										
Inconel alloy G-3										
Inconel alloy HX	UNS N06002					NiCr22Fe18Mo	NC22FeD			
Inconel alloy MA 6000										
Inconel alloy MA754	UNS N07754									
Inconel alloy MA758										
Inconel alloy X-750	UNS N07750			5542	2.4669	NiCr16FeTi	NC15FeTNb			
Inconel alloy X-751	UNS N07751									
Jessop G81						NiCr20Co18Ti				
M-252	UNS N07252			5551		G-NiCr19Co				
Monel 400	UNS N04400	3072.76		4544	2.4360	NiCu30Fe	NU30			
Monel K500	UNS N05500	3072.76		4676	2.4375	NiCu30Al				
Monel R405	UNS N04405			4674						
Nimocast 713		HC203		5391A		G.NiCr13Al16MoNb	NC13AD			
Nimocast 80		3146								
Nimocast 90										
Nimocast PD16						NiFe33Cr17Mo				
Nimocast PE10		HC202					NC20N13			
Nimocast PK24										
Nimonic 101										
Nimonic 105		HR3			2.4634	NiCo20Cr15MoAlTi	NCKD20ATV			
Nimonic 115		HR401, 601			2.4636	NiCo15Cr15MoAlTi	NCVK15ATD			
Nimonic 75	UNS N06075	HR5, 203.4			2.4630	NiCr20Ti	NC20T			
Nimonic 80A	UNS N07080	HR401, 601			2.4631	NiCr20TiAl	NC20TA			
Nimonic 86										
Nimonic 90	UNS N07090	HR2, 202			2.4632	NiCr20Co18Ti	Nc20ATV			
Nimonic 901	UNS N09901			5660, 5661	2.4662	NiCr15MoTi	Z8NCDT42			
Nimonic 91										
Nimonic 95							NC19K18Fe5TA			
Nimonic C22	UNS N06022			ASME SB575						
Nimonic C263	UNS N07263	HR10			2.4650	NiCr20CoMoTi	NCK20D			
Nimonic C276	UNS N10276			ASME SB575	2.4819		NiMo16Cr15			
Nimonic PE13		HR6, 204		5536E		NiCr22Fe18Mo	NC22FeD			
Nimonic PE16		HR207				NiFe33Cr17Mo	NW11AC			
Nimonic PK25				5751A	2.4666	NiCr18CoMo	NKCD20ATU			
Nimonic PK31										
Nimonic PK33		5057				NiCr20Co16MoTi	NC19KDUN			
R-235				AISI 686						
Refractaloy 26				AISI 690			Z6NKCDT38			
René 100					2.4674	NiCo15Cr10MoAlTi	NK15C10A5T			
René 104										
René 125							NK10C8W7ATaTD			
René 41	UNS N07041			5712, 5713	2.4973	NiCr19Co11MoTi	NC19KDT			
René 63							NK15C14D6AWT			

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HTA Nickel Based Alloys																			
		2.0	72.0	19.0															
			48.0	22.5	19.0														
90HRB	600	5.0	59.0	15.5	0.5	16	3.5			0.01									
		20.0	44.0	22.0	1.0														
		20.0	44.0	22.0	3.0														
90HRB	600	18.0	47.0	22.0	1.5	9	0.6												
			55.0	15.0	15.0														
29HRC	930	1.0	77.5	20.0							0.3	0.5							
320HV	1050		68.0	30.0															
32HRC	1000	7.0	72.0	16.0															
35HRC	1100	7.0	73.0	15.0				0.2	0.5	0.05	1.2	2.3			0.005				Cb 1.1 Cu 0.2
		0.5	79.3	20.0	13.0			0.2	0.5	0.08	1.5	2.5							
27-30HRC	900			18.0-20.0	9.0-11.0	9.0-10.5		0.5	0.5	0.15	0.75-1.25	2.25-2.75			0.015				
70HRB	440	1.2	66.0					0.25		0.15					0.01				
27HRC	860	1.0	66.0					0.25	0.7	0.1	2.7	0.6			0.01				
150HB	510	1.3	63.0					0.25	1	0.15									Cu 31.5
			72.6	13.5		4.5				0.12	6	0.9							
		5.0	69.9	20.0	2.0														
		5.0	52.9	20.0	18.0														
		34.0	43.8	16.5						0.06	1.2	1.2							
			56.4	20.0		6	2.5			0.03									
			61.1	9.5	15.5	9				0.17	5.5	4.7							
			48.0	24.2	19.7	1.5					1.4	3							Nb 1
320HB	1040	1.0	54.0	15.0	20.0	5		0.5	0.5	0.1	4.7	1.2							
350HB	1130	1.0	59.0	15.0	14.0	4				0.16	5	4							
170HB	570	4.0	76.0	20.0				0.45	0.45	0.45	0.1	0.35							
350HB	1130	1.5	70.0	19.5	1.0			0.2	0.55	0.08	1.4	2.4							
			65.0	25.0		10													Ce 0.03
28HRC	870	0.3	58.3	19.5	18.0					0.065	1.4	2.4							
36HRC	1130	35.6	43.0	12.5		6				0.05		2.8							B 0.015
			48.0	29.0	20.0														
		5.0	49.9	19.5	18.0			1	1	0.1	2	3.5							
85HRB	550	4.0	57.0	21.2	1.2	13.5	3	0.04	0.2	0.07				0.01					V 0.17
28HRC	870	0.7	54.9	20.0	20.0	5.85				0.06	0.45	2.15							
80HRB	510	5.0	59.5	15.5	0.5	16	3.5			0.01									
		18.5	49.0	21.8	1.5	9	0.6	0.5	0.5	0.1									
250HB	810	1.2	43.0	16.0	2.0	3.5				0.05	1.2	1.2							
			49.9	19.0	19.5	4		0.75	0.75	0.08	2.9	2.9							B 0.01
			53.0	20.0	14.0	4.5					0.4	2.3							Nb 5.0
350HB	1130	1.0	55.0	18.0	14.0	7		0.25	0.25	0.05	2.1	2							
		10.0	63.3	15.0	1.2	5.5		0.3	0.1	0.12	20	2.5							
		16.0	38.0	19.0	20.0	3.2		1	0.8	0.03	0.2	2.8							
			60.6	10.0	15.0	3				0.18	5.5	4.7							V 1.0
			52.4	11.0	20.5	3.7	2			0.04	3.4	3.6							Nb 0.9 Ta 2.4 B 0.03
			60.0	8.9	10.0	2	7			0.1	4.7	2.5							Hf 1.05 Ta 3.0
36HRC	1130	3.0	52.5	19.0	11.0	9.75				0.06	1.6	2.5							B 0.007
		3.5	54.4	14.0	15.0	6	3.5	0.2	0.1	0.05	3.8	2.5							

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STELLRAM

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HTA Nickel Based Alloys										
René 77							NC15K15ADT			
René 80							NC14K9T5DWA			
René 95							NC14K8			
Stelloy HS27						NiCo32Cr26Mo	KC20WN			
TRW VIA						NiTa9Co8W6CrAl	NTa9K7C6W5A5DT			
Udimet 500	UNS N07500			AISI 684	2.4983	NiCr18CoMoAlTi	NCK19DAT			
Udimet 520										
Udimet 630						NiCr19NbMo	NC18Fe18Nb6DWT			
Udimet 700				AISI 687	2.4636	NiCo15Cr15MoAlTi	NCKD20AT			
Udimet 710							NCK18TDA			
Udimet 718		HR8		5383	2.4668	NiCr19Fe19NbMo	NC19FeNb			
Udimet 720							NC18K15TDA			
Waspaloy®	UNS N07001			5544	2.4654	NiCr20Co14MoTi	NC20K14			
HTA Titanium Based Alloys										
Ti-10.2.3										
Ti-11.5Mo-6Zr-4.5Sn										
Ti-12Mo-6Zr-2Fe (TMZF)										
Ti-13Nb-13Zr										
Ti-13V-11Cr-3Al				4917		TiV13Cr11Al3				
Ti-15-333	UNS R58153									
Ti-15Mo (Alpha + Beta)										
Ti-15Mo (Beta)										
Ti-15Mo-3Nb-3Al-0.2Si				ASTM Grade 21						
Ti-3Al-2.5V	UNS R56320			4943, 4944						
Ti-3Al-8V-6Cr-4Mo-4Zr	UNS R58640									
Ti-425										
Ti-425 MIL										
Ti-45Nb										
Ti-48Al-2Cr-2Nb										
Ti-4Al-4Mo-2Sn-0.5Si		5103				TiAl4Mo4Sn2Si0.5	T-A4DE			
Ti-4Al-4Mo-4Sn-0.5Si		5203				TiAl4Mo4Sn4Si0.5				
Ti-5Al-2.5Fe (Tikrutan)										
Ti-5Al-2.5Sn	UNS R54520	TA 14,17		ASTM B 265	3.7115	TiAl5Sn2	T-A5E			
Ti-5Al-2Sn-2Zr-4Cr-4Mo	UNS R58650			4995		Ti5Al2Sn2Zr4Cr4Mo				
Ti-5Al-5Mo-5V-1Cr-1Fe										TC18
Ti-5Al-5V-5Mo-3Cr										
Ti-6-2-4-6	UNS R56260			4981						
Ti-6-7	UNS R56700									
Ti-6Al-2Sn-2Zr-2Mn-2Cr-0.2Si										
Ti-6Al-4V	UNS R56400	TA10 TA11 TA12 TA13 TA28 TA56		4906, 4920, 4928, 4965, 4967		TiAl6V4	T.A6V;AIR:9183			TC4
Ti-6Al-4V ELI	UNS R56401			4907, 4930, 4931						
Ti-6Al-4V MIL	UNS R56400	TA10 TA11 TA12 TA13 TA28 TA56		4906, 4920, 4928, 4965, 4967		TiAl6V4	T.A6V;AIR:9183			
Ti-6Al-4V MIL (HT)	UNS R56400	TA10 TA11 TA12 TA13 TA28 TA56		4906, 4920, 4928, 4965, 4967		TiAl6V4	T.A6V;AIR:9183			

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STELLRAM

Hardness HRB HRC HB	Rm N/mm²	Fe	Ni	Cr	Co	Mo	W	Si	Mn	C	Al	Ti	Li	P	S	Mg	Zn	Cu	Others
HTA Nickel Based Alloys																			
		0.4	58.0	15.0	15.0	4.2		0.1	0.1	0.17	4.3	3.3							
			61.0	14.0	9.5	4				0.15		4							
		0.3	64.5	14.0	8.0	3.5				0.15		2.5							
		2.0	30.0	25.0	30.0														
			70.5	6.0	7.5	2	5.8			0.13	5.4	1							
		4.0	52.0	19.0	18.0	4		0.1	0.1	0.07	3	3							
40HRC	1270		56.9	19.0	12.0	6	1				2	3							
		18.0	51.0	19.0	18.0	3				0.04	0.6	1.1							
		1.0	53.0	15.0	19.0					0.1	4.4	3.4							
		0.5	55.0	18.0	15.0	1.5				0.07	2.5	5							
42HRC	1330	19.0	54.0	18.0		3				0.05	0.6	1							
	1600		55.0	18.0	14.8	3	1.2			0.035	2.5	5							
38HRC	1200	1.0	57.7	19.5	13.0	4.3				0.05	1.4	3							Zr 0.07
HTA Titanium Based Alloys																			
HRC35	1100																		
	1037	0.085																	Nb13.18 Zr13.49
HRC40	1270																		
HRC32	1000	0.12		3						0.02	3								V 15.0
HRC38	1200	0.1				15													
HRC24	820	0.1				15													
	930	< 0.4				15					3	76.0/80.8							Nb 3.0
HRC24	820	0.13									3								V 2.5
HRC32	1000	0.35		6.5		4.5				0.05	4								V 8.5 Zr 4.5
HRC36	1130	1.5									4								V 2.5 O 0.25
HRC36	1130	1.2/1.8									4.5								V 2.5 O 0.25
												55							Nb 45
HRC22	800			2							48.03	47.97							Nb 2
HRC35	1100																		
	1020	2.5									5								
HRC36	1130																		
HRC38	1200	0.3		3.5/4.5		3.5/4.5					4.5/5.5								Sn 1.5/2.5 Zr 1.5/2.5
HRC40	1270																		
HRC40	1270																		
HRC36	1130																		
HRC32	1000	0.15								0.08	6								Nb 7
				2				0.2	2		6								Sn 2 Zr 2
HRC30-34	1130	0.3								0.1	5.5/6.75								V 4
HRC32	1000	0.25								0.08	5.5/6.75								V 3.5/4.5 O 0.13
HRC30-34	1130	0.3								0.1	5.5/6.75								V 3.5/4.5 O 0.2
HRC35-39	1200	0.3								0.1	5.5/6.75								V 3.5/4.5 O 0.2

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Commercial Name	UNS Number	UK: BS,EN	Sweden: SS	USA: AISI/SAE	Germany: Wnr	Germany: DIN	France: AFNOR	Italy: UNI	Spain: UNF	Japan: JIS
HTA Titanium Based Alloys										
Ti-6Al-4Zr-2Mo-2Sn	UNS R54620									
Ti-6Al-4Zr-2Mo-2Sn-0.2Si	UNS R54620 modified			4919, 4975, 4976		TiAl6Zr4Mo2Sn2				
Ti-6Al-5Zr-0.5Mo-0.25Si						TiA6Zr5Mo0.5Si0.25	T.AGZ.50			
Ti-6Al-5Zr-4Mo-Cu-0.2Si		M201				TiAl6Zr5Mo4CuSi0.2				
Ti-6Al-6V-2Sn	UNS R56620			4971		TiAl16V6Sn2				
Ti-6Al-7Nb						TiAl7Nb				
Ti-7Al-4Mo				ASTM B381		TiAl7Mo4				
Ti-8Al-1Mo-1V	UNS R54810			4915, 4933, 4972		TiAl8Mo1V1				
Ti-8Mo-8V-2Fe-3Al										
Ti-99.5	UNS R50700			ASTM Grade 1 B381F4		Ti-99.5	AIR:9182T60			
Ti-99.6	UNS R50550	TA2, TA3, TA4, TA5		ASTM Grade 2 B381F3		Ti-99.6	AIR:9182T50			
Ti-99.7	UNS R50400	TA2.5		ASTM Grade 3 B381F2		Ti-99.7	AIR:9182T40			
Ti-99.8	UNS R50250	TA6, TA7, TA8, TA9		ASTM Grade 4 B381F1		Ti-99.8	AIR:9182T35			
Hard Steel >1400Mpa										
500										
521										
600										
60SPb20										
70SPb20										
A100										
A2 / Z100CDV5 (HT)		BA2	2260	A2	1.2363	X100CrMoV5 1	Z100CDV5	X100CrMoV51KU	X100CrMoV5 F5227	SKD12
Durimphy						X2NiCoMoTi180905	Z2NKD180905			
Ferrium® S53®										
H10										
H11										
H12										
H19										
H21 / Z30WCV9										
Hardox 450										
Hardox 500										
Hardox 550										
Hardox 600										
K12										
K12 (HT)										
L6 / 55NCDV07 (HT)										
Mh97+Pb										
Z38CDV5										
Chilled Cast Iron 1400Mpa										
GGG120B / EN-GJS-1200-2										
GGG140B / EN-GJS-1400-1										
GGG80B / EN-GJS-800-8										
GGG90B / EN-GJS-1000-5										

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STELLRAM

Hardness HRB HRC HB	Rm N/mm²	Fe	Ni	Cr	Co	Mo	W	Si	Mn	C	Al	Ti	Li	P	S	Mg	Zn	Cu	Others
HTA Titanium Based Alloys																			
HRC28	900																		
HRC28	900	0.05				2		0.12		0.1	6								Zr 4.0
HRC35	1100	0.5								0.05	5.5							0.5	V 5.5 Sn 2 O 0.2
	1000										6	84.5/88.0							Nb 7.0
HRC35	1100	0.13				1					8								V 1 O 0.12
HRB100	780	0.5								0.1									O 0.4
HRB90	600	0.3								0.1									O 0.35
HRB80	510	0.3								0.1									O 0.25
HRB70	430	0.2								0.1									O 0.18
Hard Steel >1400Mpa																			
447-534HB	1490-1730	91.6	4	2		0.37		0.45	1.2	0.32				0.02	0.005				
470-550HB	1590-1800	91.4	4	2		0.5		0.5	1.2	0.32				0.025	0.005				
574-634HB	> 2060	91.8	4.25	1.5		0.37		0.5	1	0.52				0.02	0.005				
55/61HRc																			
63/65HRc																			
64/67HRc																			
55/64HRc																			
	1040-2000																		
54HRC	1930		5.5	10	14	2	1			0.21				0.02	0.005				V 0.3
	1180-1670																		
	1180-1570																		
	1080-1270																		
	1270-1670																		
	1180-1770																		
450HBW	1500																		
500HBW	1730																		
550HBW	1950																		
600HBW	>2000																		
48-54HRC	1590-1930																		
58-64HRC																			
	1200-1700																		
64/66HRC																			
	1400-1500																		
Chilled Cast Iron 1400Mpa																			
341-444HB	1490																		
444-555HB	2010																		
269-321HB	1040																		
302-363HB	1150																		

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