

Workpiece Material Conversion Table



Solid Carbide Drills

Combination Tools

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AISI – American Iron and Steel Institute
 ASTM – American Society of Mechanical Engineers
 SAE – Society of Automotive Engineers
 DIN – Federal Republic of Germany
 WR – German Material Number

JIS – Japan
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 AMS – Aerospace Material Specifications

	AISI/ SAE/ ASTM	DIN	WR	JIS	BS	SS	AMS number
Steels							
420	X42Cr13		1.2083	SUS 420 J		(2314)	
1010	C10		1.0301	S 10 C	040 A 10; 045 M 10; 1449 10 CS		
1010	C10E/ Ck 10		1.1121	S 9 CK; S 10 C	040 A 10	1265	
1015	C15E/ Ck 15		1.1141	S 15; S 15 CK	040 A 15; 080 M 15	1370	
1025	C25e/ Ck 25		1.1158	S 25 C; S 28 C	(070 M 26)		
1035	C35		1.0501	S 35 C	080 A 32; 080 A 35; 080 M 36; 1449 40 CS	1572; 1550	
1035	C35R; Cm 35		1.1180		080 A 35	1572	
1035	Cf 35 (C35G)		1.1183	S 35 C	080 A 35	1572	
1040	C40		1.0511		080 M 40		
1040	C40E; Ck 40		1.1186	S 40 C	060 A 40; 080 A 40; 080 M 40		
1045	C45		1.0503	S 45 C	060 A 47; 080 M 46; 1449 50 HS, CS	1672; 1650	
1045	C45E; Ck 45		1.1191	S 45 C; S 48 C	080 M 46; 060 A 47	1672	
1045	Cf45 (C45G)		1.1193	S 45 C	060 A 47; 080 M 46	1672	
1049	C45R; Cm 45		1.1201	S 50 C	080 M 46	1660	
1055	C55		1.0535	S 55 C	070 M 55; 5770-50	1655	
1055	C55E; Ck 55		1.1203	S 55 C	060 A 57; 070 M 55	1655	
1055	C55R; Cm 55		1.1209		070 M 55		
1060	C60		1.0601	S 58 C	060 A 62; 5770-60; 1449; 60 HS, CS		
1070	C67		1.0603		080 A 67; 1449 70 HS; 5770-70		
1070	C67E/ Ck 67		1.1231		060 A 67	1770	
1074	C 76 D (D 75-2)		1.0614				
1086	C 86 D (D 85-2)		1.0616		1449 80 HS, CS		

	AISI/ SAE/ ASTM	DIN	WR	JIS	BS	SS	AMS number
1086	C85E/ Ck 85		1.1269				
1095	C 92 D (D 95-2)		1.0618		1449 95 HS, CS		
1095	C101E / Ck 101		1.1274	SUP 4	5770-95	1870	
1140	35 S 20		1.0726		212 M 36	1957	
1146	45 S 20 (46S20)		1.0727				
1213	9 SMn 28 (11SMn30)		1.0715	SUM 22	230 M 07	1912	
1215	9 SMn 36 (11SMn37)		1.0736	SUM 25			
1330	28Mn6		1.1170	SCMn 1	(150 M 28), (150 M 19)		
1335	36Mn5		1.1167	SMn 438 (H); SCMn 3	150 M 36	2120	
1536	34Mn5		1.1166	SMn 433 H			
3115	13NiCr6		1.5713				
3115	15CrNi6		1.5919				
3415	14NiCr10		1.5732	SNC 415 (H)			
3435	36NiCr10		1.5736	SNC 631 (H)			
4130	25CrMo4		1.7218	SCM 420, 430; SCCrM 1	708 A 25	2225	
4142	47CrMo4		1.2332		708 M 40	2244	
4150	50CrMo4		1.7228	SCM 445 (H)	708 A 47		
4419	22Mo4		1.5419	SCPH 11	1503- 243-430	(2512)	
4520	16Mo5		1.5423	SB 450 M; SB 480 M			
5115	16MnCr5		1.7131		527 M 17; 590 H 17; 590 M 17	2173	
5120	20MnCr5		7.7147	SMnC 420 H			
5130	28Cr4		1.7030		530 A 30		
5132	34Cr4		1.7033	SCr 430 (H)	530 A 32; 530 H 32; 530 M 32		
5135	37Cr4		1.7034	SCr 435 (H)	31111-3/1; 530 A 36; 530 H 36; 530 M 36		
5140	41Cr4		1.7035	SCr 440 (H)	530 A 40; 530 H 40; 530 M 40		
5140	42Cr4		1.7045	SCr 440	530 A 40	2245	
8620	21NiCrMo2		1.6523	SNCM 220 (H)	805 H 20; 805 M 20; 806 M 20	2506	

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8740	40NiCr Mo2-2	1.6546	SNCM 240	3111- TYPE 7		
9255	51Si7	1.5025			2090	
9255	55Si7	1.5026		251 A 98	2085; 2090	
9260	60Si7	1.5027		251 A 60; 251 H 60		
9262	60SiCr7	1.7108				
9310	14NiCr- Mo13-4	1.6657		832 H 13; 832 M 13; S 157		
52100	100Cr6	1.3505	SUJ 2	2 S 135; 535 A 99	2258	
(H 10 A)	X32CrMo CoV3-3-3	1.2885		BH 10A		
(M) 1020, M1023	C22	1.0402	S 20 C, S 22 C	055 M 15; 070 M 20; 1449 22 HS, CS	1450	
(M) 1025	C25	1.0406		070 M 26		
(X) 3140	40NiCr6	1.5711				
01	100MnCrW4	1.2510		BO 1		
1015, A283 Gr C	S235JR (Fe 360 B) St 37-2	1.0037	STKM 12 A; C	Fe 360 B; 6323-ERW3; CEW3; 1449 37/23 HR	1311	
1020, 1023	C22E/ Ck22	1.1151	S 20 C; S 20 CK; S 22 C	055 M 15; (070 M 20)	1450	
1020, A570 Gr 40, A572 Gr 42	S275JR (Fe 430 B) St 44-2	1.0044	SM 400 A	Fe430 B FN; 1449 43/ 25 HR, HS; 4360-43 B; 6323-HFW 4, HFS4, ERW 3, CEW 4, SAW 4	1412	
1022, 1518	20Mn5	1.1133	SMnC 420	120 M 19	2132	
1024, 1524, A572 Gr 50	S355J2G3; St 52-3 N	1.0570	SM 490 A; B; C; YA; YB	Fe 510 D1 FF; 1449 50/35 HR, HS; 4360-50 D; 6323-ERW 5, CEW 5, SAW 5	2132; 2133; 2134; 2174	
1035, 1038	C35E/ Ck 35	1.1181	S 35 C	080 A 35 (080 M 36)	1550; 1572	

AISI/ SAE/ ASTM	DIN	WR	JIS	BS	SS	AMS number
1035, 1041	40Mn4	1.1157		150 M 36		
1036, 1330	30Mn5	1.1165	SMn 433 H; SCMn 2	120 M 36 (150 M 28)		
1049, 1050	C50E Ck 50	1.1206		080 M 50	1674	
1050, 1055	Cf 53 (C53G)	1.1213	S 50 C	070 M 55	1674	
1060, 1064	C60E; Ck 60	1.1221	S 58 C	060 A 62	1665; 1678	
1074, 1075	C75	1.0605		1449 80 HS		
1074, 1075, 1078	C75E/ Ck 75	1.1248		060 A 78; 5770-80	1774	
11 L 08	10 SPb 20	1.0722				
1108, 1109	10 S 20	1.0721		(210 M 15)		
12 L 13	9 SMnPb 28 (11SMnPb30)	1.0718	SUM 22 L, 23 L, 24 L		1914	
12 L 14	9 SMnPb 36 (11SMnPB37)	1.0737			1926	
2515; 2517	X12Ni5; 12Ni19	1.5680				
3310; 3415; 9314	14NiCr14; 15NiCr13	1.5752	SNC 815 (H)	655 H 13; 655 M 13		
4135, P 20	35CrMo4	1.2330		708 A 37 (BP 20)	2234	
4135; 4137	34CrMo4	1.7220	SCM 432; SCCrM 3; SCM 435 H	708 A 37	2234	
4140; 4142	41CrMo4	1.7223	SCM 440	708 M 40; 3111-5/1	2244	
4140; 4142	42CrMo4	1.7225	SCM 440 (H); SNB 7	708 A 42; 708 M 40; 709 M 40	2244	
4337; 4340	34CrNiMo6	1.6582	SNCM 447	816 M 40; 817 M 40	2541	
4340; 9840	36CrNiMo4	1.6511		817 M 37		
4340; 9850	40NiCrMo6	1.6565	SNCM 439	817 A 37; 818 M 40		
5015; 5115	15Cr3	1.7015	SCr 415 (H)	523 M 15		
5045; 5046	46Cr2	1.7006				
5155; 5160	55Cr3	1.7176	SUP 9 (A)	525 A 58; 525 A 60; 525 H 60	2253	

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Combination Tools	6145; 6150	51CrV4; 50CrV4	1.8159	SUP 10	735 A 51; 735 H 51; 735 M 50	2230	
	9260 H	65Si7	1.5028	50 P 7; SUP 6			
Modular Drills	A 2	X100Cr-MoV5-1	1.2363	SKD 12	BA 2	2260	
	A 350-LF5	14Ni6	1.5622				
	A128 (A)	X120Mn12	1.3401	SCMnH 1; SCMnH 11		2183	
Indexable Drills	A182 F 22; A387 Gr. 22 Cl. 2	10CrMo9-10	1.7380	SFVA F 22 A; B; SCMV 4; SCPH 32-CF	3059- 622-490; 3606-622; 1502-622; 3604-622	2218	
	A182-F 11, F 12; A387 Gr 12 Cl.2	13CrMo4-5; 13CrMo4-4	1.7335	SFVA F 12	1502 620-440, 620-470, 620 540; 1503- 620-400; 3606-620; 3604- 620-440	2216	
QPV Drills	A204 Gr A, 4017	16Mo3; 15Mo3	1.5415		1503-243 B; 3606-243; 3059-243	2912	
	A283 Gr A	S185 (Fe 310-0) St 33	1.0035		Fe 310-0; 1449 15 HR, HS	1300	
Counterboring Tools	A283 Gr C, A570 Gr 33, 36	S235JRG1 (Fe 360 B) Ust 37-2	1.0036		Fe 360B; 4360-40 B	1311; 1312	
	A284 Gr D, A573 Gr 58, A570 Gr 36; C, A611 Gr C	S235J2G3 (Fe360 D 1) St 37-3	1.0116		Fe 360 D1 FF; 1449 37/23 CR; 4360-40 D; 6323-HFW 4, HFS 4	1312; 1313	
Rotating Boring Tools	A350-LF3	12Ni14; 10Ni14	1.5637	SL 3 N 26; 45	3603-503 LT; 5 S 15		
	A353	X8Ni9	1.5662	SL 9 N 53; 60	3603-509 LT; 1502-502-650, 509-690; 1503- 509-690		
Holemaking Tech Data	A355 Cl.A; E 71400; G 71406	41CrAlMo7	1.8509	SACM 645	905 M 39	2940	
	A355 Cl.D	34CrAlMo5	1.8507				
Special Tooling/Adapters	A366 (1012), 1008	DC01, St 2; St12	1.0330	SPCC; CR1	1449 4 CR; 1449 4 CS	1142	

AISI/SAE/ASTM	DIN	WR	JIS	BS	SS	AMS number
A387 Gr. 12 Cl. 2	16CrMo4-4	1.7337			2216	
A515 Gr 70, A515 Gr 70, A414 Gr F, G	P295 GH; 17 Mn 4	1.0481	SG 365; SGV 410, 450, 480	1501 Gr 224; 3059-440		
A516 or A515 Gr, 65, 55; A414 Gr C; A442 Gr 55	P235GH H I	1.0345	SGV410, 450, 480; SPV450, 480	1501 Gr 141-360; 161-360; 151-360; 161-400; 154-360; 161-360	1331; 1330	
A537 Cl 1, A414 Gr G, A612	P355 GH; 19 Mn 6	1.0473	SGV410, 450, 480		2101; 2102	
A570 Gr 36	S235JRG2 (Fe 360 B) Rst 37-2	1.0038		Fe360 B FU; 1449 27/23 CR; 4360-40 B; 6323-HFW 3, HFS 3	1312	
A570 Gr 50, A572 Gr 50	E295 (Fe490-2) St 50-2	1.0050	SS 490	Fe 490-2 FN; 4360-50 B	1550; 2172	
A572 Gr 42	S275J0; St 44-3 U	1.0143		4360-43C	1414-01	
A572 Gr 50	S355J0; St 52-3U	1.0553		4360-50C		
A572 Gr 65	E335 (Fe590-2) St 60-2	1.0060	SM 570	Fe 590-2 FN; 4360-55 E; 55 C	1650	
A573 Gr 70, A611 Gr D, A572 Gr 42	S275J2G3 (Fe430 D 1) St44-3	1.0144	SM 400 A;B;C	Fe 430 D1 FF; 4360-43 C; 43 D	1411; 1412; 1414	
A619	DC03; RRSt 3; RRSt 13	1.0347	CR 3	1449 3 CR; 1449 2 CR	1146	
A619 (1008)	USt 3 (DC03G1); USt 13	1.0333	SPCD	1449 2 CR; 3 CR		
A620 (1008)	DC04; St4; St14	1.0338	SPCE; HR4	1449 1 CR; 2 CR	1147	
A621 (1008)	DD11; StW 22	1.0332	SPHD; HR1	1449 4 HR; 14 HR		
A621 (1008)	USW 23 (DD12G1)	1.0334	SPHE			
A622 (1008)	DD13; StW 24	1.0335	SPHE	1449 1 HR		

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AISI/ SAE/ ASTM	DIN	WR	JIS	BS	SS	AMS number
A633 Gr C, A588	P355N; StE 355	1.0562	SM 490 A; B; C; YA; YB	1501 Gr 225-490A LT 20	2106	
A633 Gr. E	S420N (StE 420)	1.8902	SM 490 A; B; C; YA; YB		2143	
A633 Gr. E	P460N (StE 460)	1.8905	SM520 B	4360-55 F	2143	
A738	S35J2G4 (Fe 510 D 2)	1.0577		Fe 510 D2 FF; 1501 Gr 224-460; 224-490	2174	
D 2	X155CrV- Mo12-1	1.2379	SKD 11	BD 2	2310	
D 3	X210Cr12	1.2080	SKD 1	BD 3		
E4340	40NiCr- Mo8-4;	1.6562	SNB 24-1-5	817 M 40		
H 10	X32Cr- MoV3 3, 32CrMo- V12-28	1.2365		BH 10		
H 11	X38Cr- MoV5-1	1.2343	SKD 6	BH 11		
H 12	X37Cr- MoW5-1	1.2606	SKD 62	BH 12		
H 13	X40Cr- MoV5-1	1.2344	SKD 61	BH 13	2242	
H 21	X30W- CrV9-3	1.2581	SKD 5	BH 21		
H 41, M 1	S 2-9-1, HS2-9-1	1.3346		BM 1		
L 1, L 3	102Cr6	1.2067	SUJ 2	(BL 3)		
L 2	115CrV3	1.2210				
L 6	55NiCr- MoV6	1.2713	SKT 4	BH224/5		
M 2	S 6-5-2, HS6-5-2	1.3343	SKH 51	BM 2	2722	
M 3	SC 6-5-2, HS6-5-2C	1.3342				
M 3 Class 2	S 6-5-3, HS6-5-3	1.3344	SKH 52; SKH 53		2725	
M 33, M 34	S 2-9-2-8, HS2-9-2-8	1.3249		(BM 34)		
M 41	S 7-4-2-5, HS7-4-2-5	1.3246				
M 42	S 2-10-1-8, HS2-10-1-8	1.3247	SKH 59	BM 42	2716	
M 7	S 2-9-2, HS2-9-2	1.3348			2782	

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M1015, M1016, M1017	C15	1.0401	S 15 C	080 A 15; 080 M 15; 1449 17 CS	1350	
O 2	90MnCrV8	1.2842		BO 2		
S 1	45WCrV7	1.2542		BS 1	2710	
S 1	60WCrV7	1.2550		BS 1		
T 1	S 18-0-1, HS18-0-1	1.3355	SKH 2	BT 1	(2750)	
T 15	S 12-1-4-5, HS12-1-4-5,	1.3202		BT 15		
T 4	S 18-1-2-5, HS 18-1-2-5	1.3255	SKH 3	BT 4		
T 5	S 18-1-2-10, HS 18-1-2-10	1.3265	SKH 4	BT 5		
W 1	C 80 W 2	1.1625	SKC 3; SK5; SK6	BW 1B		
W 1	C 75 W	1.1750		BW 1A		
W 108	C 80 W 1, C 80 U	1.1525				
W 110	C 105 W 1, C 105 U	1.1545	SK 3		1880	
W 110	C 105 W 2	1.1645	SK 3			
W 112	C 125 W, C 125 U	1.1563	SK 2			
W 210	100V1	1.2833	SKS 43	BW 2		
Stainless Steels						
301	X10CrNi18-8; (X 12 CrNi 17 7)	1.4310	SUS 301	301 S 21, 301 S 22	2331	
302	X3CrNi- N17-8	1.4319	SUS 302	301 S 26; 302 S 26		5629
303	X8CrNiS18-9 (X 10 Cr- NiS 18 9)	1.4305	SUS 303	303 S 22, 303 S 31	2346	5640E
309	X15Cr- NiSi20-12	1.4828	SUH 309	309 S 24		5650
316	X 5CrNiMo 17 12 2 (X4 CrNiMo 17-12-2)	1.4401	SUS 316	316 S 13, 17, 19, 31, 33	2347	5362
316	X3CrNiMo 17-13-3 (X 5 CrNiMo 17 13 3)	1.4436	SUS 316	316 S 19, 31, 33; LW23; LWCF 23	2343	
317	X5Cr- NiMo17-3	1.4449	SUS 317	317 S 16		

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Solid Carbide Drills							
Combination Tools	318	X10Cr-NiMoNb18-12	1.4583				
Modular Drills	321	X6Cr-NiTi 18-10	1.4541	SUS 321	321 S 31, 51; LW24; LWCF 24	2337	
Indexable Drills	321	X12Cr-NiTi18-9; X10Cr-NiTi18-10	1.4878	SUS 321	321 S 51	(2337)	
QPV Drills	329	X3CrNi-MoN27-5-2 (X 4 CrNi-MoN 27 5 2)	1.4460	SUS 329 J 1		2324	
Twist Drills/Taps & Dies	330	X12NiCr-Si36-16; X 12NiCr-Si35-16	1.4864	SUH 330	NA 17		
Counterboring Tools	348	X5CrNi-Nb18-10	1.4546		347 S 31; 2S. 130; 2S.143/144/145; S.525/527		
Rotating Boring Tools	403, 410S, 429	X6Cr13, X7Cr14	1.4000; 1.4001	SUS 403, 410 S, 429	403 S 17	2301	5504C
Holemaking Tech Data	405	X6CrAl13	1.4002	SUS 405	405 S 17		
Special Tooling/Adapters	409	X6CrTi 12 (X2 CrTi 12)	1.4512	SUH 409	LW 19; 409 S 19		
Toolholding Systems	416	X12CrS13	1.4005	SUS 416	416 S 21	2380	5610D
	420	X20Cr13	1.4021	SUS 420 J1	420 S 37	2303	5621
	430	X6Cr17	1.4016	SUS 430	430 S 17; 430 S 18	2320	5627
	431	X17CrNi16-2	1.4057	SUS 431	431 S 29, 6 S. 80	2321	5623
	434	X6CrMo17-1	1.4113	SUS 434	434 S 17		
	630	X5CrNi-CuNb16-4 (X 5 CrNi-CuNb 17 4)	1.4542	SCS 24; SUS 630			
	660		1.4944		HR 51		
	305, 308	X4Cr-Ni18-12 (X 5 Cr-Ni 18 12)	1.4303	SUS 305 J 1; SUS 305	305 S 17; 305 S 19		5514A
	443, 444	X2CrMo-Ti18-2	1.4521	SUS 444		2326	
	(316 Cb)	X6CrNi-MoNb 17-12-2	1.4580		318 S 17		

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	(446)	X10CrAl24; X10CrAlSi25	1.4762	(SUH 446)		(2322)	
	304 L	X2CrNi19-1; GX2 Cr-NiN 18-9	1.4306	SCS 19, SUS 304 L	304 S 11; LW 20, LWCF 20, S. 536, T. 74, 304 C 12 (LT 196), 305 S 11	2352	
	304 LN	X2CrNi-N18-10	1.4311	SUS 304 LN	304 S 61	2371	
	304, 304 H	X5CrNi18 10 (X 4 Cr-Ni18-10)	1.4301	SUS 304	304 S 11, 304 S 15; 304 S 16; 304 S 17; LW21; LWCF 21; 304 S 31	2332; 2333	5513
	309 S	X12Cr-Ni24-12; X12Cr-Ni23-13; X7Cr-Ni23-14	1.4833	SUS 309 S			
	310 S	X12Cr-Ni25-20	1.4842	SUS 310 S		2361	5521B
	310 S	X12Cr-Ni25-21; X8CrNi25-21	1.4845	SUH 310; SUS 310 S	310 S 16, 24, 25; 301 S 31	2361	
	314, 310	X15Cr-NiSi25-20; X15Cr-NiSi25-21	1.4841	SUH 310	314 S 25		5652
	316 L	X2CrNi-Mo17-12-2 (X2CrNi-MO 17 13 2); GX2CrNi-MoN 18-10)	1.4404	SUS 316 L	316 S 11, 13, 14, 31, 42; S.537; 316 C 12; T. 75; S.161	2348	
	316 L	X2CrNi-Mo18-14-3	1.4435	SUS 316 L	316 S 11, 13, 14, 31; LW22; LWCF 22	2353	
	316 LN	X2CrNi-MoN17-11-2 (X2Cr-NiMoN 17 12 2)	1.4406	SUS 316 LN	316 S 61, 63		
	316 LN	X2CrNiMoN 17-13-3	1.4429	(SUS 316 LN)	316 S 63	2375	

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316 Ti	X6CrNi-MoTi17-12-2	1.4571	SUS 316 Ti	320 S 18, 31	2350	
316 Ti	X10CrNiMoTi 18 12	1.4573	SUS 316 Ti	320 S 33		
317 L	X2CrNi-Mo18-15-4 (X 2 CrNi-Mo 18 16 4)	1.4438	SUS 317 L	317 S 12	2367	
347, 348	X6CrNi-Nb18-10	1.4550	SUS 347	347 S 20, 31, 51; ANC 3 B	2338	5512B
410, CA-15	X12Cr13; X10Cr13; GX12Cr13	1.4006	SUS 410	410 S 21; 410 C 21; ANC 1A	2302	
420 F	X30Cr13	1.4028	SUS 420 J2	420 S 45	2304	5620A
430 F	X14CrMoS17	1.4104	SUS 430 F		2383	
440 C	X105CrMo17	1.4125	SUS 440 C			5352
B163	X10NiCr-AlTi32-20; X10NiCr-AlTi32-21	1.4876	NCF 800 (TP)	NA 15 (H)		
CA 6-NM	X3CrNi-Mo13-4 (X4Cr-Ni 13-4); GX5Cr-Ni13-4	1.4313	SCS 5; SCS 6	425 C 11, 425 C 12	2384	
CF-8	GX5Cr-Ni19-10; G-X 6 Cr-Ni 18-9	1.4308	SCS 13	304 C 15 (LT 196)	2333	
CF-8M	GX5CrNi-Mo19-11-2; G-X6Cr-NiMo 18 10	1.4408	SCS 14	316 C 16 (LT 196); ANC 4 B	(2343)	
EV 8	X53CrMn-NiN21-9	1.4871	SUH 35; SUH 36	349 S 54		
HK	GX40Cr-NiSi25-20	1.4848	SCH 21; SCH 22	310 C 40, 45		
HNV 3	X45CrSi9-3	1.4718	SUH 1	401 S 45		
HNV 6	X80CrNiSi20	1.4747	SUH 4	443 S 65		
UNS N 8904	X1NiCrMo-CuN25-20-5	1.4539			2562	
XIM 8, 430 Ti, 439	X3CrTi17 (X 6 CrTi 17)	1.4510	SUS 430 LX			
Cast Irons						
32510	GTS-35			B 340/12	08 15	
40010	GTS-45			P 440/7	08 52	
50005	GTS-55			P510/4	08 54	

AISI/ SAE/ ASTM	DIN	WR	JIS	BS	SS	AMS number
70003	GTS-65			P570/3	08 58	
100-70-03	GGG-70; EN-JS 1070; EN-GJS-700-2	0.7070	FCD 70	700/2	0737-01	
120-90-02	GGG-80; EN-JS 1080; EN-GJS-800-2	0.7080		800/2		
60-40-18	GGG-40; EN-JS 1030; EN-GJS-400-15	0.7040	FCD 40	420/12	0717-02	
65-45-12	GGG-50; EN-JS 1050; EN-GJS-500-7(A)	0.7050	FCD 50	500/7	0727-02	
80-55-06	GGG-60; EN-JS 1060; EN-GJS-600-3(A)	0.7060	FCD 60	600/3	0732-03	
A436 Type 1	GGL-Ni-CuCr 15 6 2	0.6655		L-NiCuCr 15 6 2		
A436 Type 1b	GGL-Ni-CuCr 15 6 3	0.6656		L-NiCuCr 15 6 3		
A436 Type 2	GGL-NiCr 20 2	0.6660		L-NiCr 20 2	5 23-00	
A436 Type 2b	GGL-NiCr 20 3	0.6661		L-NiCr 20 3		
A436 Type 3	GGL-NiCr 30 3	0.6676		L-NiCr 30 3		
A436 Type 4	GGL-NiSiCr 30 5 5	0.6680		L-NiSiCr 30 5 5		
A439 Type D-2	GGG-NiCr 20 2	0.7660		S-NiCr 20 2		
A439 Type D-2B	GGG-NiCr 20 3	0.7661		S-NiCr 20 3		
A439 Type D-2C	GGG-Ni 22	0.7670		S-Ni 22		
A439 Type D-3	GGG-NiCr 30 3	0.7676		S-NiCr 30 3		
A439 Type D-3A	GGG-NiCr 30 1	0.7677		S-NiCr 30 1		
A439 Type D-4	GGG-NiSiCr 30 5 5	0.7680		S-NiSiCr 30 5 5		
A439 Type D-5	GGG-Ni 35	0.7683		S-Ni 35		
A439 Type D-5B	GGG-NiCr 35 3	0.7685		S-NiCr 35 3		

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Solid Carbide Drills

Combination Tools

Modular Drills

Indexable Drills

OPV Drills

Twist Drills/
Taps & Dies

Counterboring Tools

Rotating Boring Tools

Holemaking Tech Data

Special Tooling/
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Workpiece Material Conversion Table



Solid Carbide Drills	AISI/SAE/ASTM	DIN	WR	JIS	BS	SS	AMS number
Combination Tools	A48-20 B	GG 10; EN-JL 1010; EN-GJL-100	0.6010	FC 10		01 10-00	
	A48-25 B	GG 15; EN-JL 1020; EN-GJL-150	0.6015	FC 15	Grade 150	01 15-00	
Modular Drills	A48-30 B	GG 20; EN-JL 1030; EN-GJL-200	0.6020	FC 20	Grade 220	01 20-00	
	A48-40 B	GG 25; EN-JL 1040; EN-GJL-250	0.6025	FC 25	Grade 260	01 25-00	
Indexable Drills	A48-45 B	GG 30; EN-JL 1050; EN-GJL-300	0.6030	FC 30	Grade 300	01 30-00	
	A48-50 B	GG 35; EN-JL 1060; EN-GJL-350	0.6035	FC 35	Grade 350	01 35-00	
QPV Drills	A48-60 B	GG 40; EN-JL Z	0.6040		Grade 400	01 40-00	
	A532 I A NiCr-HC	G-X 330 NiCr 4 2	0.9625		Grade 2 B	0513-00	
Twist Drills/Taps & Dies	A532 I B NiCr-LC	G-X 260 NiCr 4 2	0.9620		Grade 2 A	0512-00	
	A532 I D Ni-HiCr	G-X 300 CrNiSi 9 5 2	0.9630		Grade 2 C; D; E	0457-00	
	A532 II C 15% CrMo-HC	G-X 300 CrMo 15 3	0.9635		Grade 3 A; B		
Counterboring Tools	A532 II D 20% CrMo-LC	G-X 260 CrMoNi 20 2 1	0.9645		Grade 3 C		
	A532 III A 25% Cr	G-X 260 Cr 27	0.9650		Grade 3 D	0466-00	
Rotating Boring Tools	A532 III A 25% Cr	G-X 300 CrMo 27 1	0.9655		Grade 3 E		
	A571 Type D-2 M	GGG-NiMn 23-4	0.7673		S-NiMn 23 4		
Holemaking Tech Data	Aluminum Alloys						
	356.1				LM25	4244	
	A413.0	GD-AISI12				4247	
	A380.0	GD-AISI-8Cu3			LM24	4250	
	A413.1	G-AISI12(Cu)			LM20	4260	
	A413.2	G-AISI12			LM6	4261	
Special Tooling/Adapters	A360.2	G-AISI-10Mg(Cu)			LM9	4253	
Toolholding Systems							

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AISI/SAE/ASTM	DIN	WR	JIS	BS	SS	AMS number
2014	3.1255, AlCuSiMn		A2014, A3x1	2014A, H15, L102, L103, L105, L156, L157, L158, L159, L168, 6L37, 3L62, 2L77, 2L87, 2L93, 5010A	14 4338	4028, 4029, 4133, 4134, 4135, 4314, 4153
2024	3.1355, AlCuMg2		A2024, A3x4	2L97, 2L98		4007, 4035, 4037, 4086, 4119, 4120, 4193, 4112, 4152, 4164, 4165, 4087, 4088, 7223
2219						4031, 4066, 4068, 4143, 4144, 4162, 4163, 4313
2618						4132
6061	3.3211, AlMgSiCu		A6061, A2x4	6061, H20, L117, L118		4025, 4026, 4027, 4079, 4080, 4081, 4083, 4113, 4115, 4116, 4117, 4127, 4128, 4146, 4150, 4160, 4161, 4172, 4173, 4312
7075	3.4365, AlZnMg-Cu1.5		A7075, A3x6	7075, 2L95, L160, L161, L162		4044, 4045, 4078, 4122, 4123, 4126, 4141, 4147, 4154, 4166, 4167, 4168, 4169, 4186, 4187, 4310, 4311, 4124

Heat-Resistant, High-Temperature Alloys						
A-286						5525, 5731, 5732, 5737, 5805, 5895, 7235, 7477, 7478
Hastelloy C						5530
Hastelloy N						5607
Hastelloy S						5711
Hastelloy W						5587, 5755
Hastelloy X						5390, 5536, 5587, 5588, 5798, 7237

Workpiece Material Conversion Table



AISI/ SAE/ ASTM	DIN	WR	JIS	BS	SS	AMS number
Haynes 188						5608, 5772, 5801
In-100						5397
Incoloy 901						5660, 5661
Inconel 600						7232
Inconel 625						5401
Inconel 625						5666
Inconel 713 C						5391
Inconel 713 LC						5377
Inconel 718						5383, 5589, 5596, 5662, 5663, 5832, 7466, 7467
Inconel X-750						5542, 5582, 5598, 5667, 5668, 5670, 5671, 5698, 5699
Stellite 31						5382, 5789
Waspaloy						5704, 5706, 5707, 5708, 5709, 7253,
Titanium						
TI-6Al-4V						4911, 4928, 4930, 4935 4954, 4956, 4965, 4967, 7460

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