



INFORMATIONS

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INFORMATION



INFORMAZIONI



INFORMÁCIÓK



GENERAL INFORMATION

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PICTOGRAMS



How to use



Cutting conditions



All directions possible



Only contouring



Contouring and angular plunging



DIN norms



ISO norms



DIXI NORM



Parting off



Slotting



Different helix angles



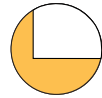
Irregular teeth



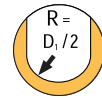
Chamfer



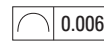
Radius



Sharp corner



Radius tolerance



0.006

Profile form tolerance



Centre cutting



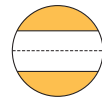
Centre cutting for $\varnothing > \dots$



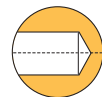
No centre cutting



Central cooling



For a through hole



For a blind hole

P M H K S N Materials which are best suited to the tool

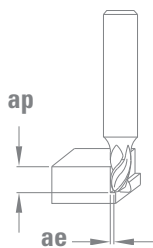
>1500 N/mm² Hardness of material for which the tool is best suited



INFORMATION

Cutting material

	□	Carbide
CBN	▲	Cubic boron nitride
PCD	●	Polycrystalline diamond
CVD	■	CVD Polycrystalline diamond
DIA	◆	Monocrystalline diamond



ap Depth of cut

ae Width of cut

Coatings

TiAlN	■	With TiAlN coating
DIAMANT	■	With diamond coating
XIDUR	■	With XIDUR coating
DICUT	■	With DICUT coating
CUTINOX	■	With CUTINOX coating
DLC	■	With DLC coating
DINAC	■	With DINAC coating
DI-TOP	■	With DI-TOP coating
DAC	■	With DAC coating

Z Number of teeth

Vc Cutting speed [m/min]

f Feed / revolution [mm/rev.]

Vf Feed in [mm/min]

n Rotation speed [min^{-1}]

Rm Tensile strength [N/mm^2]

fz Feed per tooth [mm]

R Right-hand cutting

L Left-hand cutting

P. Page

[µm]

[mm]	D10	E9	F7	F8	G7	G9	H6	H7	H8	H9	H10	H11	H12	H13	JS7	JS9	K6	K7	M6	M7	N7	N9	P7	P9
- 3	+ 60 + 20	+ 39 + 14	+ 16 + 6	+ 20 + 6	+ 12 + 2	+ 27 + 2	+ 6 0	+ 10 0	+ 14 0	+ 25 0	+ 40 0	+ 60 0	+ 100 0	+ 140 0	± 5	±12.5	- 0 - 6	0 - 10	- 2 - 8	- 2 - 12	- 4 - 14	- 4 - 29	- 6 - 16	- 6 - 31
3 > Ø ≥ 6	+ 78 + 30	+ 50 + 20	+ 22 + 10	+ 28 + 10	+ 16 + 4	+ 34 + 4	+ 8 0	+ 12 0	+ 18 0	+ 30 0	+ 48 0	+ 75 0	+ 120 0	+ 180 0	± 6	± 15	+ 2 - 6	+ 3 - 9	- 1 - 9	0 - 12	- 4 - 16	0 - 30	- 8 - 20	- 12 - 42
6 10	+ 98 + 40	+ 61 + 25	+ 28 + 13	+ 35 + 13	+ 20 + 5	+ 41 + 5	+ 9 0	+ 15 0	+ 22 0	+ 36 0	+ 58 0	+ 90 0	+ 150 0	+ 220 0	± 7.5	± 18	+ 2 - 7	+ 5 - 10	- 3 - 12	0 - 15	- 4 - 19	0 - 36	- 9 - 24	- 15 - 51
10 18	+ 120 + 50	+ 75 + 32	+ 34 + 16	+ 43 + 16	+ 24 + 6	+ 49 + 6	+ 11 0	+ 18 0	+ 27 0	+ 43 0	+ 70 0	+ 110 0	+ 180 0	+ 270 0	± 9	±21.5	+ 2 - 9	+ 6 - 12	- 4 - 15	0 - 18	- 5 - 23	0 - 43	- 11 - 29	- 18 - 61
18 30	+ 149 + 65	+ 92 + 40	+ 41 + 20	+ 53 + 20	+ 28 + 7	+ 59 + 7	+ 13 0	+ 21 0	+ 33 0	+ 52 0	+ 84 0	+ 130 0	+ 210 0	+ 330 0	±10.5	± 26	+ 2 - 11	+ 6 - 15	- 4 - 17	0 - 21	- 7 - 28	0 - 52	- 14 - 35	- 22 - 74
30 50	+ 180 + 80	+ 112 + 50	+ 50 + 25	+ 64 + 25	+ 34 + 9	+ 71 + 9	+ 16 0	+ 25 0	+ 39 0	+ 62 0	+ 100 0	+ 160 0	+ 250 0	+ 390 0	±12.5	± 31	+ 3 - 13	+ 7 - 18	- 4 - 20	0 - 25	- 8 - 33	0 - 62	- 17 - 42	- 26 - 88
50 80	+ 220 + 100	+ 134 + 60	+ 60 + 30	+ 76 + 30	+ 40 + 10		+ 19 0	+ 30 0	+ 46 0	+ 74 0	+ 120 0	+ 190 0	+ 300 0	+ 460 0	± 15	± 37	+ 4 - 15	+ 9 - 21	- 5 - 24	0 - 30	- 9 - 39	0 - 74	- 21 - 51	- 32 - 106
80 120	+ 260 + 120	+ 159 + 72	+ 71 + 36	+ 90 + 36	+ 47 + 12		+ 22 0	+ 35 0	+ 54 0	+ 87 0	+ 140 0	+ 220 0	+ 350 0	+ 540 0	±17.5	±43.5	+ 4 - 18	+ 10 - 15	- 6 - 28	0 - 35	- 10 - 45	0 - 87	- 24 - 59	- 37 - 124
120 180	+ 305 + 145	+ 185 + 85	+ 83 + 43	+ 106 + 43	+ 54 + 14		+ 25 0	+ 40 0	+ 63 0	+ 100 0	+ 160 0	+ 250 0	+ 400 0	+ 630 0	± 20	± 50	+ 4 - 21	+ 12 - 28	- 8 - 33	0 - 40	- 12 - 52	0 - 100	- 28 - 68	- 43 - 143
180 250	+ 355 + 170	+ 215 + 110	+ 96 + 50	+ 122 + 50	+ 61 + 15		+ 29 0	+ 46 0	+ 72 0	+ 115 0	+ 185 0	+ 290 0	+ 460 0	+ 720 0	± 23	±57.5	+ 5 - 24	+ 13 - 33	- 8 - 37	0 - 46	- 14 - 60	0 - 115	- 33 - 79	- 50 - 165
250 315	+ 400 + 190	+ 240 + 110	+ 108 + 56	+ 137 + 56	+ 69 + 17		+ 32 0	+ 52 0	+ 81 0	+ 130 0	+ 210 0	+ 320 0	+ 520 0	+ 810 0	± 26	± 65	+ 5 - 27	+ 16 - 36	- 9 - 41	0 - 52	- 14 - 66	0 - 130	- 36 - 88	- 56 - 186
315 400	+ 440 + 210	+ 265 + 125	+ 119 + 62	+ 151 + 62	+ 75 + 18		+ 36 0	+ 57 0	+ 89 0	+ 140 0	+ 230 0	+ 360 0	+ 570 0	+ 890 0	±28.5	± 70	+ 7 - 29	+ 17 - 40	- 10 - 46	0 - 57	- 16 - 73	0 - 140	- 41 - 98	- 62 - 202

[µm]

[mm]	d9	e8	f7	g6	h5	h6	h7	h8	h9	h10	h11	js5	js6	js12	js13	js14	k5	k6	m5	m6	n5	n6	p6
- 3	- 20 - 45	- 14 - 28	- 6 - 16	- 2 - 8	0 - 4	0 - 6	0 - 10	0 - 14	0 - 25	0 - 40	0 - 60	± 2	± 3	± 50	± 70	± 125	+ 4 0	+ 6 0	+ 6 + 2	+ 8 + 2	+ 8 + 4	+ 10 + 4	+ 12 + 6
3 > Ø ≥ 6	- 30 - 60	- 20 - 38	- 10 - 22	- 4 - 12	0 - 5	0 - 8	0 - 12	0 - 18	0 - 30	0 - 48	0 - 75	± 2.5	± 4	± 60	± 90	± 150	+ 6 + 1	+ 9 + 1	+ 9 + 4	+ 12 + 4	+ 13 + 8	+ 16 + 8	+ 20 + 12
6 10	- 40 - 76	- 25 - 47	- 13 - 28	- 5 - 14	0 - 6	0 - 9	0 - 15	0 - 22	0 - 36	0 - 58	0 - 90	± 3	± 4.5	± 75	± 110	± 180	+ 7 + 1	+ 10 + 1	+ 12 + 6	+ 15 + 6	+ 16 + 10	+ 19 + 10	+ 24 + 15
10 18	- 50 - 93	- 32 - 59	- 16 - 34	- 6 - 17	0 - 8	0 - 11	0 - 18	0 - 27	0 - 43	0 - 70	0 - 110	± 4	± 5.5	± 90	± 135	± 215	+ 9 + 1	+ 12 + 1	+ 15 + 7	+ 18 + 7	+ 20 + 12	+ 23 + 12	+ 29 + 18
18 30	- 65 - 117	- 40 - 73	- 20 - 41	- 7 - 20	0 - 9	0 - 13	0 - 21	0 - 33	0 - 52	0 - 84	0 - 130	± 4.5	± 6.5	± 105	± 165	± 260	+ 11 + 2	+ 15 + 2	+ 17 + 8	+ 21 + 8	+ 24 + 15	+ 28 + 15	+ 35 + 22
30 50	- 80 - 142	- 50 - 89	- 25 - 50	- 9 - 25	0 - 11	0 - 16	0 - 25	0 - 39	0 - 62	0 - 100	0 - 160	± 5.5	± 8	± 125	± 195	± 310	+ 13 + 2	+ 18 + 2	+ 20 + 9	+ 25 + 9	+ 28 + 17	+ 33 + 17	+ 42 + 26
50 80	- 100 - 174	- 60 - 106	- 30 - 60	- 10 - 29	0 - 13	0 - 19	0 - 30	0 - 46	0 - 74	0 - 120	0 - 190	± 6.5	± 9.5	± 150	± 230	± 370	+ 15 + 2	+ 21 + 2	+ 24 + 11	+ 30 + 11	+ 33 + 20	+ 39 + 20	+ 51 + 32
80 120	- 120 - 207	- 72 - 126	- 36 - 71	- 12 - 34	0 - 15	0 - 22	0 - 35	0 - 54	0 - 87	0 - 140	0 - 220	± 7.5	± 11	± 175	± 270	± 435	+ 18 + 3	+ 25 + 3	+ 28 + 13	+ 35 + 13	+ 38 + 23	+ 45 + 23	+ 59 + 37
120 180	- 145 - 245	- 85 - 148	- 43 - 83	- 14 - 39	0 - 18	0 - 25	0 - 40	0 - 63	0 - 100	0 - 160	0 - 250	± 9	±12.5	± 200	± 315	± 500	+ 21 + 3	+ 28 + 3	+ 33 + 15	+ 40 + 15	+ 45 + 27	+ 52 + 27	+ 68 + 43
180 250	- 170 - 285	- 100 - 172	- 50 - 96	- 15 - 44	0 - 20	0 - 29	0 - 46	0 - 72	0 - 115	0 - 185	0 - 290	± 10	±14.5	± 230	± 360	± 575	+ 24 + 4	+ 33 + 4	+ 37 + 17	+ 46 + 17	+ 51 + 31	+ 50 + 31	+ 79 + 50
250 315	- 190 - 320	- 110 - 191	- 56 - 108	- 17 - 49	0 - 23	0 - 32	0 - 52	0 - 81	0 - 130	0 - 210	0 - 320	±11.5	± 16	± 260	± 405	± 650	+ 27 + 4	+ 36 + 4	+ 43 + 20	+ 52 + 20	+ 57 + 34	+ 66 + 34	+ 88 + 56
315 400	- 210 - 350	- 125 - 214	- 62 - 119	- 18 - 54	0 - 25	0 - 36	0 - 57	0 - 89	0 - 140	0 - 230	0 - 360	±12.5	± 18	± 285	± 445	± 700	+ 29 + 4	+ 40 + 4	+ 46 + 21	+ 57 + 21	+ 62 + 37	+ 73 + 37	+ 98 + 62



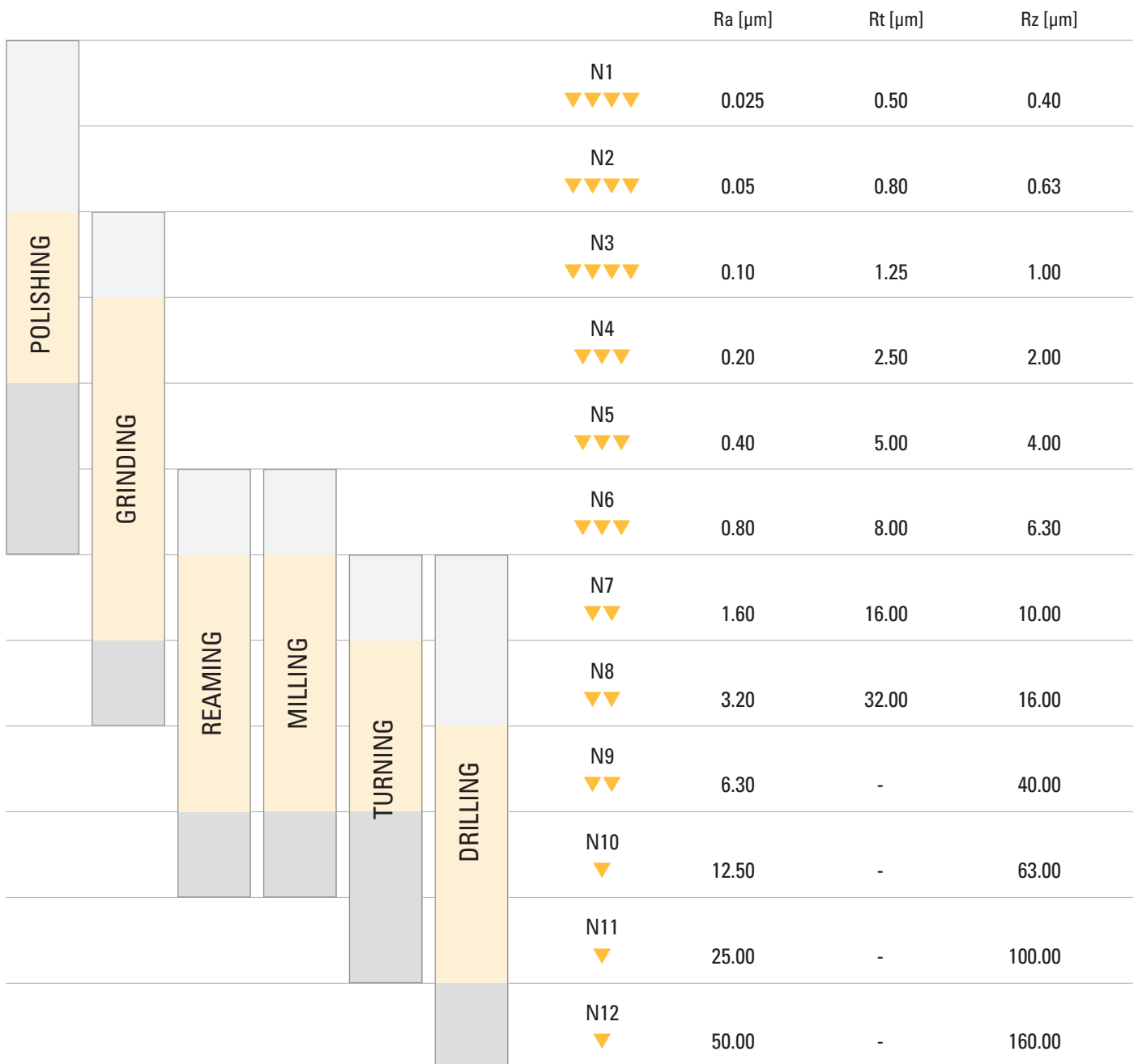
HARDNESS CHART

Rm	Brinell	Vickers	Rockwell	
[N/mm ²]	[HB]	[HV 30]	[HRB]	[HRC]
370	109	115		
385	114	120	66.7	
400	119	125		
415	124	130	71.2	
430	128	135		
450	133	140	75	
465	138	145		
480	143	150	78.7	
495	147	155		
510	152	160	81.7	
530	156	165		
545	162	170	85	
560	166	175		
575	171	180	87.1	
595	176	185		
610	181	190	89.5	
625	185	195		
640	190	200	91.5	
660	195	205	92.5	
675	199	210	93.5	
690	204	215	94	
705	209	220	95	
720	214	225	96	
740	219	230	96.7	
755	223	235		
770	228	240	98.1	20.3
785	233	245		21.3
800	238	250	99.5	22.2
820	242	255		23.1
835	247	260	101	24
850	252	265		24.8
865	257	270	102	25.6
880	261	275		26.4
900	266	280	104	27.1
915	271	285		27.8
930	276	290	105	28.5

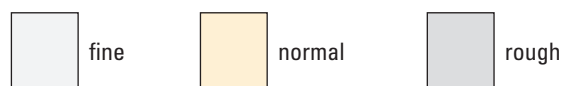
Rm	Brinell	Vickers	Rockwell	
[N/mm ²]	[HB]	[HV 30]	[HRB]	[HRC]
950	280	295		29.2
965	285	300		29.8
995	295	310		31
1030	304	320		32.2
1060	314	330		33.3
1095	323	340		34.4
1125	333	350		35.5
1155	342	360		36.6
1190	352	370		37.7
1220	361	380		38.8
1255	371	390		39.8
1290	380	400		40.8
1320	390	410		41.8
1350	399	420		42.7
1385	409	430		43.6
1420	418	440		44.5
1455	428	450		45.3
1485	437	460		46.1
1520	447	470		46.9
1555	456	480		47.7
1630	475	500		49.1
1700	494	520		50.5
1775	513	540		51.7
1845	532	560		53
1920	551	580		54.1
1995	570	600		55.2
2070	589	620		56.3
2145	608	640		57.3
		660		58.3
		680		58.3
		700		60.1
		720		61
		740		61.8
		760		62.5
		780		63.3
		800		64



ROUGHNESS CHART



Machining



MATERIAL GROUPS AND EXAMPLES

Groups		W.Nr.	DIN	AISI/ATSM	AFNOR	Commercial name	
P	Lead alloyed steel	Steel + Pb	1.0715	9 SMn 28	1213	S250Pb	
			1.0718	9 SMnPb 28	12 L 13	S 250 Pb	
			1.0722	10 SPb 20	11 L 08	10 PbF 2	
			1.0727	11SmPb30	12L13	S250Pb	
			1.0736	9 SMn 36	1215	S 300	
			1.0737	9 SMnPb 36	12 L14	S 300 Pb	
P	Unalloyed steel / Low alloyed < 600N/mm ²	Steel < 600MPa	1.0201	St36	1006	Fd 5	
			1.0401	C 15	M 1015	AF 37 C 12	
			1.0402	C 22	M1020	AF 42 C 20	
			1.0406	C 25	(M) 1025	C 25	
P	Unalloyed steel / Low alloyed >600 N/mm ²	Low alloyed steel	1.0473	19 Mn 6	A 537 Cl. 1	A 52 CP ; AP	V945
			1.0481	17 Mn 4	A 516 Gr. 70	A 48 CP ; AP	
			1.0501	C 35	1035	1 C 35	
			1.0503	C 45	1045	1 C 45	
			1.0511	C 40	1040	1 C 40	
			1.0535	C 55	1055	1 C 55	
			1.0562	StE 355	A 633 Gr. C	FeE 355 KG N	
			1.0601	C 60	1060	1 C 60	
			1.1121	Ck 10	1010	XC 10	
			1.0605	C 75	1074		
			1.1133	20 Mn 5	1022	20 M 5	
			1.1141	Ck 15	1015	XC 12	
			1.1151	Ck 22	1020	2 C 22	
			1.1158	Ck 25	1025	2 C 25	
			1.1181	Ck 35	1035	2 C 35	
			1.1186	Ck 40	1040	2 C 40	
			1.1191	Ck 45	1045	2 C 45	
			1.1167	36 Mn 5	1335	35 M 5	
			1.1203	Ck 55	1055	2 C 55	
			1.1221	Ck 60	1060	2 C 60	
			1.1248	Ck 75	1074	XC 75	
			1.1274	Ck 101	1095	XC 100	
			1.2067	100 Cr 6	L1 L 3	Y 100 C 6	
			1.2162	21 MnCr 5	~ P 2	20 MC 5	
			1.2311	40 CrMnMo 7	~ P 20	40 CMD 8	
			1.251	100 MnCrW 4	O 1	90 MWCV 5	
			1.2516	120 WV 4		120 WV 10	
			1.2542	45 WCrV 7	S 1	55 WC 20	
			1.255	60 WCrV 7	S 1	55 WCS 20	
			1.2711	54 NiCrMo V6		55 NCDV 6	
			1.2718	55 NiCr 10	~ 6 F 5	55 NC 10	
			1.2738	40 CrMnNiMo 8			
			1.2744	57 NiCrMoV 7 7			
			1.2762	75 CrMoNiW 6 7			
			1.2826	60 MnSiCr 4	~ S 4		
			1.2842	90 MnCrV 8	~ 0 2	90 MCV 8	
1.5415	15 Mo 3	A 204 Gr. A	15 D 3				
1.5419	22 Mo 4	4419					
1.5637	10 Ni 14	A 350-LF 3	12 N 14				
1.5752	15 NiCr 13	3310	12 NC 15				
1.5919	15 CrNi 6	3115	16 NC 6				
1.6523	21 NiCrMo 2	8620	20 NCD 2				
1.6582	34 CrNiMo 6	4337	34 CrNiMo 8				
1.6587	17 CrNiMo 6		18 NCD 6				
1.6657	14 NiCrMo 13 4	9310	16 NCD 13				
1.7103	67 SiCr 5	5115	16MC 4				
1.7147	20 MnCr 5	5120					
1.7218	25 CrMo 4	4130	25 CD 4				
1.7225	42 CrMo 4	4140	42 CD 4				
				E200			



MATERIAL GROUPS AND EXAMPLES

Groups		W.Nr.	DIN	AISI/ATSM	AFNOR	Commercial name		
P	Low alloyed steel	1.7228	50 CrMo 4	4150	50 CrMo 4			
		1.7258	24 CrMo 5					
		1.7335	13 CrMo 4 4	A 182-F11 ; F12	15 CD 3.5			
		1.7361	32 CrMo 12		30 CD 12			
		1.738	10 CrMo 9 10	A 182 F22	12 CD 9.10			
		1.7709	21CrMoV5 7					
		1.7715	14 MoV 6 3					
		1.8159	50 CrV 4	6145	50 CV 4			
		1.8507	34 CrAlMo 5	A 355 Cl.D	30 CAD 6.12			
		1.8515	31 CrMo 12		30 CD 12			
		1.8519	31CrMoV9					
		1.8550	34CrAlNi7					
		P	High alloyed steel	1.2080	X 210 Cr 12	~ D 3	Z 200 C 12	K100
				1.2083	X 42 Cr 13	420	Z 40 C 14	
1.2341	X 6 CrMo 4			~ P 4				
1.2343	X 38 CrMoV 5 1			~ H 11	Z 38 CDV 5			
1.2344	X 40 CrMoV 5 1			~ H 13	Z 40 CDV 5	W300		
1.2363	X 100 CrMoV 5 1			A 2	Z 100 CDV 5			
1.2365	X 32 CrMoV 3 3			~ H 10	30 CDV 12-28			
1.2367	~ X 40 CrMoV 5 3				Z 38 CDV 5-3			
1.2379	X 155 CrVMo 12 1			~ D 2	Z 210 CW 12	K110		
1.2581	X 30 WCrV 9 3			~ H 21	Z 30 WCV 9-3			
1.2709	X 3 NiCoMoTi 18 9 5				Z 2 NKDT 18-10-5			
1.2764	X 19 NiCrMo 4			~ P 21		M130		
1.2767	X 45 NiCrMo 4			6 F 7	- 45 NCD 17			
1.2885	X 32 CrMoCoV 3 3 3			(H 10 A)	30 CKDV 28			
1.3343						S600		
1.3351						S690PM		
1.4000	X 6 Cr 13			403	Z 8 C 12			
1.4001	X 7 Cr 14			410 S	Z 8 C 13 FF			
1.4016	X 6 Cr 17			430	Z 8 C 17			
1.4021	X 20 Cr 13			420	Z 20 C 13			
1.4028	X 30 Cr 13			420 F	Z29CF13			
1.4115	X90 CrMoV 18							
1.4197	X22CrNiMo13 1 1			420F		4C27A		
1.4510	X 6 CrTi 17			XM 8	Z 4 CT 17			
1.4718	X 45 CrSi 9 3			HNV 3	Z 45 CS 9			
1.4724	X 10 CrAl 13				Z 10 C 13			
1.4731	X 40 CrSiMo 10 2				Z 40 CSD 10			
1.4742	X 10 CrAl 18				Z 10 CAS 18			
1.4762	X 10 CrAl 24			-446	Z 10 CAS 24			
1.6358	X2 NiCoMo18 9 5					DURNICO		
1.6908	X2NiCrMoTi10 10 5			ULTRAFORT				
M	DUPLEX stainless steel	1.4301	X 5 CrNi 18 10	304	Z 6 CN 18-09			
		1.4305	X 10 CrNiS 18 9	303				
		1.4306	X 2 CrNi 1911	304 L	Z 1 CN 18-12			
		1.4308	G-X 6 CrNi 18 9	CF-8	Z 6 CN 18-10 M			
		1.4310	X 12 CrNi17 7	301				
		1.4372						
		1.4401	X 5 CrNiMo 17 12 2	316	Z 3 CND 17-11-01			
		1.4404	X 2 CrNiMo 17 13 2	316 L	Z 2 CND 17-2			
		1.4408	G-X 6 CrNiMo 18 10	CF-8M				
		1.4418	X4CrNiMo16-5-1		Z6CND16-05-01			
		1.4429	X 2 CrNiMo 17 13 3	316 LN	Z 3 CND 17-12 Az			
		1.4435	X 2 CrNiMo 18 14 3	316 L	Z 3 CND 17-12-03			
		1.4438	X 2 CrNiMo 18 16 4	317 L	Z 2 CND 19-15-04			
		1.4441	X 2 CrNiMo 18 15 3	316 VLM	Z2 CN 18-14-3			
		1.4529	X1 NiCrMoCuN 25 20 7	904				
		1.4539	X1NiCrMoCu 25 20 5	904-L				
		1.4571	X 6 CrNiMoTi 17 12 2	316 Ti	Z 6 CNDT 17-12			



MATERIAL GROUPS AND EXAMPLES

Groups		W.Nr.	DIN	AISI/ATSM	AFNOR	Commercial name
M	Aust. stainless steel	1.4162 1.4362 1.4410 1.4452 1.4462	X2CrMnNiN22-5-2 X 2 CrNiN 23.4 G-X10CrNiMo 18 9 X8 CrMnMoN 23 21 1 X2CrNiMoN22 5 3			Biodur 108
K	Grey cast iron	0.601 0.6015 0.602 0.6025 0.6030 0.6035 0.6040	GG 10 GG 15 GG 20 GG 25 GG 30 GG 35 GG40	A48-20 B A48-25 B A48-30 B A48-35 B A48-45 B A48-50 B A48-55 B	Ft 10 D Ft 15 D Ft 20 D Ft 25 D Ft 30 D Ft 35 D Ft 40 D	
K	Nodular ferritic cast iron	0.6652 0.6655 0.6656 0.6660 0.6661 0.6667 0.6680 0.7033 0.7040 0.7043	GGL-NiMn 13 7 GGL-NiCuCr 15 6 2 GGL-NiCuCr 15 6 3 GGL-NiCr 20 2 GGL-NiCr 20 3 GGL-NiSiCr 20 5 3 GGL-NiSiCr 30 5 5 GGG-35.3 GGG-40 GGG 40.3	A436 Type 1 A436 Type 1b A436 Type 2 A436 Type 2b A436 Type 4	L-NM 13 7 L-NUC 15 6 2 L-NUC 15 6 3 L-NC 20 2 L-NC 20 3 L-NSC 20 5 3 L-NSC 30 5 5 FGS 400-12 FGS 370-17	
K	Nodular pearlitic cast iron	0.7050 0.7060 0.7070 0.7080	GGG-50 GGG 60 GGG-70 GGG-80	65-45-12 80-55-06 100-70-03 120-90-02	FGS 500-7 FGS 600-3 FGS 700-2 FGS 800-2	
K	Alloyed cast iron (with graphite spheroidal austenitic)	0.7652 0.7659 0.7660 0.7661 0.7665 0.7670 0.7673 0.7676 0.7677 0.7679 0.7680 0.7683 0.7685 0.7688	GGG-NiMn 13 7 GGG-NiCrNb 20 2 GGG-NiCr 20 2 GGG-NiCr 20 3 GGG-NiSiCr 20 5 2 GGG-Ni 22 GGG-NiMn 23 4 GGG-NiCr 30 3 GGG-NiCr 30 1 GGG-NiSiCr 30 5 2 GGG-NiSiCr 30 5 5 GGG-Ni 35 GGG-NiCr 35 3 GGG-NiSiCr 35 5 2	A 439 Type D-2 A 439 Type D-2B A 439 Type D-2C A 571 Type D-2M A 439 Type D-3 A 439 Type D-3A A 439 Type D-4 A 439 Type D-5 A 439 Type D-5B	S-NM 13 7 S-NC 20 2 S-NC 20 3 S-NSC 20 5 2 S-N 22 S-NM 23 4 S-NC 30 3 S-NC 30 1 S-NSC 30 5 5 S-N 35 S-NC 35 3	
K	Malleable cast iron	0.8035 0.8038 0.8040 0.8045 0.8170 0.8135 0.8165	GTW-35-04 GTW-35-04 GTW-40-05 GTW-45-07 GTS-70-02 GTS-35-10 GTS-65-02	A220-80002 32510 70003	Mn700-2 MN 35-10 MP 60-3	
K	High alloyed cast iron	0.9610 0.9620 0.9625 0.9630 0.9635 0.9640 0.9645 0.9650 0.9655	G-X 300 NiMo 3 Mg G-X 260 NiCr 4 2 G-X 330 NiCr 4 2 G-X 300 CrNiSi 9 5 2 G-X 300 CrMo 15 3 G-X 300 CrMoNi 15 2 1 G-X 260 CrMoNi 20 2 1 G-X 260 Cr 27 G-X 300 CrMo 27 1			
S	Stainless and heat resistant stain	1.4718 1.4724 1.4731 1.4742	X 45 CrSi 9 3 X 10 CrAl 13 X 40 CrSiMo 10 2 X 10 CrAl 18	HNV 3	Z 45 CS 9 Z 10 C 13 Z 40 CSD 10 Z 10 CAS 18	



MATERIAL GROUPS AND EXAMPLES

Groups		W.Nr.	DIN	AISI/ATSM	AFNOR	Commercial name	
	Special alloys	1.4762 1.4828 1.4828 (2) 1.4833 1.4837 1.4841 1.4845 1.4848 1.4864 1.4865 1.4871 1.4873 1.4876 1.4878 1.4922 1.4980 2.4375	X 10 CrAl 24 X 15 CrNiSi 20 12 X18CrNiSi20-12 X 7 CrNi 23 14 G-X 40 CrNiSi 25 12 X 15 CrNiSi 25 20 X 12 CrNi 25 21 G-X 40 CrNiSi 25 20 X 12 NiCrSi 36 16 G-X 40 NiCrSi 38 18 X 53 CrMnNiN 21 9 X 45 CrNiW 18 9 X 10 NiCrAlTi 32 20 X 12 CrNiTi 18 9 X 20 CrMoV 12 1 X 5 NiCrTi 26 5 NiCu30Al	-446 309 309 S 314 310 S HK 330 EV 8 B 163 321 4676	Z 10 CAS 24 Z 15 CNS 20-12 Z 17 CNS 20-12 Z 15 CN 24-13 Z 12 CNS 25-20 Z 8 CN 25-20 Z 12 NCS 37-18 Z 52 CMN 21-09 Z 35 CNWS 14-14 Z 8 NC 32-21 Z 6 CNT 18-12 (B) Z 20 CDV 12	A286 MONEL K500	
S	Ni alloy	Special alloys	2.4603 2.4631 2.4066 2.4654 2.4663 2.4668 2.4669 2.4816 2.4856 2.4969	NiCr20TiAl NiFe35Cr14MoTi NiCr19Fe19NbMo NiCr 15 Fe NiCr22Mo9Nb NiCr 20 Co 18 Ti NiCr16Co10WAlTi NiCo15Cr15MoAlTi NiCr19Fe19NbMo	5390A 5660 5383 N 07750 AMS 5540 5666 5712, 5713 687 5583	NC22FeD NC20TA ZSNCDT42 NC19eNB NC22FeDNB	HASTELLOY G30 NIMONIC 80 A NICKEL 200 WASPALLOY INCONEL 617 INCONEL 718 INCONEL X470 INCONEL 600 INCONEL625 NIMONIC 90 MAR-M 421 UDIMET 700 UDIMET 720
S	Co cobalt	Special alloys<<	2.4964 3.7025 3.7035 3.7055 3.7065 3.7025 Pd 3.7035 Pd 3.7105 3.7165 3.7145.7 3.7175	CoCrW10TaZrB CoCr24Ni10WtaZrB CoCr20W15Ni CoCr20Ni16Mo7 CoCr20W15Ni	670 F75 5537C	KC20WN	MAR-M 302 MAR M-509 HS 25 STELLITE 21 STELLITE 30 PHYNOX HAYNES 25
S	Titanium, titanium alloy	Titanium, titanium alloy	3.7025 3.7035 3.7055 3.7065 3.7025 Pd 3.7035 Pd 3.7105 3.7165 3.7145.7 3.7175	Ti99.2 Ti99.4 Ti99.4 TiAl6V4 TiAl6Sn2Zr4Mo2Si TiAl6V6Sn2	Grade1 Grade2 Grade3 Grade4 Grade12 Grade5	T-A6V	
N	Copper alloy - easy to machine	Cu alloy Silver Gold	2.0331 2.0331 2.0332 2.0371 2.0371 2.0375 2.0380 2.0401 2.0402 2.058	Cu Zn 36 Pb 1.5 Cu Zn 36 Pb 1.5 Cu Zn 37 Pb 0.5 Cu Zn 38 Pb 1.5 Cu Zn 38 Pb 1.5 Cu Zn 36 Pb 3 Cu Zn 39 Pb 2 Cu Zn 39 Pb 3 Cu Zn 40 Pb 2 Cu Zn 40 Mn Pb 1	Cu Zn 35 Pb 2 Cu Zn 38 Pb 2 Cu Zn 36 Pb 3 Cu Zn 39 Pb 2 Cu Zn 40 Pb 3 Cu Zn 39 Pb 2 Cu Ni 18 Zn 2		



MATERIAL GROUPS AND EXAMPLES

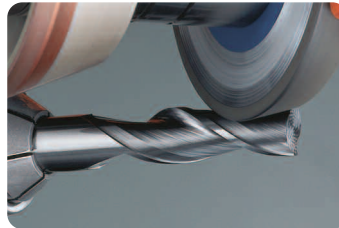
Groups		W.Nr.	DIN	AISI/ATSM	AFNOR	Commercial name
	Cu alloy Silver Gold	2.0740 2.0771 2.0771 2.0780 2.0790 2.1546 2.1016	Cu Ni 18 Zn 20 Cu Ni Zn 39 Cu Ni 7 Zn 39 Cu Ni 12 Zn 30 Pb 1 Cu Ni 18 Zn 19 Pb 1 Cu Te P CuSn4Pb4Zn4 CuNi7.5Sn5Te		C 109	DECLAFOR 1015
N	Non alloyed copper, Copper alloy - difficult to machine	2.0040 2.0060 2.0065 2.0920 2.1247	OF-Cu E-Cu57 E-Cu58 Cu Al8 CuBe2			
N	Aluminium < 8% Si	3.0205 3.0257 3.0515 3.3315 3.3525 3.3535 3.3537 3.3545 3.3547 3.3211 3.2315 3.1355 3.4335 3.4365	Al 99.5 E-AL AlMn1 AlMg1 AlMg2Mn0.3 AlMg3 AlMg2.7Mn AlMg4Mn AlMg4.5Mn AlMg1SiCu AlMgSi1 AlCuMg2 AlZn4.5Mg1 AlZnMgCu1.5	A5 1350 3103 5005 5251 5754 5454 5086 5083 6061 6082 2024 7020 7075		
N	Aluminium > 8% Si	3.2373 3.2381 3.2581 3.2291	AlSi9Mg AlSi10Mg AlSi12CuFe AlSi20	A-S9G A-S10G A-S13G A-S20		



REGRINDING

We regrind competitors' as well as DIXI tools.

Standard or traditional tools
in carbide or HSS from \varnothing 6 mm

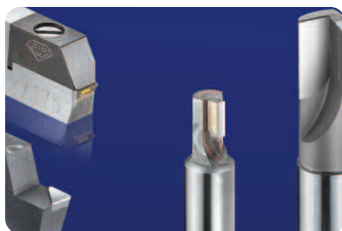
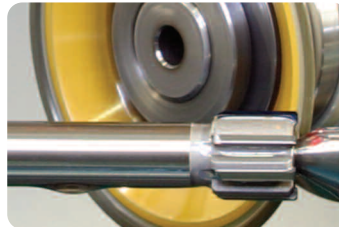


Carbide form tools
 $\geq \varnothing$ 6 mm

Slitting saws $\geq \varnothing$ 15 mm

Form slitting saws $\geq \varnothing$ 8 mm

Carbide, Cermet,
PCD and CBN tipped reamers



Natural diamond, MDC,
PCD, CVD and CBN tools



COMPANY PROFILE



DIXI POLYTOOL S.A.

DIXI POLYTOOL S.A. is specialized in the production of tungsten carbide and diamond cutting tools as well as precision reamers.

The company is based in Le Locle since 1946. In 2014, the premises have been completely renovated and enlarged.

With the introduction of the Lean Project, back in 2013, and the heavy investments in the production, our efforts are also focused on supporting our 250 co-workers.

Eager to guarantee the quality of its products while preserving the environment, DIXI POLYTOOL S.A. elaborated a system of certified management according the standards ISO 9001:2008 and ISO 14001:2004

A daily commitment to be eco-friendly

For several years, DIXI POLYTOOL SA has decided to use only 100% recycled paper, natural colouring ink for our catalogues and flyers. Furthermore, we are proud to be a precursor by using green energy for the maintenance of the building and the production, since January 2015.

Our commitment for the sustainable development...



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