



Tool material **Solid Carbide**

Surface **F**

P Steel ★ web thinning ≥ Ø 3.000 • facet point grinding • main cutting edge form straight • optimized cutting geometry

M Stainless steel ○

K Cast iron ●

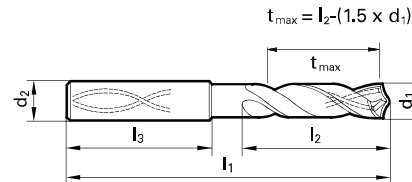
N Aluminum ○

S Titanium alloys ○

H Hardened steel ○

structural and case hardened steels • free-cutting steels, heat treatable steels • steels (alloyed/unalloyed) up to 1200 N/mm² • cast materials • bronze, brass • high-alloyed AlSi-alloys

- ★ = 1st choice
- = Optimal suitability
- = Limited suitability



Speeds and feeds information on pg. 550

3xD Drills

Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	EDP #
inch	wire/ltr	mm					
0.1181		3.00	6.00	62.00	15.50	20.00	9055100030000
0.1220		3.10	6.00	62.00	15.35	20.00	9055100031000
0.1248	1/8	3.17	6.00	62.00	15.25	20.00	9055100031700
0.1260		3.20	6.00	62.00	15.20	20.00	9055100032000
0.1280		3.25	6.00	62.00	15.13	20.00	9055100032500
0.1299		3.30	6.00	62.00	15.05	20.00	9055100033000
0.1339		3.40	6.00	62.00	14.90	20.00	9055100034000
0.1378		3.50	6.00	62.00	14.75	20.00	9055100035000
0.1406	9/64 #28	3.57	6.00	62.00	14.65	20.00	9055100035700
0.1417		3.60	6.00	62.00	14.60	20.00	9055100036000
0.1457		3.70	6.00	62.00	14.45	20.00	9055100037000
0.1496	#25	3.80	6.00	66.00	18.30	24.00	9055100038000
0.1535		3.90	6.00	66.00	18.15	24.00	9055100039000
0.1563	5/32	3.97	6.00	66.00	18.05	24.00	9055100039700
0.1575		4.00	6.00	66.00	18.00	24.00	9055100040000
0.1591	#21	4.04	6.00	66.00	17.94	24.00	9055100040400
0.1614		4.10	6.00	66.00	17.85	24.00	9055100041000
0.1654		4.20	6.00	66.00	17.70	24.00	9055100042000
0.1693		4.30	6.00	66.00	17.55	24.00	9055100043000
0.1720	11/64	4.37	6.00	66.00	17.45	24.00	9055100043700
0.1732		4.40	6.00	66.00	17.40	24.00	9055100044000
0.1772	#16	4.50	6.00	66.00	17.25	24.00	9055100045000
0.1811		4.60	6.00	66.00	17.10	24.00	9055100046000
0.1831		4.65	6.00	66.00	17.03	24.00	9055100046500
0.1850	#13	4.70	6.00	66.00	16.95	24.00	9055100047000
0.1874	3/16	4.76	6.00	66.00	20.86	28.00	9055100047600
0.1890	#12	4.80	6.00	66.00	20.80	28.00	9055100048000
0.1929		4.90	6.00	66.00	20.65	28.00	9055100049000
0.1969		5.00	6.00	66.00	20.50	28.00	9055100050000
0.2008		5.10	6.00	66.00	20.35	28.00	9055100051000
0.2012	#7	5.11	6.00	66.00	20.34	28.00	9055100051100
0.2031	13/64	5.16	6.00	66.00	20.26	28.00	9055100051600
0.2047		5.20	6.00	66.00	20.20	28.00	9055100052000
0.2067		5.25	6.00	66.00	20.13	28.00	9055100052500
0.2087		5.30	6.00	66.00	20.05	28.00	9055100053000
0.2126		5.40	6.00	66.00	19.90	28.00	9055100054000
0.2130	#3	5.41	6.00	66.00	19.89	28.00	9055100054100
0.2165		5.50	6.00	66.00	19.75	28.00	9055100055000
0.2185		5.55	6.00	66.00	19.68	28.00	9055100055500
0.2189	7/32	5.56	6.00	66.00	19.66	28.00	9055100055600
0.2205		5.60	6.00	66.00	19.60	28.00	9055100056000
0.2244		5.70	6.00	66.00	19.45	28.00	9055100057000
0.2283		5.80	6.00	66.00	19.30	28.00	9055100058000

Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	EDP #
inch	wire/ltr	mm					
0.2323		5.90	6.00	66.00	19.15	28.00	9055100059000
0.2343	15/64	5.95	6.00	66.00	19.08	28.00	9055100059500
0.2362		6.00	6.00	66.00	19.00	28.00	9055100060000
0.2402		6.10	8.00	79.00	24.85	34.00	9055100061000
0.2441		6.20	8.00	79.00	24.70	34.00	9055100062000
0.2480		6.30	8.00	79.00	24.55	34.00	9055100063000
0.2500	1/4 E	6.35	8.00	79.00	24.48	34.00	9055100063500
0.2520		6.40	8.00	79.00	24.40	34.00	9055100064000
0.2559		6.50	8.00	79.00	24.25	34.00	9055100065000
0.2571	F	6.53	8.00	79.00	24.21	34.00	9055100065300
0.2598		6.60	8.00	79.00	24.10	34.00	9055100066000
0.2638		6.70	8.00	79.00	23.95	34.00	9055100067000
0.2657	17/64 H	6.75	8.00	79.00	23.88	34.00	9055100067500
0.2677		6.80	8.00	79.00	23.80	34.00	9055100068000
0.2717	I	6.90	8.00	79.00	23.65	34.00	9055100069000
0.2756		7.00	8.00	79.00	23.50	34.00	9055100070000
0.2795		7.10	8.00	79.00	30.35	41.00	9055100071000
0.2811	9/32 K	7.14	8.00	79.00	30.29	41.00	9055100071400
0.2835		7.20	8.00	79.00	30.20	41.00	9055100072000
0.2874		7.30	8.00	79.00	30.05	41.00	9055100073000
0.2913		7.40	8.00	79.00	29.90	41.00	9055100074000
0.2953		7.50	8.00	79.00	29.75	41.00	9055100075000
0.2969	19/64	7.54	8.00	79.00	29.69	41.00	9055100075400
0.2992		7.60	8.00	79.00	29.60	41.00	9055100076000
0.3031		7.70	8.00	79.00	29.45	41.00	9055100077000
0.3071		7.80	8.00	79.00	29.30	41.00	9055100078000
0.3110		7.90	8.00	79.00	29.15	41.00	9055100079000
0.3125	5/16	7.94	8.00	79.00	29.09	41.00	9055100079400
0.3150		8.00	8.00	79.00	29.00	41.00	9055100080000
0.3189		8.10	10.00	89.00	34.85	47.00	9055100081000
0.3228	P	8.20	10.00	89.00	34.70	47.00	9055100082000
0.3268		8.30	10.00	89.00	34.55	47.00	9055100083000
0.3280	21/64	8.33	10.00	89.00	34.51	47.00	9055100083300
0.3307		8.40	10.00	89.00	34.40	47.00	9055100084000
0.3346		8.50	10.00	89.00	34.25	47.00	9055100085000
0.3386		8.60	10.00	89.00	34.10	47.00	9055100086000
0.3425		8.70	10.00	89.00	33.95	47.00	9055100087000
0.3437	11/32	8.73	10.00	89.00	33.91	47.00	9055100087300
0.3465		8.80	10.00	89.00	33.80	47.00	9055100088000
0.3504		8.90	10.00	89.00	33.65	47.00	9055100089000
0.3543		9.00	10.00	89.00	33.50	47.00	9055100090000
0.3583		9.10	10.00	89.00	33.35	47.00	9055100091000
0.3594	23/64	9.13	10.00	89.00	33.31	47.00	9055100091300

Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	EDP #
inch	wire/ltr	mm					
0.3622		9.20	10.00	89.00	33.20	47.00	9055100092000
0.3642		9.25	10.00	89.00	33.13	47.00	9055100092500
0.3661		9.30	10.00	89.00	33.05	47.00	9055100093000
0.3677	U	9.34	10.00	89.00	32.99	47.00	9055100093400
0.3701		9.40	10.00	89.00	32.90	47.00	9055100094000
0.3740		9.50	10.00	89.00	32.75	47.00	9055100095000
0.3750	3/8	9.52	10.00	89.00	32.72	47.00	9055100095200
0.3780		9.60	10.00	89.00	32.60	47.00	9055100096000
0.3819		9.70	10.00	89.00	32.45	47.00	9055100097000
0.3858	W	9.80	10.00	89.00	32.30	47.00	9055100098000
0.3898		9.90	10.00	89.00	32.15	47.00	9055100099000
0.3906	25/64	9.92	10.00	89.00	32.12	47.00	9055100099200
0.3937		10.00	10.00	89.00	32.00	47.00	9055100100000
0.3976		10.10	12.00	102.00	39.85	55.00	9055100101000
0.4016		10.20	12.00	102.00	39.70	55.00	9055100102000
0.4055		10.30	12.00	102.00	39.55	55.00	9055100103000
0.4063	13/32	10.32	12.00	102.00	39.52	55.00	9055100103200
0.4094		10.40	12.00	102.00	39.40	55.00	9055100104000
0.4134		10.50	12.00	102.00	39.25	55.00	9055100105000
0.4173		10.60	12.00	102.00	39.10	55.00	9055100106000
0.4213		10.70	12.00	102.00	38.95	55.00	9055100107000
0.4220	27/64	10.72	12.00	102.00	38.92	55.00	9055100107200
0.4252		10.80	12.00	102.00	38.80	55.00	9055100108000
0.4291		10.90	12.00	102.00	38.65	55.00	9055100109000
0.4331		11.00	12.00	102.00	38.50	55.00	9055100110000
0.4370		11.10	12.00	102.00	38.35	55.00	9055100111000
0.4374	7/16	11.11	12.00	102.00	38.34	55.00	9055100111100
0.4409		11.20	12.00	102.00	38.20	55.00	9055100112000
0.4449		11.30	12.00	102.00	38.05	55.00	9055100113000
0.4488		11.40	12.00	102.00	37.90	55.00	9055100114000
0.4528		11.50	12.00	102.00	37.75	55.00	9055100115000
0.4531	29/64	11.51	12.00	102.00	37.74	55.00	9055100115100
0.4567		11.60	12.00	102.00	37.60	55.00	9055100116000
0.4606		11.70	12.00	102.00	37.45	55.00	9055100117000
0.4646		11.80	12.00	102.00	37.30	55.00	9055100118000
0.4685		11.90	12.00	102.00	37.15	55.00	9055100119000
0.4689	15/32	11.91	12.00	102.00	37.14	55.00	9055100119100
0.4724		12.00	12.00	102.00	37.00	55.00	9055100120000
0.4764		12.10	14.00	107.00	41.85	60.00	9055100121000
0.4803		12.20	14.00	107.00	41.70	60.00	9055100122000
0.4843	31/64	12.30	14.00	107.00	41.55	60.00	9055100123000
0.4882		12.40	14.00	107.00	41.40	60.00	9055100124000
0.4921		12.50	14.00	107.00	41.25	60.00	9055100125000
0.4961		12.60	14.00	107.00	41.10	60.00	9055100126000
0.5000	1/2	12.70	14.00	107.00	40.95	60.00	9055100127000
0.5039		12.80	14.00	107.00	40.80	60.00	9055100128000
0.5079		12.90	14.00	107.00	40.65	60.00	9055100129000
0.5118		13.00	14.00	107.00	40.50	60.00	9055100130000
0.5157	33/64	13.10	14.00	107.00	40.35	60.00	9055100131000
0.5197		13.20	14.00	107.00	40.20	60.00	9055100132000
0.5236		13.30	14.00	107.00	40.05	60.00	9055100133000
0.5276		13.40	14.00	107.00	39.90	60.00	9055100134000
0.5311	17/32	13.49	14.00	107.00	39.77	60.00	9055100134900
0.5315		13.50	14.00	107.00	39.75	60.00	9055100135000

Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	EDP #
inch	wire/ltr	mm					
0.5354		13.60	14.00	107.00	39.60	60.00	9055100136000
0.5394		13.70	14.00	107.00	39.45	60.00	9055100137000
0.5433		13.80	14.00	107.00	39.30	60.00	9055100138000
0.5469	35/64	13.89	14.00	107.00	39.17	60.00	9055100138900
0.5472		13.90	14.00	107.00	39.15	60.00	9055100139000
0.5512		14.00	14.00	107.00	39.00	60.00	9055100140000
0.5551		14.10	16.00	115.00	43.85	65.00	9055100141000
0.5591		14.20	16.00	115.00	43.70	65.00	9055100142000
0.5626	9/16	14.29	16.00	115.00	43.57	65.00	9055100142900
0.5630		14.30	16.00	115.00	43.55	65.00	9055100143000
0.5669		14.40	16.00	115.00	43.40	65.00	9055100144000
0.5709		14.50	16.00	115.00	43.25	65.00	9055100145000
0.5748		14.60	16.00	115.00	43.10	65.00	9055100146000
0.5780	37/64	14.68	16.00	115.00	42.98	65.00	9055100146800
0.5787		14.70	16.00	115.00	42.95	65.00	9055100147000
0.5827		14.80	16.00	115.00	42.80	65.00	9055100148000
0.5866		14.90	16.00	115.00	42.65	65.00	9055100149000
0.5906		15.00	16.00	115.00	42.50	65.00	9055100150000
0.5937	19/32	15.08	16.00	115.00	42.38	65.00	9055100150800
0.5945		15.10	16.00	115.00	42.35	65.00	9055100151000
0.5984		15.20	16.00	115.00	42.20	65.00	9055100152000
0.6024		15.30	16.00	115.00	42.05	65.00	9055100153000
0.6063		15.40	16.00	115.00	41.90	65.00	9055100154000
0.6094	39/64	15.48	16.00	115.00	41.78	65.00	9055100154800
0.6102		15.50	16.00	115.00	41.75	65.00	9055100155000
0.6142		15.60	16.00	115.00	41.60	65.00	9055100156000
0.6181		15.70	16.00	115.00	41.45	65.00	9055100157000
0.6220		15.80	16.00	115.00	41.30	65.00	9055100158000
0.6250	5/8	15.87	16.00	115.00	41.20	65.00	9055100158700
0.6260		15.90	16.00	115.00	41.15	65.00	9055100159000
0.6299		16.00	16.00	115.00	41.00	65.00	9055100160000
0.6378		16.20	18.00	123.00	48.70	73.00	9055100162000
0.6406	41/64	16.27	18.00	123.00	48.60	73.00	9055100162700
0.6496		16.50	18.00	123.00	48.25	73.00	9055100165000
0.6563	21/32	16.67	18.00	123.00	48.00	73.00	9055100166700
0.6654		16.90	18.00	123.00	47.65	73.00	9055100169000
0.6693		17.00	18.00	123.00	47.50	73.00	9055100170000
0.6720	43/64	17.07	18.00	123.00	47.40	73.00	9055100170700
0.6874	11/16	17.46	18.00	123.00	46.81	73.00	9055100174600
0.6890		17.50	18.00	123.00	46.75	73.00	9055100175000
0.6929		17.60	18.00	123.00	46.60	73.00	9055100176000
0.6969		17.70	18.00	123.00	46.45	73.00	9055100177000
0.7031	45/64	17.86	18.00	123.00	46.21	73.00	9055100178600
0.7087		18.00	18.00	123.00	46.00	73.00	9055100180000
0.7189	23/32	18.26	20.00	131.00	51.61	79.00	9055100182600
0.7283		18.50	20.00	131.00	51.25	79.00	9055100185000
0.7441		18.90	20.00	131.00	50.65	79.00	9055100189000
0.7480		19.00	20.00	131.00	50.50	79.00	9055100190000
0.7500	3/4	19.05	20.00	131.00	50.43	79.00	9055100190500
0.7579		19.25	20.00	131.00	50.13	79.00	9055100192500
0.7657	49/64	19.45	20.00	131.00	49.83	79.00	9055100194460
0.7677		19.50	20.00	131.00	49.75	79.00	9055100195000
0.7811	25/32	19.84	20.00	131.00	49.24	79.00	9055100198400
0.7874		20.00	20.00	131.00	49.00	79.00	9055100200000

3xD Drills

Material group	Hardness		SFM	Feed Rate - IPR									
	HRc	Bhn		1/16 in. 1.590 mm	1/8 in. 3.170 mm	1/4 in. 6.350 mm	3/8 in. 9.520 mm	1/2 in. 12.700 mm	5/8 in. 15.870 mm	3/4 in. 19.050 mm	1 in. 25.400 mm	1 1/4 in. 31.750 mm	1 1/2 in. 38.100 mm
Common structural steels	- 32	150 301	475 395		0.0065 0.0050	0.0100 0.0080	0.0125 0.0100	0.0160 0.0125	0.0160 0.0125	0.0180 0.0140			
Free-cutting steels	25 32	255 301	560 475		0.0080 0.0080	0.0125 0.0125	0.0160 0.0160	0.0200 0.0200	0.0200 0.0200	0.0220 0.0220			
Unalloyed heat-treatable steels	20 25 32	220 255 301	425 410 395		0.0080 0.0065 0.0065	0.0125 0.0100 0.0100	0.0160 0.0125 0.0125	0.0200 0.0160 0.0160	0.0200 0.0160 0.0160	0.0220 0.0180 0.0180			
Alloyed heat-treatable steels	32 43	301 402	395 345		0.0065 0.0065	0.0100 0.0100	0.0125 0.0125	0.0160 0.0160	0.0160 0.0160	0.0180 0.0180			
Unalloyed case hardened steels	25	255	475		0.0080	0.0125	0.0160	0.0200	0.0200	0.0220			
Alloyed case hardened steels	32 43	301 402	395 280		0.0065 0.0040	0.0100 0.0065	0.0125 0.0080	0.0160 0.0100	0.0160 0.0100	0.0180 0.0110			
Nitriding steels	32 43	301 402	360 345		0.0065 0.0040	0.0100 0.0065	0.0125 0.0080	0.0160 0.0100	0.0160 0.0100	0.0180 0.0110			
Tool steels	25 43	255 402	260 215		0.0050 0.0040	0.0080 0.0065	0.0100 0.0080	0.0125 0.0100	0.0125 0.0100	0.0140 0.0110			
High speed steels	43	402	195		0.0030	0.0050	0.0065	0.0080	0.0080	0.0090			
Spring steels	38	354	195		0.0025	0.0040	0.0050	0.0065	0.0065	0.0070			
Hardened steels	48 66	460 -	180 115		0.0025 0.0020	0.0040 0.0030	0.0050 0.0040	0.0065 0.0050	0.0065 0.0050	0.0070 0.0055			
Stainless steels, sulphured austenitic martensitic	28 36 46	273 337 435	195 180 165		0.0040 0.0040 0.0040	0.0065 0.0065 0.0065	0.0080 0.0080 0.0080	0.0100 0.0100 0.0100	0.0100 0.0100 0.0100	0.0110 0.0110 0.0110			
Cast iron	23 38	242 354	690 525		0.0100 0.0100	0.0160 0.0160	0.0200 0.0200	0.0245 0.0245	0.0245 0.0245	0.0265 0.0265			
Spheroidal graphite iron and malleable cast iron	23 38	242 354	460 425		0.0100 0.0080	0.0160 0.0125	0.0200 0.0160	0.0245 0.0200	0.0245 0.0200	0.0265 0.0220			
Chilled cast iron	38	354	130		0.0025	0.0040	0.0050	0.0065	0.0065	0.0070			
New cast materials GGV	20 32	220 301											
New cast materials ADI	32 43	301 402											
Special alloys	54	549	115		0.0030	0.0050	0.0065	0.0080	0.0080	0.0090			
Ti and Ti-alloys	25 43	255 402	150 130		0.0030 0.0030	0.0050 0.0050	0.0065 0.0065	0.0080 0.0080	0.0080 0.0080	0.0090 0.0090			
Aluminium and Al-alloys	-	120	1015		0.0100	0.0160	0.0200	0.0245	0.0245	0.0265			
Al wrought alloys	-	200	1015		0.0100	0.0160	0.0200	0.0245	0.0245	0.0265			
Al cast alloys ≤ 10 % Si ≤ 24 % Si	-	180 180	855 720		0.0100 0.0100	0.0160 0.0160	0.0200 0.0200	0.0245 0.0245	0.0245 0.0245	0.0265 0.0265			
Magnesium alloys	-	120	920		0.0080	0.0125	0.0160	0.0200	0.0200	0.0220			
Copper, low-alloyed	-	150	410		0.0065	0.0100	0.0125	0.0160	0.0160	0.0180			
Brass, short-chipping long-chipping	- -	180 180	1065 720		0.0080 0.0065	0.0125 0.0100	0.0160 0.0125	0.0200 0.0160	0.0200 0.0160	0.0220 0.0180			
Bronze, short-chipping	-	180	410		0.0065	0.0100	0.0125	0.0160	0.0160	0.0180			
Bronze, long-chipping	25 32	255 301	345 260		0.0050 0.0050	0.0080 0.0080	0.0100 0.0100	0.0125 0.0125	0.0125 0.0125	0.0140 0.0140			
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK													

Material group	Hardness		SFM	Feed Rate - IPR									
	HRc	Bhn		1/16 in. 1.590 mm	1/8 in. 3.170 mm	1/4 in. 6.350 mm	3/8 in. 9.520 mm	1/2 in. 12.700 mm	5/8 in. 15.870 mm	3/4 in. 19.050 mm	1 in. 25.400 mm	1 1/4 in. 31.750 mm	1 1/2 in. 38.100 mm
Common structural steels	- 32	150 301	475 395		0.0065 0.0050	0.0100 0.0080	0.0125 0.0100	0.0160 0.0125	0.0160 0.0125	0.0180 0.0140	0.0200 0.0160		
Free-cutting steels	25 32	255 301	560 475		0.0080 0.0080	0.0125 0.0125	0.0160 0.0160	0.0200 0.0200	0.0200 0.0200	0.0220 0.0220	0.0245 0.0245		
Unalloyed heat-treatable steels	20 25 32	220 255 301	425 410 395		0.0080 0.0065 0.0065	0.0125 0.0100 0.0100	0.0160 0.0125 0.0125	0.0200 0.0160 0.0160	0.0200 0.0160 0.0160	0.0220 0.0180 0.0200	0.0245 0.0200 0.0200		
Alloyed heat-treatable steels	32 43	301 402	395 345		0.0065 0.0065	0.0100 0.0100	0.0125 0.0125	0.0160 0.0160	0.0160 0.0160	0.0180 0.0180	0.0200 0.0200		
Unalloyed case hardened steels	25	255	475		0.0080	0.0125	0.0160	0.0200	0.0200	0.0220	0.0245		
Alloyed case hardened steels	32 43	301 402	395 280		0.0065 0.0040	0.0100 0.0065	0.0125 0.0080	0.0160 0.0100	0.0160 0.0100	0.0180 0.0110	0.0200 0.0125		
Nitriding steels	32 43	301 402	350 330		0.0065 0.0040	0.0100 0.0065	0.0125 0.0080	0.0160 0.0100	0.0160 0.0100	0.0180 0.0110	0.0200 0.0125		
Tool steels	25 43	255 402	240 180		0.0050 0.0040	0.0080 0.0065	0.0100 0.0080	0.0125 0.0100	0.0125 0.0100	0.0140 0.0110	0.0160 0.0125		
High speed steels	43	402	195		0.0030	0.0050	0.0065	0.0080	0.0080	0.0090	0.0100		
Spring steels	38	354	195		0.0025	0.0040	0.0050	0.0065	0.0065	0.0070	0.0080		
Hardened steels	48 66	460 -	180 115		0.0025 0.0020	0.0040 0.0030	0.0050 0.0040	0.0065 0.0050	0.0065 0.0050	0.0070 0.0055	0.0080 0.0065		
Stainless steels, sulphured austenitic martensitic	28 36 46	273 337 435	195 180 165		0.0040 0.0040 0.0040	0.0065 0.0065 0.0065	0.0080 0.0080 0.0080	0.0100 0.0100 0.0100	0.0100 0.0100 0.0100	0.0110 0.0110 0.0110	0.0125 0.0125 0.0125		
Cast iron	23 38	242 354	690 525		0.0100 0.0100	0.0160 0.0160	0.0200 0.0200	0.0245 0.0245	0.0245 0.0245	0.0265 0.0265	0.0290 0.0290		
Spheroidal graphite iron and malleable cast iron	23 38	242 354	450 425		0.0100 0.0080	0.0160 0.0125	0.0200 0.0160	0.0245 0.0200	0.0245 0.0200	0.0265 0.0220	0.0290 0.0245		
Chilled cast iron	38	354	130		0.0025	0.0040	0.0050	0.0065	0.0065	0.0070	0.0080		
New cast materials GGV	20 32	220 301											
New cast materials ADI	32 43	301 402											
Special alloys	54	549	115		0.0030	0.0050	0.0065	0.0080	0.0080	0.0090	0.0100		
Ti and Ti-alloys	25 43	255 402	150 130		0.0030 0.0025	0.0050 0.0040	0.0065 0.0050	0.0080 0.0065	0.0080 0.0065	0.0090 0.0070	0.0100 0.0080		
Aluminium and Al-alloys	-	120	1015		0.0080	0.0125	0.0160	0.0200	0.0200	0.0220	0.0245		
Al wrought alloys	-	200	1015		0.0080	0.0125	0.0160	0.0200	0.0200	0.0220	0.0245		
Al cast alloys ≤ 10 % Si ≤ 24 % Si	-	180 180	855 720		0.0080 0.0080	0.0125 0.0125	0.0160 0.0160	0.0200 0.0200	0.0200 0.0200	0.0220 0.0220	0.0245 0.0245		
Magnesium alloys	-	120	920		0.0080	0.0125	0.0160	0.0200	0.0200	0.0220	0.0245		
Copper, low-alloyed	-	150	410		0.0065	0.0100	0.0125	0.0160	0.0160	0.0180	0.0200		
Brass, short-chipping long-chipping	- -	180 180	1065 720		0.0080 0.0065	0.0125 0.0100	0.0160 0.0125	0.0200 0.0160	0.0200 0.0160	0.0220 0.0180	0.0245 0.0200		
Bronze, short-chipping	-	180	410		0.0065	0.0100	0.0125	0.0160	0.0160	0.0180	0.0200		
Bronze, long-chipping	25 32	255 301	345 260		0.0050 0.0050	0.0080 0.0080	0.0100 0.0100	0.0125 0.0125	0.0125 0.0125	0.0140 0.0140	0.0160 0.0160		
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK													