

Tool material

HSS

Surface

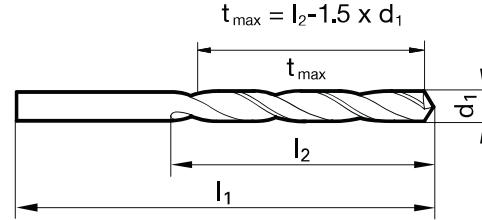


P	Steel
M	Stainless steel
K	Cast iron
N	Aluminum •
S	Titanium alloys
H	Hardened steel

web thinning $\geq \varnothing 14.500$ • relieved cone

soft, long chipping materials • aluminum, Al-alloys (long-chipping) • zinc, refined copper, silumin, Elektron • soft plastics • wood

- =Optimal
- =Limited



Speeds and feeds information on pg. 477

Shank diameter = cut diameter

Diameter (d1)			l1 mm	t _{max} mm	l2 mm	EDP #
inch	wire/ltr	mm				
0.0079	#92	0.20	19.00	2.20	2.50	9002070002000
0.0118		0.30	19.00	2.55	3.00	9002070003000
0.0138		0.35	19.00	3.48	4.00	9002070003500
0.0157	1/64	0.40	20.00	4.40	5.00	9002070004000
0.0177		0.45	20.00	4.33	5.00	9002070004500
0.0181	#77	0.46	20.00	4.31	5.00	9002070004600
0.0197		0.50	22.00	5.25	6.00	9002070005000
0.0201	#76	0.51	22.00	5.24	6.00	9002070005100
0.0217		0.55	24.00	6.18	7.00	9002070005500
0.0224	#74	0.57	24.00	6.15	7.00	9002070005700
0.0236		0.60	24.00	6.10	7.00	9002070006000
0.0240	#73	0.61	26.00	7.09	8.00	9002070006100
0.0244		0.62	26.00	7.07	8.00	9002070006200
0.0252	#72	0.64	26.00	7.04	8.00	9002070006400
0.0256		0.65	26.00	7.03	8.00	9002070006500
0.0260	#71	0.66	26.00	7.01	8.00	9002070006600
0.0276		0.70	28.00	7.95	9.00	9002070007000
0.0295		0.75	28.00	7.88	9.00	9002070007500
0.0307		0.78	30.00	8.83	10.00	9002070007800
0.0311	1/32 #68	0.79	30.00	8.82	10.00	9002070007900
0.0315		0.80	30.00	8.80	10.00	9002070008000
0.0319	#67	0.81	30.00	8.79	10.00	9002070008100
0.0331	#66	0.84	30.00	8.74	10.00	9002070008400
0.0335		0.85	30.00	8.73	10.00	9002070008500
0.0339		0.86	32.00	9.71	11.00	9002070008600
0.0343		0.87	32.00	9.70	11.00	9002070008700
0.0354		0.90	32.00	9.65	11.00	9002070009000
0.0374		0.95	32.00	9.58	11.00	9002070009500
0.0382	#62	0.97	34.00	10.55	12.00	9002070009700
0.0386		0.98	34.00	10.53	12.00	9002070009800
0.0390	#61	0.99	34.00	10.52	12.00	9002070009900
0.0394		1.00	34.00	10.50	12.00	9002070010000
0.0398		1.01	34.00	10.49	12.00	9002070010100
0.0402	#60	1.02	34.00	10.47	12.00	9002070010200
0.0413		1.05	34.00	10.43	12.00	9002070010500
0.0421	#58	1.07	36.00	12.40	14.00	9002070010700
0.0425		1.08	36.00	12.38	14.00	9002070010800
0.0433		1.10	36.00	12.35	14.00	9002070011000
0.0441		1.12	36.00	12.32	14.00	9002070011200
0.0453		1.15	36.00	12.28	14.00	9002070011500
0.0465	#56	1.18	36.00	12.23	14.00	9002070011800
0.0469	3/64	1.19	38.00	14.22	16.00	9002070011900
0.0472		1.20	38.00	14.20	16.00	9002070012000
0.0480		1.22	38.00	14.17	16.00	9002070012200
0.0492		1.25	38.00	14.13	16.00	9002070012500

Diameter (d1)			l1 mm	t _{max} mm	l2 mm	EDP #
inch	wire/ltr	mm				
0.0500		1.27	38.00	14.10	16.00	9002070012700
0.0512		1.30	38.00	14.05	16.00	9002070013000
0.0516		1.31	38.00	14.04	16.00	9002070013100
0.0524		1.33	40.00	16.01	18.00	9002070013300
0.0531		1.35	40.00	15.98	18.00	9002070013500
0.0543		1.38	40.00	15.93	18.00	9002070013800
0.0551	#54	1.40	40.00	15.90	18.00	9002070014000
0.0559		1.42	40.00	15.87	18.00	9002070014200
0.0563		1.43	40.00	15.86	18.00	9002070014300
0.0571		1.45	40.00	15.83	18.00	9002070014500
0.0579		1.47	40.00	15.80	18.00	9002070014700
0.0591		1.50	40.00	15.75	18.00	9002070015000
0.0594	#53	1.51	43.00	17.74	20.00	9002070015100
0.0610		1.55	43.00	17.68	20.00	9002070015500
0.0622		1.58	43.00	17.63	20.00	9002070015800
0.0626	1/16	1.59	43.00	17.62	20.00	9002070015900
0.0630		1.60	43.00	17.60	20.00	9002070016000
0.0634	#52	1.61	43.00	17.59	20.00	9002070016100
0.0650		1.65	43.00	17.53	20.00	9002070016500
0.0669	#51	1.70	43.00	17.45	20.00	9002070017000
0.0689		1.75	46.00	19.38	22.00	9002070017500
0.0693		1.76	46.00	19.36	22.00	9002070017600
0.0697		1.77	46.00	19.35	22.00	9002070017700
0.0701	#50	1.78	46.00	19.33	22.00	9002070017800
0.0709		1.80	46.00	19.30	22.00	9002070018000
0.0728	#49	1.85	46.00	19.23	22.00	9002070018500
0.0748		1.90	46.00	19.15	22.00	9002070019000
0.0760	#48	1.93	49.00	21.11	24.00	9002070019300
0.0768		1.95	49.00	21.08	24.00	9002070019500
0.0780	5/64	1.98	49.00	21.03	24.00	9002070019800
0.0787		2.00	49.00	21.00	24.00	9002070020000
0.0795		2.02	49.00	20.97	24.00	9002070020200
0.0807		2.05	49.00	20.93	24.00	9002070020500
0.0811	#46	2.06	49.00	20.91	24.00	9002070020600
0.0819	#45	2.08	49.00	20.88	24.00	9002070020800
0.0827		2.10	49.00	20.85	24.00	9002070021000
0.0846		2.15	53.00	23.78	27.00	9002070021500
0.0866		2.20	53.00	23.70	27.00	9002070022000
0.0874		2.22	53.00	23.67	27.00	9002070022200
0.0886		2.25	53.00	23.63	27.00	9002070022500
0.0906		2.30	53.00	23.55	27.00	9002070023000
0.0913		2.32	53.00	23.52	27.00	9002070023200
0.0925		2.35	53.00	23.48	27.00	9002070023500
0.0937	3/32	2.38	57.00	26.43	30.00	9002070023800
0.0945		2.40	57.00	26.40	30.00	9002070024000

Diameter (d ₁)			l ₁ mm	t _{max} mm	l ₂ mm	EDP #
inch	wire/ltr	mm				
0.0965		2.45	57.00	26.33	30.00	9002070024500
0.0980	#40	2.49	57.00	26.27	30.00	9002070024900
0.0984		2.50	57.00	26.25	30.00	9002070025000
0.0996	#39	2.53	57.00	26.21	30.00	9002070025300
0.1004		2.55	57.00	26.18	30.00	9002070025500
0.1016	#38	2.58	57.00	26.13	30.00	9002070025800
0.1024		2.60	57.00	26.10	30.00	9002070026000
0.1043		2.65	57.00	26.03	30.00	9002070026500
0.1063		2.70	61.00	28.95	33.00	9002070027000
0.1071		2.72	61.00	28.92	33.00	9002070027200
0.1075		2.73	61.00	28.91	33.00	9002070027300
0.1083		2.75	61.00	28.88	33.00	9002070027500
0.1094	7/64	2.78	61.00	28.83	33.00	9002070027800
0.1102		2.80	61.00	28.80	33.00	9002070028000
0.1110	#34	2.82	61.00	28.77	33.00	9002070028200
0.1122		2.85	61.00	28.73	33.00	9002070028500
0.1142		2.90	61.00	28.65	33.00	9002070029000
0.1161	#32	2.95	61.00	28.58	33.00	9002070029500
0.1181		3.00	61.00	28.50	33.00	9002070030000
0.1193		3.03	65.00	31.46	36.00	9002070030300
0.1201	#31	3.05	65.00	31.43	36.00	9002070030500
0.1205		3.06	65.00	31.41	36.00	9002070030600
0.1220		3.10	65.00	31.35	36.00	9002070031000
0.1240		3.15	65.00	31.28	36.00	9002070031500
0.1248	1/8	3.17	65.00	31.25	36.00	9002070031700
0.1260		3.20	65.00	31.20	36.00	9002070032000
0.1280		3.25	65.00	31.13	36.00	9002070032500
0.1283	#30	3.26	65.00	31.11	36.00	9002070032600
0.1299		3.30	65.00	31.05	36.00	9002070033000
0.1319		3.35	65.00	30.98	36.00	9002070033500
0.1339		3.40	70.00	33.90	39.00	9002070034000
0.1358	#29	3.45	70.00	33.83	39.00	9002070034500
0.1378		3.50	70.00	33.75	39.00	9002070035000
0.1390		3.53	70.00	33.71	39.00	9002070035300
0.1398		3.55	70.00	33.68	39.00	9002070035500
0.1406	9/64 #28	3.57	70.00	33.65	39.00	9002070035700
0.1417		3.60	70.00	33.60	39.00	9002070036000
0.1437		3.65	70.00	33.53	39.00	9002070036500
0.1457		3.70	70.00	33.45	39.00	9002070037000
0.1469	#26	3.73	70.00	33.41	39.00	9002070037300
0.1476		3.75	70.00	33.38	39.00	9002070037500
0.1496	#25	3.80	75.00	37.30	43.00	9002070038000
0.1516		3.85	75.00	37.23	43.00	9002070038500
0.1535		3.90	75.00	37.15	43.00	9002070039000
0.1555		3.95	75.00	37.08	43.00	9002070039500
0.1563	5/32	3.97	75.00	37.05	43.00	9002070039700
0.1575		4.00	75.00	37.00	43.00	9002070040000
0.1591	#21	4.04	75.00	36.94	43.00	9002070040400
0.1594		4.05	75.00	36.93	43.00	9002070040500
0.1614		4.10	75.00	36.85	43.00	9002070041000
0.1634		4.15	75.00	36.78	43.00	9002070041500
0.1654		4.20	75.00	36.70	43.00	9002070042000
0.1661	#19	4.22	75.00	36.67	43.00	9002070042200
0.1673		4.25	75.00	36.63	43.00	9002070042500
0.1693	#18	4.30	80.00	40.55	47.00	9002070043000
0.1713		4.35	80.00	40.48	47.00	9002070043500
0.1732		4.40	80.00	40.40	47.00	9002070044000
0.1772	#16	4.50	80.00	40.25	47.00	9002070045000
0.1811		4.60	80.00	40.10	47.00	9002070046000
0.1831		4.65	80.00	40.03	47.00	9002070046500
0.1850	#13	4.70	80.00	39.95	47.00	9002070047000
0.1870		4.75	80.00	39.88	47.00	9002070047500
0.1874	3/16	4.76	86.00	44.86	52.00	9002070047600
0.1890	#12	4.80	86.00	44.80	52.00	9002070048000
0.1909	#11	4.85	86.00	44.73	52.00	9002070048500
0.1929		4.90	86.00	44.65	52.00	9002070049000

Diameter (d ₁)			l ₁ mm	t _{max} mm	l ₂ mm	EDP #
inch	wire/ltr	mm				
0.1949		4.95	86.00	44.58	52.00	9002070049500
0.1969		5.00	86.00	44.50	52.00	9002070050000
0.1988		5.05	86.00	44.43	52.00	9002070050500
0.2008		5.10	86.00	44.35	52.00	9002070051000
0.2031	13/64	5.16	86.00	44.26	52.00	9002070051600
0.2047		5.20	86.00	44.20	52.00	9002070052000
0.2067		5.25	86.00	44.13	52.00	9002070052500
0.2087		5.30	86.00	44.05	52.00	9002070053000
0.2126		5.40	93.00	48.90	57.00	9002070054000
0.2146		5.45	93.00	48.83	57.00	9002070054500
0.2165		5.50	93.00	48.75	57.00	9002070055000
0.2189	7/32	5.56	93.00	48.66	57.00	9002070055600
0.2205		5.60	93.00	48.60	57.00	9002070056000
0.2244		5.70	93.00	48.45	57.00	9002070057000
0.2264		5.75	93.00	48.38	57.00	9002070057500
0.2283		5.80	93.00	48.30	57.00	9002070058000
0.2303		5.85	93.00	48.23	57.00	9002070058500
0.2323		5.90	93.00	48.15	57.00	9002070059000
0.2343	15/64	5.95	93.00	48.08	57.00	9002070059500
0.2362		6.00	93.00	48.00	57.00	9002070060000
0.2402		6.10	101.00	53.85	63.00	9002070061000
0.2421	C	6.15	101.00	53.78	63.00	9002070061500
0.2441		6.20	101.00	53.70	63.00	9002070062000
0.2461	D	6.25	101.00	53.63	63.00	9002070062500
0.2480		6.30	101.00	53.55	63.00	9002070063000
0.2500	1/4 E	6.35	101.00	53.48	63.00	9002070063500
0.2520		6.40	101.00	53.40	63.00	9002070064000
0.2559		6.50	101.00	53.25	63.00	9002070065000
0.2571		6.53	101.00	53.21	63.00	9002070065300
0.2598		6.60	101.00	53.10	63.00	9002070066000
0.2618		6.65	101.00	53.03	63.00	9002070066500
0.2638		6.70	101.00	52.95	63.00	9002070067000
0.2657	17/64 H	6.75	109.00	58.88	69.00	9002070067500
0.2677		6.80	109.00	58.80	69.00	9002070068000
0.2697		6.85	109.00	58.73	69.00	9002070068500
0.2717	I	6.90	109.00	58.65	69.00	9002070069000
0.2736		6.95	109.00	58.58	69.00	9002070069500
0.2756		7.00	109.00	58.50	69.00	9002070070000
0.2776		7.05	109.00	58.43	69.00	9002070070500
0.2795		7.10	109.00	58.35	69.00	9002070071000
0.2811	9/32 K	7.14	109.00	58.29	69.00	9002070071400
0.2835		7.20	109.00	58.20	69.00	9002070072000
0.2854		7.25	109.00	58.13	69.00	9002070072500
0.2874		7.30	109.00	58.05	69.00	9002070073000
0.2913		7.40	109.00	57.90	69.00	9002070074000
0.2953		7.50	109.00	57.75	69.00	9002070075000
0.2969	19/64	7.54	117.00	63.69	75.00	9002070075400
0.2992		7.60	117.00	63.60	75.00	9002070076000
0.3031		7.70	117.00	63.45	75.00	9002070077000
0.3051		7.75	117.00	63.38	75.00	9002070077500
0.3071		7.80	117.00	63.30	75.00	9002070078000
0.3110		7.90	117.00	63.15	75.00	9002070079000
0.3125	5/16	7.94	117.00	63.09	75.00	9002070079400
0.3150		8.00	117.00	63.00	75.00	9002070080000
0.3161	O	8.03	117.00	62.96	75.00	9002070080300
0.3189		8.10	117.00	62.85	75.00	9002070081000
0.3209		8.15	117.00	62.78	75.00	9002070081500
0.3228	P	8.20	117.00	62.70	75.00	9002070082000
0.3248		8.25	117.00	62.63	75.00	9002070082500
0.3268		8.30	117.00	62.55	75.00	9002070083000
0.3307		8.40	117.00	62.40	75.00	9002070084000
0.3346		8.50	117.00	62.25	75.00	9002070085000
0.3386		8.60	125.00	68.10	81.00	9002070086000
0.3425		8.70	125.00	67.95	81.00	9002070087000
0.3437	11/32	8.73	125.00	67.91	81.00	9002070087300
0.3445		8.75	125.00	67.88	81.00	9002070087500

Diameter (d ₁)			l ₁	t _{max}	l ₂	EDP #
inch	wire/ltr	mm	mm	mm	mm	
0.3465		8.80	125.00	67.80	81.00	9002070088000
0.3480	S	8.84	125.00	67.74	81.00	9002070088400
0.3504		8.90	125.00	67.65	81.00	9002070089000
0.3543		9.00	125.00	67.50	81.00	9002070090000
0.3579	T	9.09	125.00	67.37	81.00	9002070090900
0.3583		9.10	125.00	67.35	81.00	9002070091000
0.3594	23/64	9.13	125.00	67.31	81.00	9002070091300
0.3622		9.20	125.00	67.20	81.00	9002070092000
0.3661		9.30	125.00	67.05	81.00	9002070093000
0.3677	U	9.34	125.00	66.99	81.00	9002070093400
0.3701		9.40	125.00	66.90	81.00	9002070094000
0.3740		9.50	125.00	66.75	81.00	9002070095000
0.3750	3/8	9.52	133.00	72.72	87.00	9002070095200
0.3780		9.60	133.00	72.60	87.00	9002070096000
0.3819		9.70	133.00	72.45	87.00	9002070097000
0.3858	W	9.80	133.00	72.30	87.00	9002070098000
0.3898		9.90	133.00	72.15	87.00	9002070099000
0.3906	25/64	9.92	133.00	72.12	87.00	9002070099200
0.3937		10.00	133.00	72.00	87.00	9002070100000
0.3969	X	10.08	133.00	71.88	87.00	9002070100800
0.3976		10.10	133.00	71.85	87.00	9002070101000
0.4016		10.20	133.00	71.70	87.00	9002070102000
0.4035		10.25	133.00	71.63	87.00	9002070102500
0.4039	Y	10.26	133.00	71.61	87.00	9002070102600
0.4055		10.30	133.00	71.55	87.00	9002070103000
0.4063	13/32	10.32	133.00	71.52	87.00	9002070103200
0.4094		10.40	133.00	71.40	87.00	9002070104000
0.4134		10.50	133.00	71.25	87.00	9002070105000
0.4173		10.60	133.00	71.10	87.00	9002070106000
0.4213		10.70	142.00	77.95	94.00	9002070107000
0.4232		10.75	142.00	77.88	94.00	9002070107500
0.4252		10.80	142.00	77.80	94.00	9002070108000
0.4291		10.90	142.00	77.65	94.00	9002070109000
0.4331		11.00	142.00	77.50	94.00	9002070110000
0.4370		11.10	142.00	77.35	94.00	9002070111000
0.4374	7/16	11.11	142.00	77.34	94.00	9002070111100
0.4409		11.20	142.00	77.20	94.00	9002070112000

Diameter (d ₁)			l ₁	t _{max}	l ₂	EDP #
inch	wire/ltr	mm	mm	mm	mm	
0.4429		11.25	142.00	77.13	94.00	9002070112500
0.4449		11.30	142.00	77.05	94.00	9002070113000
0.4488		11.40	142.00	76.90	94.00	9002070114000
0.4528		11.50	142.00	76.75	94.00	9002070115000
0.4531	29/64	11.51	142.00	76.74	94.00	9002070115100
0.4567		11.60	142.00	76.60	94.00	9002070116000
0.4606		11.70	142.00	76.45	94.00	9002070117000
0.4626		11.75	142.00	76.38	94.00	9002070117500
0.4646		11.80	142.00	76.30	94.00	9002070118000
0.4685		11.90	151.00	83.15	101.00	9002070119000
0.4724		12.00	151.00	83.00	101.00	9002070120000
0.4764		12.10	151.00	82.85	101.00	9002070121000
0.4843	31/64	12.30	151.00	82.55	101.00	9002070123000
0.4921		12.50	151.00	82.25	101.00	9002070125000
0.4961		12.60	151.00	82.10	101.00	9002070126000
0.5000	1/2	12.70	151.00	81.95	101.00	9002070127000
0.5039		12.80	151.00	81.80	101.00	9002070128000
0.5079		12.90	151.00	81.65	101.00	9002070129000
0.5118		13.00	151.00	81.50	101.00	9002070130000
0.5157	33/64	13.10	151.00	81.35	101.00	9002070131000
0.5197		13.20	151.00	81.20	101.00	9002070132000
0.5315		13.50	160.00	87.75	108.00	9002070135000
0.5433		13.80	160.00	87.30	108.00	9002070138000
0.5512		14.00	160.00	87.00	108.00	9002070140000
0.5709		14.50	169.00	92.25	114.00	9002070145000
0.5787		14.70	169.00	91.95	114.00	9002070147000
0.5827		14.80	169.00	91.80	114.00	9002070148000
0.5906		15.00	169.00	91.50	114.00	9002070150000
0.5984		15.20	178.00	97.20	120.00	9002070152000
0.6102		15.50	178.00	96.75	120.00	9002070155000
0.6299		16.00	178.00	96.00	120.00	9002070160000
0.6496		16.50	184.00	100.25	125.00	9002070165000
0.6693		17.00	184.00	99.50	125.00	9002070170000
0.7087		18.00	191.00	103.00	130.00	9002070180000
0.7185		18.25	198.00	107.63	135.00	9002070182500
0.7480		19.00	198.00	106.50	135.00	9002070190000
0.7874		20.00	205.00	110.00	140.00	9002070200000

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	-	≤ 150											
	≤ 32	≤ 301											
Free-cutting steels	≤ 25	≤ 255											
	≤ 32	≤ 301											
Unalloyed heat-treatable steels	≤ 20	≤ 220											
	≤ 25	≤ 255											
	≤ 32	≤ 301											
Alloyed heat-treatable steels	≤ 32	≤ 301											
	≤ 43	≤ 402											
Unalloyed case hardened steels	≤ 25	≤ 255											
Alloyed case hardened steels	≤ 32	≤ 301											
	≤ 43	≤ 402											
Nitriding steels	≤ 32	≤ 301											
	≤ 43	≤ 402											
Tool steels	≤ 25	≤ 255											
	≤ 43	≤ 402											
High speed steels	≤ 43	≤ 402											
Spring steels	≤ 38	≤ 354											
Hardened steels	≤ 48	≤ 460											
	≤ 66	-											
Stainless steels, sulphured	≤ 28	≤ 273											
austenitic	≤ 36	≤ 337											
martensitic	≤ 46	≤ 435											
Cast iron	≤ 23	≤ 242											
	≤ 38	≤ 354											
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242											
	≤ 38	≤ 354											
Chilled cast iron	≤ 38	≤ 354											
New cast materials GGV	≤ 20	≤ 220											
	≤ 32	≤ 301											
New cast materials ADI	≤ 32	≤ 301											
	≤ 43	≤ 402											
Special alloys	≤ 54	≤ 549											
Ti and Ti-alloys	≤ 25	≤ 255											
	≤ 43	≤ 402											
Aluminium and Al-alloys	-	≤ 120	260	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160	0.0180			
Al wrought alloys	-	≤ 200	260	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160	0.0180			
Al cast alloys ≤ 10 % Si	-	≤ 180	205	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160	0.0180			
≤ 24 % Si	-	≤ 180											
Magnesium alloys	-	≤ 120											
Copper, low-alloyed	-	≤ 150	100	0.0015	0.004	0.0065	0.0080	0.0100	0.0100	0.0110			
Brass, short-chipping	-	≤ 180											
long-chipping	-	≤ 180											
Bronze, short-chipping	-	≤ 180											
	≤ 25	≤ 255											
Bronze, long-chipping	≤ 25	≤ 255											
	≤ 32	≤ 301											
Duroplastics			80	0.0015	0.00400	0.0065	0.0080	0.0100	0.0100	0.0110			
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	-	≤ 150	100	0.0017	0.0050	0.0080	0.0100	0.0125					
	≤ 32	≤ 301	80	0.0015	0.0040	0.0065	0.0080	0.0100					
Free-cutting steels	≤ 25	≤ 255	100	0.0017	0.0050	0.0080	0.0100	0.0125					
	≤ 32	≤ 301	80	0.0015	0.0040	0.0065	0.0080	0.0100					
Unalloyed heat-treatable steels	≤ 20	≤ 220	100	0.0015	0.0040	0.0065	0.0080	0.0100					
	≤ 25	≤ 255	80	0.0015	0.0040	0.0065	0.0080	0.0100					
	≤ 32	≤ 301											
Alloyed heat-treatable steels	≤ 32	≤ 301											
	≤ 43	≤ 402											
Unalloyed case hardened steels	≤ 25	≤ 255	100	0.0017	0.0050	0.008	0.0100	0.0125					
Alloyed case hardened steels	≤ 32	≤ 301											
	≤ 43	≤ 402											
Nitriding steels	≤ 32	≤ 301											
	≤ 43	≤ 402											
Tool steels	≤ 25	≤ 255	50	0.0012	0.0030	0.0050	0.0065	0.0080					
	≤ 43	≤ 402											
High speed steels	≤ 43	≤ 402											
Spring steels	≤ 38	≤ 354											
Hardened steels	≤ 48	≤ 460											
	≤ 66	-											
Stainless steels, sulphured	≤ 28	≤ 273											
austenitic	≤ 36	≤ 337											
martensitic	≤ 46	≤ 435											
Cast iron	≤ 23	≤ 242	100	0.0017	0.0050	0.0080	0.0100	0.0125					
	≤ 38	≤ 354	80	0.0017	0.0050	0.0080	0.0100	0.0125					
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242	90	0.0017	0.0050	0.0080	0.0100	0.0125					
	≤ 38	≤ 354	65	0.0017	0.0050	0.0080	0.0100	0.0125					
Chilled cast iron	≤ 38	≤ 354											
New cast materials GGV	≤ 20	≤ 220											
	≤ 32	≤ 301											
New cast materials ADI	≤ 32	≤ 301											
	≤ 43	≤ 402											
Special alloys	≤ 54	≤ 549											
Ti and Ti-alloys	≤ 25	≤ 255											
	≤ 43	≤ 402											
Aluminium and Al-alloys	-	≤ 120											
Al wrought alloys	-	≤ 200											
Al cast alloys ≤ 10 % Si	-	≤ 180	205	0.0020	0.0065	0.0100	0.0125	0.0160					
≤ 24 % Si	-	≤ 180	160	0.0017	0.0050	0.0080	0.0100	0.0125					
Magnesium alloys	-	≤ 120	260	0.0017	0.0050	0.0080	0.0100	0.0125					
Copper, low-alloyed	-	≤ 150	100	0.0015	0.0040	0.0065	0.0080	0.0100					
Brass, short-chipping	-	≤ 180	205	0.0015	0.0040	0.0065	0.0080	0.0100					
long-chipping	-	≤ 180	130	0.0015	0.0040	0.0065	0.0080	0.0100					
Bronze, short-chipping	-	≤ 180	100	0.0012	0.0030	0.0050	0.0065	0.0080					
	≤ 25	≤ 255	90	0.0012	0.0030	0.0050	0.0065	0.0080					
Bronze, long-chipping	≤ 25	≤ 255	80	0.0012	0.0030	0.0050	0.0065	0.0080					
	≤ 32	≤ 301											
Duroplastics			50	0.0012	0.0030	0.0050	0.0065	0.0080					
Thermoplastics			80	0.0015	0.0040	0.0065	0.0080	0.0100					
Reinforced plastics - Kevlar													
Reinforced plastics - GFK / CFK													