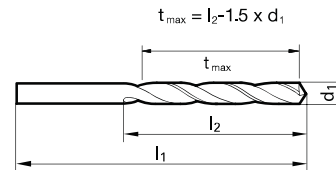




Tool material **HSS**

Surface  $\text{Ra} > 2.36$

- P** Steel ● web thinning  $\geq \text{Ø} 1.000$  • relieved cone • for deep holes
  - M** Stainless steel
  - K** Cast iron ● alloyed/unalloyed steel and cast steel • grey cast iron, malleable and spheroidal iron • sintered powder metal, German silver and graphite
  - N** Aluminum ○
  - S** Titanium alloys
  - H** Hardened steel
- =Optimal  
○=Limited



Speeds and feeds information on pg. 478

Shank diameter = cut diameter

Diameter (d <sub>1</sub> )			l <sub>1</sub> mm	t <sub>max</sub> mm	l <sub>2</sub> mm	EDP #
inch	wire/ltr	mm				
0.0157	1/64	0.40	30.00	9.40	10.00	9002170004000
0.0173		0.44	30.00	9.34	10.00	9002170004400
0.0185		0.47	30.00	9.30	10.00	9002170004700
0.0197		0.50	32.00	11.25	12.00	9002170005000
0.0205		0.52	32.00	11.22	12.00	9002170005200
0.0217		0.55	35.00	14.18	15.00	9002170005500
0.0224	#74	0.57	35.00	14.15	15.00	9002170005700
0.0236		0.60	35.00	14.10	15.00	9002170006000
0.0244		0.62	38.00	17.07	18.00	9002170006200
0.0256		0.65	38.00	17.03	18.00	9002170006500
0.0276		0.70	42.00	19.95	21.00	9002170007000
0.0287		0.73	42.00	19.91	21.00	9002170007300
0.0295		0.75	42.00	19.88	21.00	9002170007500
0.0299		0.76	46.00	23.86	25.00	9002170007600
0.0311	1/32 #68	0.79	46.00	23.82	25.00	9002170007900
0.0315		0.80	46.00	23.80	25.00	9002170008000
0.0323		0.82	46.00	23.77	25.00	9002170008200
0.0335		0.85	46.00	23.73	25.00	9002170008500
0.0354		0.90	51.00	27.65	29.00	9002170009000
0.0362		0.92	51.00	27.62	29.00	9002170009200
0.0374		0.95	51.00	27.58	29.00	9002170009500
0.0382	#62	0.97	56.00	31.55	33.00	9002170009700
0.0394		1.00	56.00	31.50	33.00	9002170010000
0.0402	#60	1.02	56.00	31.47	33.00	9002170010200
0.0409	#59	1.04	56.00	31.44	33.00	9002170010400
0.0413		1.05	56.00	31.43	33.00	9002170010500
0.0421	#58	1.07	60.00	35.40	37.00	9002170010700
0.0429	#57	1.09	60.00	35.37	37.00	9002170010900
0.0433		1.10	60.00	35.35	37.00	9002170011000
0.0441		1.12	60.00	35.32	37.00	9002170011200
0.0453		1.15	60.00	35.28	37.00	9002170011500
0.0465	#56	1.18	60.00	35.23	37.00	9002170011800
0.0469	3/64	1.19	65.00	39.22	41.00	9002170011900
0.0472		1.20	65.00	39.20	41.00	9002170012000
0.0492		1.25	65.00	39.13	41.00	9002170012500
0.0512		1.30	65.00	39.05	41.00	9002170013000
0.0520	#55	1.32	65.00	39.02	41.00	9002170013200
0.0531		1.35	70.00	42.98	45.00	9002170013500
0.0551	#54	1.40	70.00	42.90	45.00	9002170014000
0.0571		1.45	70.00	42.83	45.00	9002170014500
0.0591		1.50	70.00	42.75	45.00	9002170015000
0.0594	#53	1.51	76.00	47.74	50.00	9002170015100
0.0610		1.55	76.00	47.68	50.00	9002170015500

Diameter (d <sub>1</sub> )			l <sub>1</sub> mm	t <sub>max</sub> mm	l <sub>2</sub> mm	EDP #
inch	wire/ltr	mm				
0.0626	1/16	1.59	76.00	47.62	50.00	9002170015900
0.0630		1.60	76.00	47.60	50.00	9002170016000
0.0634	#52	1.61	76.00	47.59	50.00	9002170016100
0.0650		1.65	76.00	47.53	50.00	9002170016500
0.0669	#51	1.70	76.00	47.45	50.00	9002170017000
0.0689		1.75	80.00	50.38	53.00	9002170017500
0.0701	#50	1.78	80.00	50.33	53.00	9002170017800
0.0709		1.80	80.00	50.30	53.00	9002170018000
0.0728	#49	1.85	80.00	50.23	53.00	9002170018500
0.0748		1.90	80.00	50.15	53.00	9002170019000
0.0760	#48	1.93	85.00	53.11	56.00	9002170019300
0.0768		1.95	85.00	53.08	56.00	9002170019500
0.0780	5/64	1.98	85.00	53.03	56.00	9002170019800
0.0783	#47	1.99	85.00	53.02	56.00	9002170019900
0.0787		2.00	85.00	53.00	56.00	9002170020000
0.0799		2.03	85.00	52.96	56.00	9002170020300
0.0807		2.05	85.00	52.93	56.00	9002170020500
0.0811	#46	2.06	85.00	52.91	56.00	9002170020600
0.0819	#45	2.08	85.00	52.88	56.00	9002170020800
0.0827		2.10	85.00	52.85	56.00	9002170021000
0.0846		2.15	90.00	55.78	59.00	9002170021500
0.0858	#44	2.18	90.00	55.73	59.00	9002170021800
0.0866		2.20	90.00	55.70	59.00	9002170022000
0.0886		2.25	90.00	55.63	59.00	9002170022500
0.0890	#43	2.26	90.00	55.61	59.00	9002170022600
0.0906		2.30	90.00	55.55	59.00	9002170023000
0.0913		2.32	90.00	55.52	59.00	9002170023200
0.0925		2.35	90.00	55.48	59.00	9002170023500
0.0933	#42	2.37	95.00	58.45	62.00	9002170023700
0.0937	3/32	2.38	95.00	58.43	62.00	9002170023800
0.0945		2.40	95.00	58.40	62.00	9002170024000
0.0961	#41	2.44	95.00	58.34	62.00	9002170024400
0.0965		2.45	95.00	58.33	62.00	9002170024500
0.0980	#40	2.49	95.00	58.27	62.00	9002170024900
0.0984		2.50	95.00	58.25	62.00	9002170025000
0.0996	#39	2.53	95.00	58.21	62.00	9002170025300
0.1004		2.55	95.00	58.18	62.00	9002170025500
0.1016	#38	2.58	95.00	58.13	62.00	9002170025800
0.1024		2.60	95.00	58.10	62.00	9002170026000
0.1031		2.62	95.00	58.07	62.00	9002170026200
0.1039	#37	2.64	95.00	58.04	62.00	9002170026400
0.1043		2.65	95.00	58.03	62.00	9002170026500
0.1063		2.70	100.00	61.95	66.00	9002170027000

Taper Length

Diameter (d <sub>1</sub> )			l <sub>1</sub> mm	t <sub>max</sub> mm	l <sub>2</sub> mm	EDP #
inch	wire/ltr	mm				
0.1067	#36	2.71	100.00	61.94	66.00	9002170027100
0.1083		2.75	100.00	61.88	66.00	9002170027500
0.1094	7/64	2.78	100.00	61.83	66.00	9002170027800
0.1098	#35	2.79	100.00	61.82	66.00	9002170027900
0.1102		2.80	100.00	61.80	66.00	9002170028000
0.1110	#34	2.82	100.00	61.77	66.00	9002170028200
0.1122		2.85	100.00	61.73	66.00	9002170028500
0.1130	#33	2.87	100.00	61.70	66.00	9002170028700
0.1142		2.90	100.00	61.65	66.00	9002170029000
0.1161	#32	2.95	100.00	61.58	66.00	9002170029500
0.1181		3.00	100.00	61.50	66.00	9002170030000
0.1201	#31	3.05	106.00	64.43	69.00	9002170030500
0.1220		3.10	106.00	64.35	69.00	9002170031000
0.1240		3.15	106.00	64.28	69.00	9002170031500
0.1248	1/8	3.17	106.00	64.25	69.00	9002170031700
0.1260		3.20	106.00	64.20	69.00	9002170032000
0.1280		3.25	106.00	64.13	69.00	9002170032500
0.1283	#30	3.26	106.00	64.11	69.00	9002170032600
0.1299		3.30	106.00	64.05	69.00	9002170033000
0.1319		3.35	106.00	63.98	69.00	9002170033500
0.1339		3.40	112.00	67.90	73.00	9002170034000
0.1358	#29	3.45	112.00	67.83	73.00	9002170034500
0.1378		3.50	112.00	67.75	73.00	9002170035000
0.1398		3.55	112.00	67.68	73.00	9002170035500
0.1406	9/64 #28	3.57	112.00	67.65	73.00	9002170035700
0.1417		3.60	112.00	67.60	73.00	9002170036000
0.1437		3.65	112.00	67.53	73.00	9002170036500
0.1441	#27	3.66	112.00	67.51	73.00	9002170036600
0.1457		3.70	112.00	67.45	73.00	9002170037000
0.1469	#26	3.73	112.00	67.41	73.00	9002170037300
0.1476		3.75	112.00	67.38	73.00	9002170037500
0.1496	#25	3.80	119.00	72.30	78.00	9002170038000
0.1516		3.85	119.00	72.23	78.00	9002170038500
0.1520	#24	3.86	119.00	72.21	78.00	9002170038600
0.1535		3.90	119.00	72.15	78.00	9002170039000
0.1539	#23	3.91	119.00	72.14	78.00	9002170039100
0.1555		3.95	119.00	72.08	78.00	9002170039500
0.1563	5/32	3.97	119.00	72.05	78.00	9002170039700
0.1571	#22	3.99	119.00	72.02	78.00	9002170039900
0.1575		4.00	119.00	72.00	78.00	9002170040000
0.1591	#21	4.04	119.00	71.94	78.00	9002170040400
0.1594		4.05	119.00	71.93	78.00	9002170040500
0.1610	#20	4.09	119.00	71.87	78.00	9002170040900
0.1614		4.10	119.00	71.85	78.00	9002170041000
0.1634		4.15	119.00	71.78	78.00	9002170041500
0.1654		4.20	119.00	71.70	78.00	9002170042000
0.1661	#19	4.22	119.00	71.67	78.00	9002170042200
0.1673		4.25	119.00	71.63	78.00	9002170042500
0.1693	#18	4.30	126.00	75.55	82.00	9002170043000
0.1713		4.35	126.00	75.48	82.00	9002170043500
0.1720	11/64	4.37	126.00	75.45	82.00	9002170043700
0.1728	#17	4.39	126.00	75.42	82.00	9002170043900
0.1732		4.40	126.00	75.40	82.00	9002170044000
0.1752		4.45	126.00	75.33	82.00	9002170044500
0.1772	#16	4.50	126.00	75.25	82.00	9002170045000
0.1799	#15	4.57	126.00	75.15	82.00	9002170045700
0.1811		4.60	126.00	75.10	82.00	9002170046000
0.1819	#14	4.62	126.00	75.07	82.00	9002170046200
0.1831		4.65	126.00	75.03	82.00	9002170046500
0.1850	#13	4.70	126.00	74.95	82.00	9002170047000
0.1870		4.75	126.00	74.88	82.00	9002170047500
0.1874	3/16	4.76	132.00	79.86	87.00	9002170047600
0.1890	#12	4.80	132.00	79.80	87.00	9002170048000
0.1909	#11	4.85	132.00	79.73	87.00	9002170048500
0.1929		4.90	132.00	79.65	87.00	9002170049000
0.1937	#10	4.92	132.00	79.62	87.00	9002170049200

Diameter (d <sub>1</sub> )			l <sub>1</sub> mm	t <sub>max</sub> mm	l <sub>2</sub> mm	EDP #
inch	wire/ltr	mm				
0.1949		4.95	132.00	79.58	87.00	9002170049500
0.1961	#9	4.98	132.00	79.53	87.00	9002170049800
0.1969		5.00	132.00	79.50	87.00	9002170050000
0.1988		5.05	132.00	79.43	87.00	9002170050500
0.1992	#8	5.06	132.00	79.41	87.00	9002170050600
0.2008		5.10	132.00	79.35	87.00	9002170051000
0.2012	#7	5.11	132.00	79.34	87.00	9002170051100
0.2028		5.15	132.00	79.28	87.00	9002170051500
0.2031	13/64	5.16	132.00	79.26	87.00	9002170051600
0.2039	#6	5.18	132.00	79.23	87.00	9002170051800
0.2047		5.20	132.00	79.20	87.00	9002170052000
0.2055	#5	5.22	132.00	79.17	87.00	9002170052200
0.2067		5.25	132.00	79.13	87.00	9002170052500
0.2087		5.30	132.00	79.05	87.00	9002170053000
0.2091	#4	5.31	139.00	83.04	91.00	9002170053100
0.2106		5.35	139.00	82.98	91.00	9002170053500
0.2126		5.40	139.00	82.90	91.00	9002170054000
0.2130	#3	5.41	139.00	82.89	91.00	9002170054100
0.2146		5.45	139.00	82.83	91.00	9002170054500
0.2165		5.50	139.00	82.75	91.00	9002170055000
0.2185		5.55	139.00	82.68	91.00	9002170055500
0.2189	7/32	5.56	139.00	82.66	91.00	9002170055600
0.2205		5.60	139.00	82.60	91.00	9002170056000
0.2209	#2	5.61	139.00	82.59	91.00	9002170056100
0.2224		5.65	139.00	82.53	91.00	9002170056500
0.2244		5.70	139.00	82.45	91.00	9002170057000
0.2264		5.75	139.00	82.38	91.00	9002170057500
0.2280	#1	5.79	139.00	82.32	91.00	9002170057900
0.2283		5.80	139.00	82.30	91.00	9002170058000
0.2303		5.85	139.00	82.23	91.00	9002170058500
0.2323		5.90	139.00	82.15	91.00	9002170059000
0.2339	A	5.94	139.00	82.09	91.00	9002170059400
0.2343	15/64	5.95	139.00	82.08	91.00	9002170059500
0.2362		6.00	139.00	82.00	91.00	9002170060000
0.2378	B	6.04	148.00	87.94	97.00	9002170060400
0.2402		6.10	148.00	87.85	97.00	9002170061000
0.2421	C	6.15	148.00	87.78	97.00	9002170061500
0.2441		6.20	148.00	87.70	97.00	9002170062000
0.2461	D	6.25	148.00	87.63	97.00	9002170062500
0.2480		6.30	148.00	87.55	97.00	9002170063000
0.2500	1/4 E	6.35	148.00	87.48	97.00	9002170063500
0.2520		6.40	148.00	87.40	97.00	9002170064000
0.2559		6.50	148.00	87.25	97.00	9002170065000
0.2571		6.53	148.00	87.21	97.00	9002170065300
0.2598		6.60	148.00	87.10	97.00	9002170066000
0.2610	G	6.63	148.00	87.06	97.00	9002170066300
0.2638		6.70	148.00	86.95	97.00	9002170067000
0.2657	17/64 H	6.75	156.00	91.88	102.00	9002170067500
0.2677		6.80	156.00	91.80	102.00	9002170068000
0.2717	I	6.90	156.00	91.65	102.00	9002170069000
0.2756		7.00	156.00	91.50	102.00	9002170070000
0.2768	J	7.03	156.00	91.46	102.00	9002170070300
0.2795		7.10	156.00	91.35	102.00	9002170071000
0.2811	9/32 K	7.14	156.00	91.29	102.00	9002170071400
0.2835		7.20	156.00	91.20	102.00	9002170072000
0.2854		7.25	156.00	91.13	102.00	9002170072500
0.2874		7.30	156.00	91.05	102.00	9002170073000
0.2902	L	7.37	156.00	90.95	102.00	9002170073700
0.2913		7.40	156.00	90.90	102.00	9002170074000
0.2953		7.50	156.00	90.75	102.00	9002170075000
0.2969	19/64	7.54	165.00	97.69	109.00	9002170075400
0.2992		7.60	165.00	97.60	109.00	9002170076000
0.3020	N	7.67	165.00	97.50	109.00	9002170076700
0.3031		7.70	165.00	97.45	109.00	9002170077000
0.3051		7.75	165.00	97.38	109.00	9002170077500
0.3071		7.80	165.00	97.30	109.00	9002170078000

Taper Length

Diameter (d <sub>1</sub> )			l <sub>1</sub> mm	t <sub>max</sub> mm	l <sub>2</sub> mm	EDP #
inch	wire/ltr	mm				
0.3110		7.90	165.00	97.15	109.00	9002170079000
0.3126	5/16	7.94	165.00	97.09	109.00	9002170079400
0.3150		8.00	165.00	97.00	109.00	9002170080000
0.3161	O	8.03	165.00	96.96	109.00	9002170080300
0.3189		8.10	165.00	96.85	109.00	9002170081000
0.3228	P	8.20	165.00	96.70	109.00	9002170082000
0.3248		8.25	165.00	96.63	109.00	9002170082500
0.3268		8.30	165.00	96.55	109.00	9002170083000
0.3280	21/64	8.33	165.00	96.51	109.00	9002170083300
0.3307		8.40	165.00	96.40	109.00	9002170084000
0.3319	Q	8.43	165.00	96.36	109.00	9002170084300
0.3346		8.50	165.00	96.25	109.00	9002170085000
0.3386		8.60	175.00	102.10	115.00	9002170086000
0.3390	R	8.61	175.00	102.09	115.00	9002170086100
0.3425		8.70	175.00	101.95	115.00	9002170087000
0.3437	11/32	8.73	175.00	101.91	115.00	9002170087300
0.3445		8.75	175.00	101.88	115.00	9002170087500
0.3465		8.80	175.00	101.80	115.00	9002170088000
0.3480	S	8.84	175.00	101.74	115.00	9002170088400
0.3504		8.90	175.00	101.65	115.00	9002170089000
0.3543		9.00	175.00	101.50	115.00	9002170090000
0.3583		9.10	175.00	101.35	115.00	9002170091000
0.3594	23/64	9.13	175.00	101.31	115.00	9002170091300
0.3622		9.20	175.00	101.20	115.00	9002170092000
0.3642		9.25	175.00	101.13	115.00	9002170092500
0.3661		9.30	175.00	101.05	115.00	9002170093000
0.3701		9.40	175.00	100.90	115.00	9002170094000
0.3740		9.50	175.00	100.75	115.00	9002170095000
0.3748	3/8	9.52	184.00	106.72	121.00	9002170095200
0.3780		9.60	184.00	106.60	121.00	9002170096000
0.3819		9.70	184.00	106.45	121.00	9002170097000
0.3839		9.75	184.00	106.38	121.00	9002170097500
0.3858	W	9.80	184.00	106.30	121.00	9002170098000
0.3898		9.90	184.00	106.15	121.00	9002170099000
0.3906	25/64	9.92	184.00	106.12	121.00	9002170099200
0.3937		10.00	184.00	106.00	121.00	9002170100000
0.3969	X	10.08	184.00	105.88	121.00	9002170100800
0.3976		10.10	184.00	105.85	121.00	9002170101000
0.4016		10.20	184.00	105.70	121.00	9002170102000
0.4035		10.25	184.00	105.63	121.00	9002170102500
0.4039	Y	10.26	184.00	105.61	121.00	9002170102600
0.4055		10.30	184.00	105.55	121.00	9002170103000
0.4063	13/32	10.32	184.00	105.52	121.00	9002170103200
0.4094		10.40	184.00	105.40	121.00	9002170104000
0.4130	Z	10.49	184.00	105.27	121.00	9002170104900
0.4134		10.50	184.00	105.25	121.00	9002170105000
0.4173		10.60	184.00	105.10	121.00	9002170106000
0.4213		10.70	195.00	111.95	128.00	9002170107000
0.4220	27/64	10.72	195.00	111.92	128.00	9002170107200
0.4232		10.75	195.00	111.88	128.00	9002170107500
0.4252		10.80	195.00	111.80	128.00	9002170108000
0.4291		10.90	195.00	111.65	128.00	9002170109000
0.4331		11.00	195.00	111.50	128.00	9002170110000
0.4374	7/16	11.11	195.00	111.34	128.00	9002170111100
0.4409		11.20	195.00	111.20	128.00	9002170112000
0.4429		11.25	195.00	111.13	128.00	9002170112500
0.4449		11.30	195.00	111.05	128.00	9002170113000
0.4488		11.40	195.00	110.90	128.00	9002170114000
0.4528		11.50	195.00	110.75	128.00	9002170115000
0.4531	29/64	11.51	195.00	110.74	128.00	9002170115100
0.4567		11.60	195.00	110.60	128.00	9002170116000
0.4626		11.75	195.00	110.38	128.00	9002170117500
0.4646		11.80	195.00	110.30	128.00	9002170118000
0.4689	15/32	11.91	205.00	116.14	134.00	9002170119100
0.4724		12.00	205.00	116.00	134.00	9002170120000

Diameter (d <sub>1</sub> )			l <sub>1</sub> mm	t <sub>max</sub> mm	l <sub>2</sub> mm	EDP #
inch	wire/ltr	mm				
0.4764		12.10	205.00	115.85	134.00	9002170121000
0.4803		12.20	205.00	115.70	134.00	9002170122000
0.4823		12.25	205.00	115.63	134.00	9002170122500
0.4843	31/64	12.30	205.00	115.55	134.00	9002170123000
0.4921		12.50	205.00	115.25	134.00	9002170125000
0.5000	1/2	12.70	205.00	114.95	134.00	9002170127000
0.5020		12.75	205.00	114.88	134.00	9002170127500
0.5039		12.80	205.00	114.80	134.00	9002170128000
0.5118		13.00	205.00	114.50	134.00	9002170130000
0.5157	33/64	13.10	205.00	114.35	134.00	9002170131000
0.5197		13.20	205.00	114.20	134.00	9002170132000
0.5311	17/32	13.49	214.00	119.77	140.00	9002170134900
0.5315		13.50	214.00	119.75	140.00	9002170135000
0.5413		13.75	214.00	119.38	140.00	9002170137500
0.5433		13.80	214.00	119.30	140.00	9002170138000
0.5469	35/64	13.89	214.00	119.17	140.00	9002170138900
0.5512		14.00	214.00	119.00	140.00	9002170140000
0.5591		14.20	220.00	122.70	144.00	9002170142000
0.5610		14.25	220.00	122.63	144.00	9002170142500
0.5626	9/16	14.29	220.00	122.57	144.00	9002170142900
0.5709		14.50	220.00	122.25	144.00	9002170145000
0.5780	37/64	14.68	220.00	121.98	144.00	9002170146800
0.5906		15.00	220.00	121.50	144.00	9002170150000
0.5937	19/32	15.08	227.00	126.38	149.00	9002170150800
0.6004		15.25	227.00	126.13	149.00	9002170152500
0.6063		15.40	227.00	125.90	149.00	9002170154000
0.6094	39/64	15.48	227.00	125.78	149.00	9002170154800
0.6102		15.50	227.00	125.75	149.00	9002170155000
0.6248	5/8	15.87	227.00	125.20	149.00	9002170158700
0.6299		16.00	227.00	125.00	149.00	9002170160000
0.6406	41/64	16.27	235.00	129.60	154.00	9002170162700
0.6496		16.50	235.00	129.25	154.00	9002170165000
0.6563	21/32	16.67	235.00	129.00	154.00	9002170166700
0.6693		17.00	235.00	128.50	154.00	9002170170000
0.6720	43/64	17.07	241.00	132.40	158.00	9002170170700
0.6874	11/16	17.46	241.00	131.81	158.00	9002170174600
0.6890		17.50	241.00	131.75	158.00	9002170175000
0.7031	45/64	17.86	241.00	131.21	158.00	9002170178600
0.7087		18.00	241.00	131.00	158.00	9002170180000
0.7185		18.25	247.00	134.63	162.00	9002170182500
0.7189	23/32	18.26	247.00	134.61	162.00	9002170182600
0.7283		18.50	247.00	134.25	162.00	9002170185000
0.7343	47/64	18.65	247.00	134.03	162.00	9002170186500
0.7480		19.00	247.00	133.50	162.00	9002170190000
0.7500	3/4	19.05	254.00	137.43	166.00	9002170190500
0.7657	49/64	19.45	254.00	136.83	166.00	9002170194500
0.7677		19.50	254.00	136.75	166.00	9002170195000
0.7811	25/32	19.84	254.00	136.24	166.00	9002170198400
0.7874		20.00	254.00	136.00	166.00	9002170200000
0.7969	51/64	20.24	261.00	140.64	171.00	9002170202400
0.8071		20.50	261.00	140.25	171.00	9002170205000
0.8126	13/16	20.64	261.00	140.04	171.00	9002170206400
0.8169		20.75	261.00	139.88	171.00	9002170207500
0.8268		21.00	261.00	139.50	171.00	9002170210000
0.8280	53/64	21.03	261.00	139.46	171.00	9002170210300
0.8465		21.50	268.00	143.75	176.00	9002170215000
0.8594	55/64	21.83	268.00	143.26	176.00	9002170218300
0.8661		22.00	268.00	143.00	176.00	9002170220000
0.8748	7/8	22.22	268.00	142.67	176.00	9002170222200
0.8906	57/64	22.62	275.00	146.07	180.00	9002170226200
0.9063	29/32	23.02	275.00	145.47	180.00	9002170230200
0.9374	15/16	23.81	282.00	149.29	185.00	9002170238100
0.9449		24.00	282.00	149.00	185.00	9002170240000
0.9689	31/32	24.61	282.00	148.09	185.00	9002170246100
0.9843	63/64	25.00	282.00	147.50	185.00	9002170250000

Taper Length

Series # 217

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	90 70	0.0017 0.0015	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		
Free-cutting steels	≤ 25 ≤ 32	≤ 255 ≤ 301	90 70	0.0017 0.0015	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		
Unalloyed heat-treatable steels	≤ 20 ≤ 25 ≤ 32	≤ 220 ≤ 255 ≤ 301	90 70	0.0015 0.0015	0.0040 0.0040	0.0065 0.0065	0.0080 0.0080	0.0100 0.0100	0.0100 0.0100	0.0110 0.0110	0.0125 0.0125		
Alloyed heat-treatable steels	≤ 32 ≤ 43	≤ 301 ≤ 402											
Unalloyed case hardened steels	≤ 25	≤ 255	90	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125	0.0140	0.0160		
Alloyed case hardened steels	≤ 32 ≤ 43	≤ 301 ≤ 402											
Nitriding steels	≤ 32 ≤ 43	≤ 301 ≤ 402											
Tool steels	≤ 25 ≤ 43	≤ 255 ≤ 402	45	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080	0.0090	0.0100		
High speed steels	≤ 43	≤ 402											
Spring steels	≤ 38	≤ 354											
Hardened steels	≤ 48 ≤ 66	≤ 460 -											
Stainless steels, sulphured austenitic martensitic	≤ 28 ≤ 36 ≤ 46	≤ 273 ≤ 337 ≤ 435											
Cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354	90 70	0.0017 0.0017	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		
Spheroidal graphite iron and malleable cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354	70 55	0.0017 0.0017	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		
Chilled cast iron	≤ 38	≤ 354											
New cast materials GGV	≤ 20 ≤ 32	≤ 220 ≤ 301											
New cast materials ADI	≤ 32 ≤ 43	≤ 301 ≤ 402											
Special alloys	≤ 54	≤ 549											
Ti and Ti-alloys	≤ 25 ≤ 43	≤ 255 ≤ 402											
Aluminium and Al-alloys	-	≤ 120											
Al wrought alloys	-	≤ 200											
Al cast alloys ≤ 10 % Si ≤ 24 % Si	- -	≤ 180 ≤ 180	180 145	0.0020 0.0017	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		
Magnesium alloys	-	≤ 120	225	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125	0.0140	0.0160		
Copper, low-alloyed	-	≤ 150	90	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100	0.0110	0.0125		
Brass, short-chipping long-chipping	- -	≤ 180 ≤ 180	110	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100	0.0110	0.0125		
Bronze, short-chipping	-	≤ 180	90	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080	0.0090	0.0100		
Bronze, long-chipping	≤ 25 ≤ 32	≤ 255 ≤ 301	70	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080	0.0090	0.0100		
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK			45 70	0.0012 0.0015	0.0030 0.0040	0.0050 0.0065	0.0065 0.0080	0.0080 0.0100	0.0080 0.0100	0.0090 0.0110	0.0100 0.0125		

Series # 219

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											
Free-cutting steels	≤ 25 ≤ 32	≤ 255 ≤ 301											
Unalloyed heat-treatable steels	≤ 20 ≤ 25 ≤ 32	≤ 220 ≤ 255 ≤ 301											
Alloyed heat-treatable steels	≤ 32 ≤ 43	≤ 301 ≤ 402											
Unalloyed case hardened steels	≤ 25	≤ 255											
Alloyed case hardened steels	≤ 32 ≤ 43	≤ 301 ≤ 402											
Nitriding steels	≤ 32 ≤ 43	≤ 301 ≤ 402											
Tool steels	≤ 25 ≤ 43	≤ 255 ≤ 402											
High speed steels	≤ 43	≤ 402											
Spring steels	≤ 38	≤ 354											
Hardened steels	≤ 48 ≤ 66	≤ 460 -											
Stainless steels, sulphured austenitic martensitic	≤ 28 ≤ 36 ≤ 46	≤ 273 ≤ 337 ≤ 435											
Cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354											
Spheroidal graphite iron and malleable cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354											
Chilled cast iron	≤ 38	≤ 354											
New cast materials GGV	≤ 20 ≤ 32	≤ 220 ≤ 301											
New cast materials ADI	≤ 32 ≤ 43	≤ 301 ≤ 402											
Special alloys	≤ 54	≤ 549											
Ti and Ti-alloys	≤ 25 ≤ 43	≤ 255 ≤ 402											
Aluminium and Al-alloys	-	≤ 120	225	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160	0.0180			
Al wrought alloys	-	≤ 200	225	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160	0.0180			
Al cast alloys ≤ 10 % Si ≤ 24 % Si	- -	≤ 180 ≤ 180	180	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160	0.0180			
Magnesium alloys	-	≤ 120											
Copper, low-alloyed	-	≤ 150	90	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100	0.0110			
Brass, short-chipping long-chipping	- -	≤ 180 ≤ 180											
Bronze, short-chipping	-	≤ 180											
Bronze, long-chipping	≤ 25 ≤ 32	≤ 255 ≤ 301											
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK			70	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100	0.0110			