

GUHRING

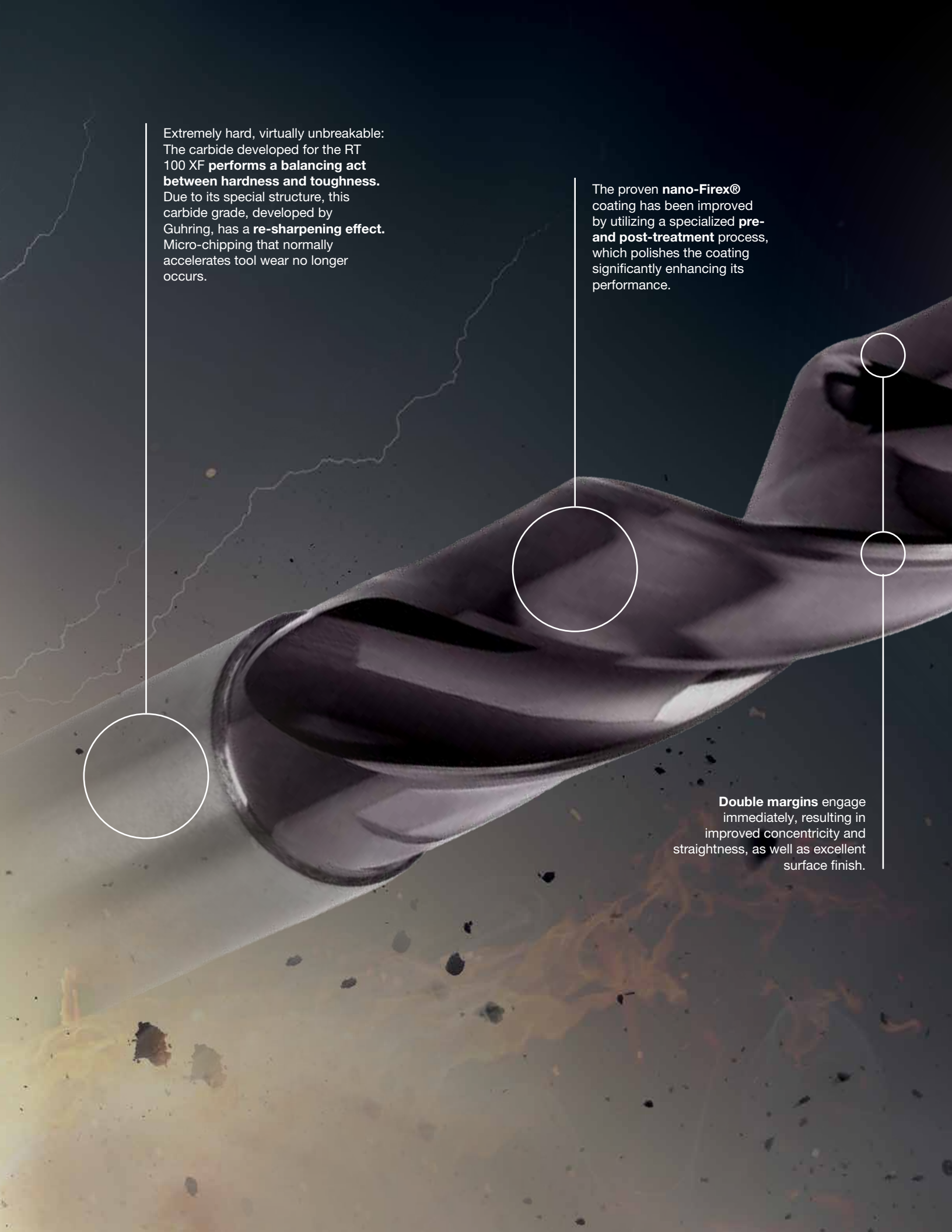
NOW INCLUDES

12xD



RT 100 XF

EXTREMELY POWERFUL



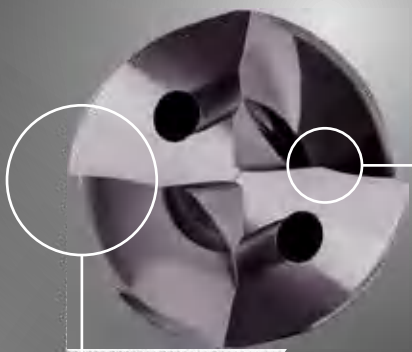
Extremely hard, virtually unbreakable:
The carbide developed for the RT
100 XF **performs a balancing act**
between hardness and toughness.
Due to its special structure, this
carbide grade, developed by
Guhring, has a **re-sharpening effect.**
Micro-chipping that normally
accelerates tool wear no longer
occurs.

The proven **nano-Firex®**
coating has been improved
by utilizing a specialized **pre-**
and post-treatment process,
which polishes the coating
significantly enhancing its
performance.

Double margins engage
immediately, resulting in
improved concentricity and
straightness, as well as excellent
surface finish.



Polished flutes improve chip evacuation, significantly reducing machining temperature, which prevents work hardening and protects the cutting edges.



The corner protection, achieved with a negative chamfer along the side of the cutting edge, creates an extremely tough and durable cutting edge for exceptional performance.

The **micro-geometry honing process** ensures a uniform hone resulting in a stable and efficient cutting edge. Our manufacturing expertise allows us to consistently produce this specialized cutting edge to the nearest micron, and the precision-ground quality of the original cutting edge can be restored through our reconditioning department.

- Optimized operating parameters deliver **exceptional feed rates** and **metal removal rates**
- Internally developed exclusive finishing processes **maximize performance**
- **Reduced cycle times** for difficult-to-machine materials and special applications in high production

RT 100 XF

EXTREMELY POWERFUL

EXTREMELY **POWERFUL**

- ▶ **POWERFUL** MACHINING
- ▶ **EXCEPTIONAL** METAL REMOVAL RATE

120 years of manufacturing expertise, innovation and synergy: These are the pillars of our success that have allowed Guhring, originally a pioneer of drilling solutions, to develop into an industry-leading full-service provider. This was made possible through our internal R&D department tasked with the development of innovative tool geometries, coatings, and production processes, as well as the production of proprietary carbide materials and grinding and coating machines. All of these elements contribute to the impressive performance of our products, allowing us to continuously set new standards for the industry.

This industry-leading expertise serves as the basis for the new RT 100 XF. Exceptional performance and unbridled power leads to a qualitative advantage with guaranteed outstanding results.

The RT 100 XF. *EXTREMELY* **POWERFUL.**





Ratio drills with internal coolant

Series

6498



Cutting depth



Type



Standard



Point angle



Tolerance on Ø



Internal coolant

Tool material

Solid Carbide

Coating

nano-FIREX®

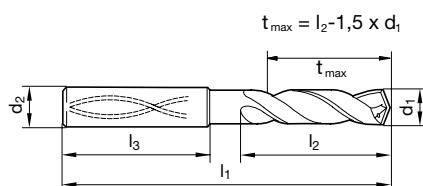
Shank form

HA

Material		Suitability
P	Steel	●
M	Stainless steel	○
K	Cast iron	○
N	Aluminum	
S	Ni / Ti alloys	○
H	Hardened steel	○
●=Optimal ○=Limited		

relieved cone • main cutting edge form concave
• optimized cutting geometry • maximum performance

structural and case hardened steels • free-cutting steels, heat treatable steels • steels (alloyed/unalloyed) up to 1400 N/mm²



Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	l3 mm	EDP #
inch	wire/ltr	mm						
0.1181	1/8	3.00	6.00	62.00	15.50	20.00	36.00	9064980030000
0.1220		3.10	6.00	62.00	15.35	20.00	36.00	9064980031000
0.1248		3.17	6.00	62.00	15.25	20.00	36.00	9064980031700
0.1260		3.20	6.00	62.00	15.20	20.00	36.00	9064980032000
0.1280		3.25	6.00	62.00	15.13	20.00	36.00	9064980032500
0.1299	9/64	3.30	6.00	62.00	15.05	20.00	36.00	9064980033000
0.1339		3.40	6.00	62.00	14.90	20.00	36.00	9064980034000
0.1378		3.50	6.00	62.00	14.75	20.00	36.00	9064980035000
0.1406		3.57	6.00	62.00	14.65	20.00	36.00	9064980035700
0.1417		3.60	6.00	62.00	14.60	20.00	36.00	9064980036000
0.1457	5/32	3.70	6.00	62.00	14.45	20.00	36.00	9064980037000
0.1496		3.80	6.00	66.00	18.30	24.00	36.00	9064980038000
0.1535		3.90	6.00	66.00	18.15	24.00	36.00	9064980039000
0.1563		3.97	6.00	66.00	18.05	24.00	36.00	9064980039700
0.1575		4.00	6.00	66.00	18.00	24.00	36.00	9064980040000
0.1591	11/64	4.04	6.00	66.00	17.94	24.00	36.00	9064980040400
0.1614		4.10	6.00	66.00	17.85	24.00	36.00	9064980041000
0.1654		4.20	6.00	66.00	17.70	24.00	36.00	9064980042000
0.1693		4.30	6.00	66.00	17.55	24.00	36.00	9064980043000
0.1720		4.37	6.00	66.00	17.45	24.00	36.00	9064980043700
0.1732	3/16	4.40	6.00	66.00	17.40	24.00	36.00	9064980044000
0.1772		4.50	6.00	66.00	17.25	24.00	36.00	9064980045000
0.1811		4.60	6.00	66.00	17.10	24.00	36.00	9064980046000
0.1831		4.65	6.00	66.00	17.03	24.00	36.00	9064980046500
0.1850		4.70	6.00	66.00	16.95	24.00	36.00	9064980047000
0.1874	#12	4.76	6.00	66.00	20.86	28.00	36.00	9064980047600
0.1890		4.80	6.00	66.00	20.80	28.00	36.00	9064980048000
0.1929	13/64	4.90	6.00	66.00	20.65	28.00	36.00	9064980049000
0.1969		5.00	6.00	66.00	20.50	28.00	36.00	9064980050000
0.2008		5.10	6.00	66.00	20.35	28.00	36.00	9064980051000
0.2012		5.11	6.00	66.00	20.34	28.00	36.00	9064980051100
0.2031		5.16	6.00	66.00	20.26	28.00	36.00	9064980051600
0.2047		5.20	6.00	66.00	20.20	28.00	36.00	9064980052000
0.2087		5.30	6.00	66.00	20.05	28.00	36.00	9064980053000
0.2126		5.40	6.00	66.00	19.90	28.00	36.00	9064980054000
0.2130		5.41	6.00	66.00	19.89	28.00	36.00	9064980054100



Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	l3 mm	EDP #
inch	wire/ltr	mm						
0.2165	7/32	5.50	6.00	66.00	19.75	28.00	36.00	9064980055000
0.2185		5.55	6.00	66.00	19.68	28.00	36.00	9064980055500
0.2189		5.56	6.00	66.00	19.66	28.00	36.00	9064980055600
0.2205		5.60	6.00	66.00	19.60	28.00	36.00	9064980056000
0.2244		5.70	6.00	66.00	19.45	28.00	36.00	9064980057000
0.2283	15/64	5.80	6.00	66.00	19.30	28.00	36.00	9064980058000
0.2323		5.90	6.00	66.00	19.15	28.00	36.00	9064980059000
0.2343		5.95	6.00	66.00	19.08	28.00	36.00	9064980059500
0.2362		6.00	6.00	66.00	19.00	28.00	36.00	9064980060000
0.2402		6.10	8.00	79.00	24.85	34.00	36.00	9064980061000
0.2441	1/4	6.20	8.00	79.00	24.70	34.00	36.00	9064980062000
0.2480		6.30	8.00	79.00	24.55	34.00	36.00	9064980063000
0.2500		6.35	8.00	79.00	24.48	34.00	36.00	9064980063500
0.2520		6.40	8.00	79.00	24.40	34.00	36.00	9064980064000
0.2559		6.50	8.00	79.00	24.25	34.00	36.00	9064980065000
0.2571	17/64	6.53	8.00	79.00	24.21	34.00	36.00	9064980065300
0.2579		6.55	8.00	79.00	24.18	34.00	36.00	9064980065500
0.2598		6.60	8.00	79.00	24.10	34.00	36.00	9064980066000
0.2638		6.70	8.00	79.00	23.95	34.00	36.00	9064980067000
0.2657		6.75	8.00	79.00	23.88	34.00	36.00	9064980067500
0.2677	9/32	6.80	8.00	79.00	23.80	34.00	36.00	9064980068000
0.2717		6.90	8.00	79.00	23.65	34.00	36.00	9064980069000
0.2756		7.00	8.00	79.00	23.50	34.00	36.00	9064980070000
0.2795		7.10	8.00	79.00	30.35	41.00	36.00	9064980071000
0.2811		7.14	8.00	79.00	30.29	41.00	36.00	9064980071400
0.2835	19/64	7.20	8.00	79.00	30.20	41.00	36.00	9064980072000
0.2874		7.30	8.00	79.00	30.05	41.00	36.00	9064980073000
0.2913		7.40	8.00	79.00	29.90	41.00	36.00	9064980074000
0.2953		7.50	8.00	79.00	29.75	41.00	36.00	9064980075000
0.2969		7.54	8.00	79.00	29.69	41.00	36.00	9064980075400
0.2972	5/16	7.55	8.00	79.00	29.68	41.00	36.00	9064980075500
0.2992		7.60	8.00	79.00	29.60	41.00	36.00	9064980076000
0.3012		7.65	8.00	79.00	29.53	41.00	36.00	9064980076500
0.3031		7.70	8.00	79.00	29.45	41.00	36.00	9064980077000
0.3071		7.80	8.00	79.00	29.30	41.00	36.00	9064980078000
0.3110	21/64	7.90	8.00	79.00	29.15	41.00	36.00	9064980079000
0.3126		7.94	8.00	79.00	29.09	41.00	36.00	9064980079400
0.3150		8.00	8.00	79.00	29.00	41.00	36.00	9064980080000
0.3189		8.10	10.00	89.00	34.85	47.00	40.00	9064980081000
0.3228		8.20	10.00	89.00	34.70	47.00	40.00	9064980082000
0.3268	11/32	8.30	10.00	89.00	34.55	47.00	40.00	9064980083000
0.3280		8.33	10.00	89.00	34.51	47.00	40.00	9064980083300
0.3307		8.40	10.00	89.00	34.40	47.00	40.00	9064980084000
0.3346		8.50	10.00	89.00	34.25	47.00	40.00	9064980085000
0.3386		8.60	10.00	89.00	34.10	47.00	40.00	9064980086000
0.3425	23/64	8.70	10.00	89.00	33.95	47.00	40.00	9064980087000
0.3437		8.73	10.00	89.00	33.91	47.00	40.00	9064980087300
0.3465		8.80	10.00	89.00	33.80	47.00	40.00	9064980088000
0.3504		8.90	10.00	89.00	33.65	47.00	40.00	9064980089000
0.3543		9.00	10.00	89.00	33.50	47.00	40.00	9064980090000
0.3583	3/8	9.10	10.00	89.00	33.35	47.00	40.00	9064980091000
0.3594		9.13	10.00	89.00	33.31	47.00	40.00	9064980091300
0.3622		9.20	10.00	89.00	33.20	47.00	40.00	9064980092000
0.3642		9.25	10.00	89.00	33.13	47.00	40.00	9064980092500
0.3661		9.30	10.00	89.00	33.05	47.00	40.00	9064980093000
0.3677		9.34	10.00	89.00	32.99	47.00	40.00	9064980093400
0.3701		9.40	10.00	89.00	32.90	47.00	40.00	9064980094000
0.3740		9.50	10.00	89.00	32.75	47.00	40.00	9064980095000
0.3748		9.52	10.00	89.00	32.72	47.00	40.00	9064980095200



Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	l3 mm	EDP #
inch	wire/ltr	mm						
0.3760		9.55	10.00	89.00	32.68	47.00	40.00	9064980095500
0.3780		9.60	10.00	89.00	32.60	47.00	40.00	9064980096000
0.3819		9.70	10.00	89.00	32.45	47.00	40.00	9064980097000
0.3858		9.80	10.00	89.00	32.30	47.00	40.00	9064980098000
0.3898		9.90	10.00	89.00	32.15	47.00	40.00	9064980099000
0.3906	25/64	9.92	10.00	89.00	32.12	47.00	40.00	9064980099200
0.3937		10.00	10.00	89.00	32.00	47.00	40.00	9064980100000
0.3976		10.10	12.00	102.00	39.85	55.00	45.00	9064980101000
0.4016		10.20	12.00	102.00	39.70	55.00	45.00	9064980102000
0.4055		10.30	12.00	102.00	39.55	55.00	45.00	9064980103000
0.4063	13/32	10.32	12.00	102.00	39.52	55.00	45.00	9064980103200
0.4094		10.40	12.00	102.00	39.40	55.00	45.00	9064980104000
0.4134		10.50	12.00	102.00	39.25	55.00	45.00	9064980105000
0.4173		10.60	12.00	102.00	39.10	55.00	45.00	9064980106000
0.4213		10.70	12.00	102.00	38.95	55.00	45.00	9064980107000
0.4220	27/64	10.72	12.00	102.00	38.92	55.00	45.00	9064980107200
0.4252		10.80	12.00	102.00	38.80	55.00	45.00	9064980108000
0.4291		10.90	12.00	102.00	38.65	55.00	45.00	9064980109000
0.4331		11.00	12.00	102.00	38.50	55.00	45.00	9064980110000
0.4370		11.10	12.00	102.00	38.35	55.00	45.00	9064980111000
0.4374	7/16	11.11	12.00	102.00	38.34	55.00	45.00	9064980111100
0.4409		11.20	12.00	102.00	38.20	55.00	45.00	9064980112000
0.4449		11.30	12.00	102.00	38.05	55.00	45.00	9064980113000
0.4488		11.40	12.00	102.00	37.90	55.00	45.00	9064980114000
0.4528		11.50	12.00	102.00	37.75	55.00	45.00	9064980115000
0.4531	29/64	11.51	12.00	102.00	37.74	55.00	45.00	9064980115100
0.4547		11.55	12.00	102.00	37.68	55.00	45.00	9064980115500
0.4567		11.60	12.00	102.00	37.60	55.00	45.00	9064980116000
0.4606		11.70	12.00	102.00	37.45	55.00	45.00	9064980117000
0.4646		11.80	12.00	102.00	37.30	55.00	45.00	9064980118000
0.4685		11.90	12.00	102.00	37.15	55.00	45.00	9064980119000
0.4689	15/32	11.91	12.00	102.00	37.14	55.00	45.00	9064980119100
0.4724		12.00	12.00	102.00	37.00	55.00	45.00	9064980120000
0.4764		12.10	14.00	107.00	41.85	60.00	45.00	9064980121000
0.4803		12.20	14.00	107.00	41.70	60.00	45.00	9064980122000
0.4843	31/64	12.30	14.00	107.00	41.55	60.00	45.00	9064980123000
0.4882		12.40	14.00	107.00	41.40	60.00	45.00	9064980124000
0.4921		12.50	14.00	107.00	41.25	60.00	45.00	9064980125000
0.4961		12.60	14.00	107.00	41.10	60.00	45.00	9064980126000
0.5000	1/2	12.70	14.00	107.00	40.95	60.00	45.00	9064980127000
0.5039		12.80	14.00	107.00	40.80	60.00	45.00	9064980128000
0.5079		12.90	14.00	107.00	40.65	60.00	45.00	9064980129000
0.5118		13.00	14.00	107.00	40.50	60.00	45.00	9064980130000
0.5157	33/64	13.10	14.00	107.00	40.35	60.00	45.00	9064980131000
0.5197		13.20	14.00	107.00	40.20	60.00	45.00	9064980132000
0.5236		13.30	14.00	107.00	40.05	60.00	45.00	9064980133000
0.5276		13.40	14.00	107.00	39.90	60.00	45.00	9064980134000
0.5311	17/32	13.49	14.00	107.00	39.77	60.00	45.00	9064980134900
0.5315		13.50	14.00	107.00	39.75	60.00	45.00	9064980135000
0.5354		13.60	14.00	107.00	39.60	60.00	45.00	9064980136000
0.5394		13.70	14.00	107.00	39.45	60.00	45.00	9064980137000
0.5433		13.80	14.00	107.00	39.30	60.00	45.00	9064980138000
0.5469	35/64	13.89	14.00	107.00	39.17	60.00	45.00	9064980138900
0.5472		13.90	14.00	107.00	39.15	60.00	45.00	9064980139000
0.5512		14.00	14.00	107.00	39.00	60.00	45.00	9064980140000
0.5551		14.10	16.00	115.00	43.85	65.00	48.00	9064980141000
0.5591		14.20	16.00	115.00	43.70	65.00	48.00	9064980142000
0.5626	9/16	14.29	16.00	115.00	43.57	65.00	48.00	9064980142900



Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	l3 mm	EDP #
inch	wire/ltr	mm						
0.5630		14.30	16.00	115.00	43.55	65.00	48.00	9064980143000
0.5669		14.40	16.00	115.00	43.40	65.00	48.00	9064980144000
0.5709		14.50	16.00	115.00	43.25	65.00	48.00	9064980145000
0.5748		14.60	16.00	115.00	43.10	65.00	48.00	9064980146000
0.5780	37/64	14.68	16.00	115.00	42.98	65.00	48.00	9064980146800
0.5787		14.70	16.00	115.00	42.95	65.00	48.00	9064980147000
0.5827		14.80	16.00	115.00	42.80	65.00	48.00	9064980148000
0.5866		14.90	16.00	115.00	42.65	65.00	48.00	9064980149000
0.5906		15.00	16.00	115.00	42.50	65.00	48.00	9064980150000
0.5937	19/32	15.08	16.00	115.00	42.38	65.00	48.00	9064980150800
0.5945		15.10	16.00	115.00	42.35	65.00	48.00	9064980151000
0.5984		15.20	16.00	115.00	42.20	65.00	48.00	9064980152000
0.6024		15.30	16.00	115.00	42.05	65.00	48.00	9064980153000
0.6063		15.40	16.00	115.00	41.90	65.00	48.00	9064980154000
0.6094	39/64	15.48	16.00	115.00	41.78	65.00	48.00	9064980154800
0.6102		15.50	16.00	115.00	41.75	65.00	48.00	9064980155000
0.6122		15.55	16.00	115.00	41.68	65.00	48.00	9064980155500
0.6142		15.60	16.00	115.00	41.60	65.00	48.00	9064980156000
0.6181		15.70	16.00	115.00	41.45	65.00	48.00	9064980157000
0.6220		15.80	16.00	115.00	41.30	65.00	48.00	9064980158000
0.6248	5/8	15.87	16.00	115.00	41.20	65.00	48.00	9064980158700
0.6260		15.90	16.00	115.00	41.15	65.00	48.00	9064980159000
0.6299		16.00	16.00	115.00	41.00	65.00	48.00	9064980160000
0.6406	41/64	16.27	18.00	123.00	48.60	73.00	48.00	9064980162700
0.6417		16.30	18.00	123.00	48.55	73.00	48.00	9064980163000
0.6496		16.50	18.00	123.00	48.25	73.00	48.00	9064980165000
0.6563	21/32	16.67	18.00	123.00	48.00	73.00	48.00	9064980166700
0.6575		16.70	18.00	123.00	47.95	73.00	48.00	9064980167000
0.6654		16.90	18.00	123.00	47.65	73.00	48.00	9064980169000
0.6693		17.00	18.00	123.00	47.50	73.00	48.00	9064980170000
0.6720	43/64	17.07	18.00	123.00	47.40	73.00	48.00	9064980170700
0.6874	11/16	17.46	18.00	123.00	46.81	73.00	48.00	9064980174600
0.6890		17.50	18.00	123.00	46.75	73.00	48.00	9064980175000
0.6909		17.55	18.00	123.00	46.68	73.00	48.00	9064980175500
0.6969		17.70	18.00	123.00	46.45	73.00	48.00	9064980177000
0.7031	45/64	17.86	18.00	123.00	46.21	73.00	48.00	9064980178600
0.7087		18.00	18.00	123.00	46.00	73.00	48.00	9064980180000
0.7189	23/32	18.26	20.00	131.00	51.61	79.00	50.00	9064980182600
0.7283		18.50	20.00	131.00	51.25	79.00	50.00	9064980185000
0.7362		18.70	20.00	131.00	50.95	79.00	50.00	9064980187000
0.7441		18.90	20.00	131.00	50.65	79.00	50.00	9064980189000
0.7480		19.00	20.00	131.00	50.50	79.00	50.00	9064980190000
0.7500	3/4	19.05	20.00	131.00	50.43	79.00	50.00	9064980190500
0.7579		19.25	20.00	131.00	50.13	79.00	50.00	9064980192500
0.7598		19.30	20.00	131.00	50.05	79.00	50.00	9064980193000
0.7657		19.45	20.00	131.00	49.83	79.00	50.00	9064980194500
0.7677		19.50	20.00	131.00	49.75	79.00	50.00	9064980195000
0.7697		19.55	20.00	131.00	49.68	79.00	50.00	9064980195500
0.7756		19.70	20.00	131.00	49.45	79.00	50.00	9064980197000
0.7795		19.80	20.00	131.00	49.30	79.00	50.00	9064980198000
0.7811	25/32	19.84	20.00	131.00	49.24	79.00	50.00	9064980198400
0.7874		20.00	20.00	131.00	49.00	79.00	50.00	9064980200000



Ratio drills with internal coolant

Series

5498



Cutting depth



Type



Standard



Point angle



Tolerance on Ø



Internal coolant

Tool material

Solid Carbide

Coating

nano-FIREX®

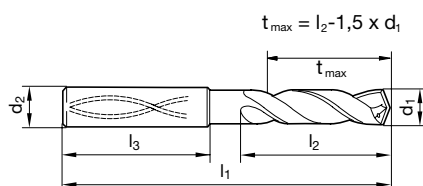
Shank form

HA

Material		Suitability
P	Steel	●
M	Stainless steel	○
K	Cast iron	○
N	Aluminum	
S	Ni / Ti alloys	○
H	Hardened steel	○
●=Optimal ○=Limited		

relieved cone • main cutting edge form concave
• optimized cutting geometry • maximum performance

structural and case hardened steels • free-cutting steels, heat treatable steels • steels (alloyed/unalloyed) up to 1400 N/mm²



Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	l3 mm	EDP #
inch	wire/ltr	mm						
0.1181	1/8	3.00	6.00	66.00	23.50	28.00	36	9054980030000
0.1220		3.10	6.00	66.00	23.35	28.00	36	9054980031000
0.1248		3.17	6.00	66.00	23.25	28.00	36	9054980031700
0.1260		3.20	6.00	66.00	23.20	28.00	36	9054980032000
0.1280		3.25	6.00	66.00	23.13	28.00	36	9054980032500
0.1299	9/64	3.30	6.00	66.00	23.05	28.00	36	9054980033000
0.1339		3.40	6.00	66.00	22.90	28.00	36	9054980034000
0.1378		3.50	6.00	66.00	22.75	28.00	36	9054980035000
0.1406		3.57	6.00	66.00	22.65	28.00	36	9054980035700
0.1417		3.60	6.00	66.00	22.60	28.00	36	9054980036000
0.1457	5/32	3.70	6.00	66.00	22.45	28.00	36	9054980037000
0.1496		3.80	6.00	74.00	30.30	36.00	36	9054980038000
0.1535		3.90	6.00	74.00	30.15	36.00	36	9054980039000
0.1563		3.97	6.00	74.00	30.05	36.00	36	9054980039700
0.1575		4.00	6.00	74.00	30.00	36.00	36	9054980040000
0.1591	11/64	4.04	6.00	74.00	29.94	36.00	36	9054980040400
0.1614		4.10	6.00	74.00	29.85	36.00	36	9054980041000
0.1654		4.20	6.00	74.00	29.70	36.00	36	9054980042000
0.1693		4.30	6.00	74.00	29.55	36.00	36	9054980043000
0.1720		4.37	6.00	74.00	29.45	36.00	36	9054980043700
0.1732	3/16	4.40	6.00	74.00	29.40	36.00	36	9054980044000
0.1772		4.50	6.00	74.00	29.25	36.00	36	9054980045000
0.1811		4.60	6.00	74.00	29.10	36.00	36	9054980046000
0.1831		4.65	6.00	74.00	29.03	36.00	36	9054980046500
0.1850		4.70	6.00	74.00	28.95	36.00	36	9054980047000
0.1874	#12	4.76	6.00	82.00	36.86	44.00	36	9054980047600
0.1890		4.80	6.00	82.00	36.80	44.00	36	9054980048000
0.1929		4.90	6.00	82.00	36.65	44.00	36	9054980049000
0.1969		5.00	6.00	82.00	36.50	44.00	36	9054980050000
0.2008		5.10	6.00	82.00	36.35	44.00	36	9054980051000
0.2012	13/64	5.11	6.00	82.00	36.34	44.00	36	9054980051100
0.2031		5.16	6.00	82.00	36.26	44.00	36	9054980051600
0.2047		5.20	6.00	82.00	36.20	44.00	36	9054980052000
0.2087		5.30	6.00	82.00	36.05	44.00	36	9054980053000
0.2126		5.40	6.00	82.00	35.90	44.00	36	9054980054000
0.2130		5.41	6.00	82.00	35.89	44.00	36	9054980054100



Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	l3 mm	EDP #
inch	wire/ltr	mm						
0.2165	7/32	5.50	6.00	82.00	35.75	44.00	36	9054980055000
0.2185		5.55	6.00	82.00	35.68	44.00	36	9054980055500
0.2189		5.56	6.00	82.00	35.66	44.00	36	9054980055600
0.2205		5.60	6.00	82.00	35.60	44.00	36	9054980056000
0.2224		5.70	6.00	82.00	35.45	44.00	36	9054980057000
0.2283	15/64	5.80	6.00	82.00	35.30	44.00	36	9054980058000
0.2323		5.90	6.00	82.00	35.15	44.00	36	9054980059000
0.2343		5.95	6.00	82.00	35.08	44.00	36	9054980059500
0.2362		6.00	6.00	82.00	35.00	44.00	36	9054980060000
0.2402	1/4	6.10	8.00	91.00	43.85	53.00	36	9054980061000
0.2441		6.20	8.00	91.00	43.70	53.00	36	9054980062000
0.2480		6.30	8.00	91.00	43.55	53.00	36	9054980063000
0.2500	E	6.35	8.00	91.00	43.48	53.00	36	9054980063500
0.2520		6.40	8.00	91.00	43.40	53.00	36	9054980064000
0.2559		6.50	8.00	91.00	43.25	53.00	36	9054980065000
0.2571	17/64	6.53	8.00	91.00	43.21	53.00	36	9054980065300
0.2579		6.55	8.00	91.00	43.18	53.00	36	9054980065500
0.2598		6.60	8.00	91.00	43.10	53.00	36	9054980066000
0.2638	9/32	6.70	8.00	91.00	42.95	53.00	36	9054980067000
0.2657		6.75	8.00	91.00	42.88	53.00	36	9054980067500
0.2677		6.80	8.00	91.00	42.80	53.00	36	9054980068000
0.2717	19/64	6.90	8.00	91.00	42.65	53.00	36	9054980069000
0.2756		7.00	8.00	91.00	42.50	53.00	36	9054980070000
0.2795		7.10	8.00	91.00	42.35	53.00	36	9054980071000
0.2811	5/16	7.14	8.00	91.00	42.29	53.00	36	9054980071400
0.2835		7.20	8.00	91.00	42.20	53.00	36	9054980072000
0.2874		7.30	8.00	91.00	42.05	53.00	36	9054980073000
0.2913	21/64	7.40	8.00	91.00	41.90	53.00	36	9054980074000
0.2953		7.50	8.00	91.00	41.75	53.00	36	9054980075000
0.2969		7.54	8.00	91.00	41.69	53.00	36	9054980075400
0.2972	11/32	7.55	8.00	91.00	41.68	53.00	36	9054980075500
0.2992		7.60	8.00	91.00	41.60	53.00	36	9054980076000
0.3012		7.65	8.00	91.00	41.53	53.00	36	9054980076500
0.3031	3/8	7.70	8.00	91.00	41.45	53.00	36	9054980077000
0.3071		7.80	8.00	91.00	41.30	53.00	36	9054980078000
0.3110		7.90	8.00	91.00	41.15	53.00	36	9054980079000
0.3126	23/64	7.94	8.00	91.00	41.09	53.00	36	9054980079400
0.3150		8.00	8.00	91.00	41.00	53.00	36	9054980080000
0.3189		8.10	10.00	103.00	48.85	61.00	40	9054980081000
0.3228	11/16	8.20	10.00	103.00	48.70	61.00	40	9054980082000
0.3268		8.30	10.00	103.00	48.55	61.00	40	9054980083000
0.3280		8.33	10.00	103.00	48.51	61.00	40	9054980083300
0.3307	3/4	8.40	10.00	103.00	48.40	61.00	40	9054980084000
0.3346		8.50	10.00	103.00	48.25	61.00	40	9054980085000
0.3386		8.60	10.00	103.00	48.10	61.00	40	9054980086000
0.3425	1 1/8	8.70	10.00	103.00	47.95	61.00	40	9054980087000
0.3437		8.73	10.00	103.00	47.91	61.00	40	9054980087300
0.3465		8.80	10.00	103.00	47.80	61.00	40	9054980088000
0.3504	1 1/4	8.90	10.00	103.00	47.65	61.00	40	9054980089000
0.3543		9.00	10.00	103.00	47.50	61.00	40	9054980090000
0.3583		9.10	10.00	103.00	47.35	61.00	40	9054980091000
0.3594	1 3/8	9.13	10.00	103.00	47.31	61.00	40	9054980091300
0.3622		9.20	10.00	103.00	47.20	61.00	40	9054980092000
0.3642		9.25	10.00	103.00	47.13	61.00	40	9054980092500
0.3661	1 1/2	9.30	10.00	103.00	47.05	61.00	40	9054980093000
0.3677		9.34	10.00	103.00	46.99	61.00	40	9054980093400
0.3701		9.40	10.00	103.00	46.90	61.00	40	9054980094000
0.3740	1 5/8	9.50	10.00	103.00	46.75	61.00	40	9054980095000
0.3748		9.52	10.00	103.00	46.72	61.00	40	9054980095200

Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	l3 mm	EDP #
inch	wire/ltr	mm						
0.3760		9.55	10.00	103.00	46.68	61.00	40	9054980095500
0.3780		9.60	10.00	103.00	46.60	61.00	40	9054980096000
0.3819		9.70	10.00	103.00	46.45	61.00	40	9054980097000
0.3858		9.80	10.00	103.00	46.30	61.00	40	9054980098000
0.3898		9.90	10.00	103.00	46.15	61.00	40	9054980099000
0.3906	25/64	9.92	10.00	103.00	46.12	61.00	40	9054980099200
0.3937		10.00	10.00	103.00	46.00	61.00	40	9054980100000
0.3976		10.10	12.00	118.00	55.85	71.00	45	9054980101000
0.4016		10.20	12.00	118.00	55.70	71.00	45	9054980102000
0.4055		10.30	12.00	118.00	55.55	71.00	45	9054980103000
0.4063	13/32	10.32	12.00	118.00	55.52	71.00	45	9054980103200
0.4094		10.40	12.00	118.00	55.40	71.00	45	9054980104000
0.4134		10.50	12.00	118.00	55.25	71.00	45	9054980105000
0.4173		10.60	12.00	118.00	55.10	71.00	45	9054980106000
0.4213		10.70	12.00	118.00	54.95	71.00	45	9054980107000
0.4220	27/64	10.72	12.00	118.00	54.92	71.00	45	9054980107200
0.4252		10.80	12.00	118.00	54.80	71.00	45	9054980108000
0.4291		10.90	12.00	118.00	54.65	71.00	45	9054980109000
0.4331		11.00	12.00	118.00	54.50	71.00	45	9054980110000
0.4370		11.10	12.00	118.00	54.35	71.00	45	9054980111000
0.4374	7/16	11.11	12.00	118.00	54.34	71.00	45	9054980111100
0.4409		11.20	12.00	118.00	54.20	71.00	45	9054980112000
0.4449		11.30	12.00	118.00	54.05	71.00	45	9054980113000
0.4488		11.40	12.00	118.00	53.90	71.00	45	9054980114000
0.4528		11.50	12.00	118.00	53.75	71.00	45	9054980115000
0.4531	29/64	11.51	12.00	118.00	53.74	71.00	45	9054980115100
0.4547		11.55	12.00	118.00	53.68	71.00	45	9054980115500
0.4567		11.60	12.00	118.00	53.60	71.00	45	9054980116000
0.4606		11.70	12.00	118.00	53.45	71.00	45	9054980117000
0.4646		11.80	12.00	118.00	53.30	71.00	45	9054980118000
0.4685		11.90	12.00	118.00	53.15	71.00	45	9054980119000
0.4689	15/32	11.91	12.00	118.00	53.14	71.00	45	9054980119100
0.4724		12.00	12.00	118.00	53.00	71.00	45	9054980120000
0.4764		12.10	14.00	124.00	58.85	77.00	45	9054980121000
0.4803		12.20	14.00	124.00	58.70	77.00	45	9054980122000
0.4843	31/64	12.30	14.00	124.00	58.55	77.00	45	9054980123000
0.4882		12.40	14.00	124.00	58.40	77.00	45	9054980124000
0.4921		12.50	14.00	124.00	58.25	77.00	45	9054980125000
0.4961		12.60	14.00	124.00	58.10	77.00	45	9054980126000
0.5000	1/2	12.70	14.00	124.00	57.95	77.00	45	9054980127000
0.5039		12.80	14.00	124.00	57.80	77.00	45	9054980128000
0.5079		12.90	14.00	124.00	57.65	77.00	45	9054980129000
0.5118		13.00	14.00	124.00	57.50	77.00	45	9054980130000
0.5157	33/64	13.10	14.00	124.00	57.35	77.00	45	9054980131000
0.5197		13.20	14.00	124.00	57.20	77.00	45	9054980132000
0.5236		13.30	14.00	124.00	57.05	77.00	45	9054980133000
0.5276		13.40	14.00	124.00	56.90	77.00	45	9054980134000
0.5311	17/32	13.49	14.00	124.00	56.77	77.00	45	9054980134900
0.5315		13.50	14.00	124.00	56.75	77.00	45	9054980135000
0.5354		13.60	14.00	124.00	56.60	77.00	45	9054980136000
0.5394		13.70	14.00	124.00	56.45	77.00	45	9054980137000
0.5433		13.80	14.00	124.00	56.30	77.00	45	9054980138000
0.5469	35/64	13.89	14.00	124.00	56.17	77.00	45	9054980138900
0.5472		13.90	14.00	124.00	56.15	77.00	45	9054980139000
0.5512		14.00	14.00	124.00	56.00	77.00	45	9054980140000
0.5551		14.10	16.00	133.00	61.85	83.00	48	9054980141000
0.5591		14.20	16.00	133.00	61.70	83.00	48	9054980142000
0.5626	9/16	14.29	16.00	133.00	61.57	83.00	48	9054980142900



Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	l3 mm	EDP #
inch	wire/ltr	mm						
0.5630		14.30	16.00	133.00	61.55	83.00	48	9054980143000
0.5669		14.40	16.00	133.00	61.40	83.00	48	9054980144000
0.5709		14.50	16.00	133.00	61.25	83.00	48	9054980145000
0.5748	37/64	14.60	16.00	133.00	61.10	83.00	48	9054980146000
0.5780		14.68	16.00	133.00	60.98	83.00	48	9054980146800
0.5787		14.70	16.00	133.00	60.95	83.00	48	9054980147000
0.5827		14.80	16.00	133.00	60.80	83.00	48	9054980148000
0.5866		14.90	16.00	133.00	60.65	83.00	48	9054980149000
0.5906		15.00	16.00	133.00	60.50	83.00	48	9054980150000
0.5937	19/32	15.08	16.00	133.00	60.38	83.00	48	9054980150800
0.5945		15.10	16.00	133.00	60.35	83.00	48	9054980151000
0.5984		15.20	16.00	133.00	60.20	83.00	48	9054980152000
0.6024		15.30	16.00	133.00	60.05	83.00	48	9054980153000
0.6063		15.40	16.00	133.00	59.90	83.00	48	9054980154000
0.6094	39/64	15.48	16.00	133.00	59.78	83.00	48	9054980154800
0.6102		15.50	16.00	133.00	59.75	83.00	48	9054980155000
0.6122		15.55	16.00	133.00	59.68	83.00	48	9054980155500
0.6142		15.60	16.00	133.00	59.60	83.00	48	9054980156000
0.6181		15.70	16.00	133.00	59.45	83.00	48	9054980157000
0.6220		15.80	16.00	133.00	59.30	83.00	48	9054980158000
0.6248	5/8	15.87	16.00	133.00	59.20	83.00	48	9054980158700
0.6260		15.90	16.00	133.00	59.15	83.00	48	9054980159000
0.6299		16.00	16.00	133.00	59.00	83.00	48	9054980160000
0.6406	41/64	16.27	18.00	143.00	68.60	93.00	48	9054980162700
0.6417		16.30	18.00	143.00	68.55	93.00	48	9054980163000
0.6496		16.50	18.00	143.00	68.25	93.00	48	9054980165000
0.6563	21/32	16.67	18.00	143.00	68.00	93.00	48	9054980166700
0.6575		16.70	18.00	143.00	67.95	93.00	48	9054980167000
0.6654		16.90	18.00	143.00	67.65	93.00	48	9054980169000
0.6693		17.00	18.00	143.00	67.50	93.00	48	9054980170000
0.6720	43/64	17.07	18.00	143.00	67.40	93.00	48	9054980170700
0.6874		17.46	18.00	143.00	66.81	93.00	48	9054980174600
0.6890		17.50	18.00	143.00	66.75	93.00	48	9054980175000
0.6909		17.55	18.00	143.00	66.68	93.00	48	9054980175500
0.6969		17.70	18.00	143.00	66.45	93.00	48	9054980177000
0.7031	45/64	17.86	18.00	143.00	66.21	93.00	48	9054980178600
0.7087		18.00	18.00	143.00	66.00	93.00	48	9054980180000
0.7189		18.26	20.00	153.00	73.61	101.00	50	9054980182600
0.7283	23/32	18.50	20.00	153.00	73.25	101.00	50	9054980185000
0.7362		18.70	20.00	153.00	72.95	101.00	50	9054980187000
0.7441		18.90	20.00	153.00	72.65	101.00	50	9054980189000
0.7480		19.00	20.00	153.00	72.50	101.00	50	9054980190000
0.7500	3/4	19.05	20.00	153.00	72.43	101.00	50	9054980190500
0.7579		19.25	20.00	153.00	72.13	101.00	50	9054980192500
0.7598		19.30	20.00	153.00	72.05	101.00	50	9054980193000
0.7677		19.45	20.00	153.00	71.83	101.00	50	9054980194500
0.7697		19.50	20.00	153.00	71.75	101.00	50	9054980195000
0.7756		19.55	20.00	153.00	71.68	101.00	50	9054980195500
0.7756		19.70	20.00	153.00	71.45	101.00	50	9054980197000
0.7795		19.80	20.00	153.00	71.30	101.00	50	9054980198000
0.7811	25/32	19.84	20.00	153.00	71.24	101.00	50	9054980198400
0.7874		20.00	20.00	153.00	71.00	101.00	50	9054980200000



Ratio drills with internal coolant

Series

5499



Cutting depth



Type



Standard



Point angle



Tolerance on Ø



Internal coolant

Tool material

Solid Carbide

Coating

nano-FIREX®

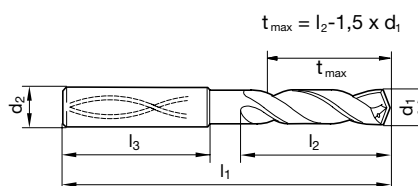
Shank form

HA

Material	Suitability	
P	Steel	●
M	Stainless steel	○
K	Cast iron	○
N	Aluminum	
S	Ni / Ti alloys	○
H	Hardened steel	○
●=Optimal ○=Limited		

relieved cone • main cutting edge form concave
• optimized cutting geometry • maximum performance

structural and case hardened steels • free-cutting steels, heat treatable steels • steels (alloyed/unalloyed) up to 1400 N/mm²



Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	l3 mm	EDP #
inch	wire/ltr	mm						
0.1181		3.000	6.00	70.00	25.50	30.00	36.00	9054990030000
0.1220		3.100	6.00	70.00	25.35	30.00	36.00	9054990031000
0.1248	1/8	3.170	6.00	70.00	25.25	30.00	36.00	9054990031700
0.1260		3.200	6.00	70.00	25.20	30.00	36.00	9054990032000
0.1280		3.250	6.00	70.00	25.13	30.00	36.00	9054990032500
0.1299		3.300	6.00	70.00	25.05	30.00	36.00	9054990033000
0.1339		3.400	6.00	75.00	30.40	35.50	36.00	9054990034000
0.1378		3.500	6.00	75.00	30.25	35.50	36.00	9054990035000
0.1406	9/64	3.570	6.00	75.00	30.15	35.50	36.00	9054990035700
0.1417		3.600	6.00	75.00	30.10	35.50	36.00	9054990036000
0.1457		3.700	6.00	75.00	29.95	35.50	36.00	9054990037000
0.1496		3.800	6.00	75.00	31.80	37.50	36.00	9054990038000
0.1535		3.900	6.00	75.00	31.65	37.50	36.00	9054990039000
0.1563	5/32	3.970	6.00	75.00	31.55	37.50	36.00	9054990039700
0.1575		4.000	6.00	75.00	31.50	37.50	36.00	9054990040000
0.1591		4.040	6.00	75.00	31.44	37.50	36.00	9054990040400
0.1614		4.100	6.00	75.00	31.35	37.50	36.00	9054990041000
0.1654		4.200	6.00	75.00	31.20	37.50	36.00	9054990042000
0.1693		4.300	6.00	85.00	38.55	45.00	36.00	9054990043000
0.1720	11/64	4.370	6.00	85.00	38.45	45.00	36.00	9054990043700
0.1732		4.400	6.00	85.00	38.40	45.00	36.00	9054990044000
0.1772		4.500	6.00	85.00	38.25	45.00	36.00	9054990045000
0.1811		4.600	6.00	85.00	38.10	45.00	36.00	9054990046000
0.1831		4.650	6.00	85.00	38.03	45.00	36.00	9054990046500
0.1850		4.700	6.00	85.00	37.95	45.00	36.00	9054990047000
0.1874	3/16	4.760	6.00	90.00	42.86	50.00	36.00	9054990047600
0.1890	#12	4.800	6.00	90.00	42.80	50.00	36.00	9054990048000
0.1929		4.900	6.00	90.00	42.65	50.00	36.00	9054990049000
0.1969		5.000	6.00	90.00	42.50	50.00	36.00	9054990050000
0.2008		5.100	6.00	90.00	42.35	50.00	36.00	9054990051000
0.2012		5.110	6.00	90.00	42.34	50.00	36.00	9054990051100
0.2031	13/64	5.160	6.00	90.00	42.26	50.00	36.00	9054990051600
0.2047		5.200	6.00	90.00	42.20	50.00	36.00	9054990052000
0.2087		5.300	6.00	90.00	42.05	50.00	36.00	9054990053000
0.2126		5.400	6.00	97.00	48.90	57.00	36.00	9054990054000
0.2130		5.410	6.00	97.00	48.89	57.00	36.00	9054990054100



Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	l3 mm	EDP #
inch	wire/ltr	mm						
0.2165	7/32	5.500	6.00	97.00	48.75	57.00	36.00	9054990055000
0.2185		5.550	6.00	97.00	48.68	57.00	36.00	9054990055500
0.2189		5.560	6.00	97.00	48.66	57.00	36.00	9054990055600
0.2205		5.600	6.00	97.00	48.60	57.00	36.00	9054990056000
0.2244		5.700	6.00	97.00	48.45	57.00	36.00	9054990057000
0.2283	15/64	5.800	6.00	97.00	48.30	57.00	36.00	9054990058000
0.2323		5.900	6.00	97.00	48.15	57.00	36.00	9054990059000
0.2343		5.950	6.00	97.00	48.08	57.00	36.00	9054990059500
0.2362		6.000	6.00	97.00	48.00	57.00	36.00	9054990060000
0.2402		6.100	8.00	106.00	56.85	66.00	36.00	9054990061000
0.2441	1/4	6.200	8.00	106.00	56.70	66.00	36.00	9054990062000
0.2480		6.300	8.00	106.00	56.55	66.00	36.00	9054990063000
0.2500		6.350	8.00	106.00	56.48	66.00	36.00	9054990063500
0.2520		6.400	8.00	106.00	56.40	66.00	36.00	9054990064000
0.2559		6.500	8.00	106.00	56.25	66.00	36.00	9054990065000
0.2571	E	6.530	8.00	106.00	56.21	66.00	36.00	9054990065300
0.2579		6.550	8.00	106.00	56.18	66.00	36.00	9054990065500
0.2598		6.600	8.00	106.00	56.10	66.00	36.00	9054990066000
0.2638		6.700	8.00	106.00	55.95	66.00	36.00	9054990067000
0.2657		6.750	8.00	106.00	55.88	66.00	36.00	9054990067500
0.2677	17/64	6.800	8.00	106.00	55.80	66.00	36.00	9054990068000
0.2717	9/32	6.900	8.00	116.00	65.65	76.00	36.00	9054990069000
0.2756		7.000	8.00	116.00	65.50	76.00	36.00	9054990070000
0.2795		7.100	8.00	116.00	65.35	76.00	36.00	9054990071000
0.2811		7.140	8.00	116.00	65.29	76.00	36.00	9054990071400
0.2835		7.200	8.00	116.00	65.20	76.00	36.00	9054990072000
0.2874	19/64	7.300	8.00	116.00	65.05	76.00	36.00	9054990073000
0.2913		7.400	8.00	116.00	64.90	76.00	36.00	9054990074000
0.2953		7.500	8.00	116.00	64.75	76.00	36.00	9054990075000
0.2969		7.540	8.00	116.00	64.69	76.00	36.00	9054990075400
0.2992		7.600	8.00	116.00	64.60	76.00	36.00	9054990076000
0.3031	5/16	7.700	8.00	116.00	64.45	76.00	36.00	9054990077000
0.3071		7.800	8.00	116.00	64.30	76.00	36.00	9054990078000
0.3110		7.900	8.00	116.00	64.15	76.00	36.00	9054990079000
0.3126		7.940	8.00	116.00	64.09	76.00	36.00	9054990079400
0.3150		8.000	8.00	116.00	64.00	76.00	36.00	9054990080000
0.3189	21/64	8.100	10.00	131.00	74.85	87.00	40.00	9054990081000
0.3228		8.200	10.00	131.00	74.70	87.00	40.00	9054990082000
0.3268		8.300	10.00	131.00	74.55	87.00	40.00	9054990083000
0.3280		8.330	10.00	131.00	74.51	87.00	40.00	9054990083300
0.3307		8.400	10.00	131.00	74.40	87.00	40.00	9054990084000
0.3346	11/32	8.500	10.00	131.00	74.25	87.00	40.00	9054990085000
0.3386		8.600	10.00	131.00	74.10	87.00	40.00	9054990086000
0.3425		8.700	10.00	131.00	73.95	87.00	40.00	9054990087000
0.3437		8.730	10.00	131.00	73.91	87.00	40.00	9054990087300
0.3465		8.800	10.00	131.00	73.80	87.00	40.00	9054990088000
0.3504	23/64	8.900	10.00	131.00	73.65	87.00	40.00	9054990089000
0.3543		9.000	10.00	131.00	73.50	87.00	40.00	9054990090000
0.3583		9.100	10.00	139.00	81.35	95.00	40.00	9054990091000
0.3594		9.130	10.00	139.00	81.31	95.00	40.00	9054990091300
0.3622		9.200	10.00	139.00	81.20	95.00	40.00	9054990092000
0.3642	3/8	9.250	10.00	139.00	81.13	95.00	40.00	9054990092500
0.3661		9.300	10.00	139.00	81.05	95.00	40.00	9054990093000
0.3677		9.340	10.00	139.00	80.99	95.00	40.00	9054990093400
0.3701		9.400	10.00	139.00	80.90	95.00	40.00	9054990094000
0.3740		9.500	10.00	139.00	80.75	95.00	40.00	9054990095000
0.3748		9.520	10.00	139.00	80.72	95.00	40.00	9054990095200
0.3780		9.600	10.00	139.00	80.60	95.00	40.00	9054990096000
0.3819		9.700	10.00	139.00	80.45	95.00	40.00	9054990097000



Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	l3 mm	EDP #
inch	wire/ltr	mm						
0.3858	W	9.800	10.00	139.00	80.30	95.00	40.00	9054990098000
0.3898		9.900	10.00	139.00	80.15	95.00	40.00	9054990099000
0.3906	25/64	9.920	10.00	139.00	80.12	95.00	40.00	9054990099200
0.3937		10.000	10.00	139.00	80.00	95.00	40.00	9054990100000
0.3976		10.100	12.00	155.00	90.85	106.00	45.00	9054990101000
0.4016		10.200	12.00	155.00	90.70	106.00	45.00	9054990102000
0.4055		10.300	12.00	155.00	90.55	106.00	45.00	9054990103000
0.4063	13/32	10.320	12.00	155.00	90.52	106.00	45.00	9054990103200
0.4094		10.400	12.00	155.00	90.40	106.00	45.00	9054990104000
0.4134		10.500	12.00	155.00	90.25	106.00	45.00	9054990105000
0.4173		10.600	12.00	155.00	90.10	106.00	45.00	9054990106000
0.4213		10.700	12.00	155.00	89.95	106.00	45.00	9054990107000
0.4220	27/64	10.720	12.00	155.00	89.92	106.00	45.00	9054990107200
0.4252		10.800	12.00	155.00	89.80	106.00	45.00	9054990108000
0.4291		10.900	12.00	155.00	89.65	106.00	45.00	9054990109000
0.4331		11.000	12.00	155.00	89.50	106.00	45.00	9054990110000
0.4370		11.100	12.00	163.00	97.35	114.00	45.00	9054990111000
0.4374	7/16	11.110	12.00	163.00	97.34	114.00	45.00	9054990111100
0.4409		11.200	12.00	163.00	97.20	114.00	45.00	9054990112000
0.4449		11.300	12.00	163.00	97.05	114.00	45.00	9054990113000
0.4488		11.400	12.00	163.00	96.90	114.00	45.00	9054990114000
0.4528		11.500	12.00	163.00	96.75	114.00	45.00	9054990115000
0.4531	29/64	11.510	12.00	163.00	96.74	114.00	45.00	9054990115100
0.4567		11.600	12.00	163.00	96.60	114.00	45.00	9054990116000
0.4606		11.700	12.00	163.00	96.45	114.00	45.00	9054990117000
0.4646		11.800	12.00	163.00	96.30	114.00	45.00	9054990118000
0.4685		11.900	12.00	163.00	96.15	114.00	45.00	9054990119000
0.4689	15/32	11.910	12.00	163.00	96.14	114.00	45.00	9054990119100
0.4724		12.000	12.00	163.00	96.00	114.00	45.00	9054990120000
0.4764		12.100	14.00	182.00	114.85	133.00	45.00	9054990121000
0.4803		12.200	14.00	182.00	114.70	133.00	45.00	9054990122000
0.4843	31/64	12.300	14.00	182.00	114.55	133.00	45.00	9054990123000
0.4882		12.400	14.00	182.00	114.40	133.00	45.00	9054990124000
0.4921		12.500	14.00	182.00	114.25	133.00	45.00	9054990125000
0.4961		12.600	14.00	182.00	114.10	133.00	45.00	9054990126000
0.5000	1/2	12.700	14.00	182.00	113.95	133.00	45.00	9054990127000
0.5039		12.800	14.00	182.00	113.80	133.00	45.00	9054990128000
0.5079		12.900	14.00	182.00	113.65	133.00	45.00	9054990129000
0.5118		13.000	14.00	182.00	113.50	133.00	45.00	9054990130000
0.5157	33/64	13.100	14.00	182.00	113.35	133.00	45.00	9054990131000
0.5311	17/32	13.490	14.00	182.00	112.77	133.00	45.00	9054990134900
0.5315		13.500	14.00	182.00	112.75	133.00	45.00	9054990135000
0.5394		13.700	14.00	182.00	112.45	133.00	45.00	9054990137000
0.5469	35/64	13.890	14.00	182.00	112.17	133.00	45.00	9054990138900
0.5512		14.000	14.00	182.00	112.00	133.00	45.00	9054990140000
0.5551		14.100	16.00	204.00	130.85	152.00	48.00	9054990141000
0.5591		14.200	16.00	204.00	130.70	152.00	48.00	9054990142000
0.5626	9/16	14.290	16.00	204.00	130.57	152.00	48.00	9054990142900
0.5630		14.300	16.00	204.00	130.55	152.00	48.00	9054990143000
0.5709		14.500	16.00	204.00	130.25	152.00	48.00	9054990145000
0.5787		14.700	16.00	204.00	129.95	152.00	48.00	9054990147000
0.5827		14.800	16.00	204.00	129.80	152.00	48.00	9054990148000
0.5906		15.000	16.00	204.00	129.50	152.00	48.00	9054990150000
0.5945		15.100	16.00	204.00	129.35	152.00	48.00	9054990151000
0.6024		15.300	16.00	204.00	129.05	152.00	48.00	9054990153000
0.6094	39/64	15.480	16.00	204.00	128.78	152.00	48.00	9054990154800
0.6102		15.500	16.00	204.00	128.75	152.00	48.00	9054990155000
0.6181		15.700	16.00	204.00	128.45	152.00	48.00	9054990157000
0.6220		15.800	16.00	204.00	128.30	152.00	48.00	9054990158000



Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	l3 mm	EDP #
inch	wire/ltr	mm						
0.6248	5/8	15.870	16.00	204.00	128.20	152.00	48.00	9054990158700
0.6299		16.000	16.00	204.00	128.00	152.00	48.00	9054990160000
0.6417		16.300	18.00	223.00	146.55	171.00	48.00	9054990163000
0.6496		16.500	18.00	223.00	146.25	171.00	48.00	9054990165000
0.6575		16.700	18.00	223.00	145.95	171.00	48.00	9054990167000
0.6654		16.900	18.00	223.00	145.65	171.00	48.00	9054990169000
0.6693		17.000	18.00	223.00	145.50	171.00	48.00	9054990170000
0.6890		17.500	18.00	223.00	144.75	171.00	48.00	9054990175000
0.6969		17.700	18.00	223.00	144.45	171.00	48.00	9054990177000
0.7087		18.000	18.00	223.00	144.00	171.00	48.00	9054990180000
0.7283		18.500	20.00	244.00	162.25	190.00	50.00	9054990185000
0.7441		18.900	20.00	244.00	161.65	190.00	50.00	9054990189000
0.7480		19.000	20.00	244.00	161.50	190.00	50.00	9054990190000
0.7500		19.050	20.00	244.00	161.43	190.00	50.00	9054990190500
0.7677		19.500	20.00	244.00	160.75	190.00	50.00	9054990195000
0.7795	3/4	19.800	20.00	244.00	160.30	190.00	50.00	9054990198000
0.7874		20.000	20.00	244.00	160.00	190.00	50.00	9054990200000



Ratio drills with internal coolant

Series

6499



Cutting depth



Type



Standard



Point angle



Tolerance on Ø



Internal coolant



Tool material

Solid Carbide

Coating

nano-FIREX®

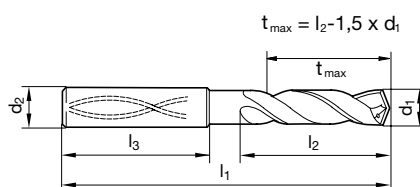
Shank form

HA

Material	Suitability	
P	Steel	●
M	Stainless steel	○
K	Cast iron	○
N	Aluminum	
S	Ni / Ti alloys	○
H	Hardened steel	○
●=Optimal ○=Limited		

relieved cone • main cutting edge form concave
• optimized cutting geometry • maximum performance

structural and case hardened steels • free-cutting steels, heat treatable steels • steels (alloyed/unalloyed) up to 1400 N/mm²



Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	l3 mm	EDP #
inch	wire/ltr	mm						
0.1181	1/8	3.00	6.00	95.00	50.50	55.00	36.00	9064990030000
0.1220		3.10	6.00	95.00	50.35	55.00	36.00	9064990031000
0.1248		3.17	6.00	95.00	50.25	55.00	36.00	9064990031700
0.1260		3.20	6.00	95.00	50.20	55.00	36.00	9064990032000
0.1280		3.25	6.00	95.00	50.13	55.00	36.00	9064990032500
0.1299	9/64	3.30	6.00	95.00	50.05	55.00	36.00	9064990033000
0.1339		3.40	6.00	95.00	49.90	55.00	36.00	9064990034000
0.1378		3.50	6.00	102.00	56.75	62.00	36.00	9064990035000
0.1406		3.57	6.00	102.00	56.65	62.00	36.00	9064990035700
0.1417		3.60	6.00	102.00	56.60	62.00	36.00	9064990036000
0.1457	5/32	3.70	6.00	102.00	56.45	62.00	36.00	9064990037000
0.1496		3.80	6.00	102.00	56.30	62.00	36.00	9064990038000
0.1535		3.90	6.00	102.00	56.15	62.00	36.00	9064990039000
0.1563		3.97	6.00	102.00	56.05	62.00	36.00	9064990039700
0.1575		4.00	6.00	102.00	56.00	62.00	36.00	9064990040000
0.1591	11/64	4.04	6.00	109.00	62.94	69.00	36.00	9064990040400
0.1614		4.10	6.00	109.00	62.85	69.00	36.00	9064990041000
0.1654		4.20	6.00	109.00	62.70	69.00	36.00	9064990042000
0.1693		4.30	6.00	109.00	62.55	69.00	36.00	9064990043000
0.1720		4.37	6.00	109.00	62.45	69.00	36.00	9064990043700
0.1732	#13	4.40	6.00	109.00	62.40	69.00	36.00	9064990044000
0.1772		4.50	6.00	116.00	69.25	76.00	36.00	9064990045000
0.1811		4.60	6.00	116.00	69.10	76.00	36.00	9064990046000
0.1831		4.65	6.00	116.00	69.03	76.00	36.00	9064990046500
0.1850		4.70	6.00	116.00	68.95	76.00	36.00	9064990047000
0.1874	#12	4.76	6.00	116.00	68.86	76.00	36.00	9064990047600
0.1890		4.80	6.00	116.00	68.80	76.00	36.00	9064990048000
0.1929	13/64	4.90	6.00	116.00	68.65	76.00	36.00	9064990049000
0.1969		5.00	6.00	116.00	68.50	76.00	36.00	9064990050000
0.2008		5.10	6.00	123.00	75.35	83.00	36.00	9064990051000
0.2012		5.11	6.00	123.00	75.34	83.00	36.00	9064990051100
0.2031		5.16	6.00	123.00	75.26	83.00	36.00	9064990051600
0.2047		5.20	6.00	123.00	75.20	83.00	36.00	9064990052000
0.2087		5.30	6.00	123.00	75.05	83.00	36.00	9064990053000
0.2126		5.40	6.00	123.00	74.90	83.00	36.00	9064990054000
0.2130		5.41	6.00	123.00	74.89	83.00	36.00	9064990054100



Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	l3 mm	EDP #
inch	wire/ltr	mm						
0.2165	7/32	5.50	6.00	130.00	81.75	90.00	36.00	9064990055000
0.2185		5.55	6.00	130.00	81.68	90.00	36.00	9064990055500
0.2189		5.56	6.00	130.00	81.66	90.00	36.00	9064990055600
0.2205		5.60	6.00	130.00	81.60	90.00	36.00	9064990056000
0.2244		5.70	6.00	130.00	81.45	90.00	36.00	9064990057000
0.2283	15/64	5.80	6.00	130.00	81.30	90.00	36.00	9064990058000
0.2323		5.90	6.00	130.00	81.15	90.00	36.00	9064990059000
0.2343		5.95	6.00	130.00	81.08	90.00	36.00	9064990059500
0.2362		6.00	6.00	130.00	81.00	90.00	36.00	9064990060000
0.2402	1/4	6.10	8.00	158.00	108.85	118.00	36.00	9064990061000
0.2441		6.20	8.00	158.00	108.70	118.00	36.00	9064990062000
0.2480		6.30	8.00	158.00	108.55	118.00	36.00	9064990063000
0.2500		6.35	8.00	158.00	108.48	118.00	36.00	9064990063500
0.2520	E	6.40	8.00	158.00	108.40	118.00	36.00	9064990064000
0.2559		6.50	8.00	158.00	108.25	118.00	36.00	9064990065000
0.2571		6.53	8.00	158.00	108.21	118.00	36.00	9064990065300
0.2579		6.55	8.00	158.00	108.18	118.00	36.00	9064990065500
0.2598	17/64	6.60	8.00	158.00	108.10	118.00	36.00	9064990066000
0.2638		6.70	8.00	158.00	107.95	118.00	36.00	9064990067000
0.2657		6.75	8.00	158.00	107.88	118.00	36.00	9064990067500
0.2677		6.80	8.00	158.00	107.80	118.00	36.00	9064990068000
0.2717	9/32	6.90	8.00	158.00	107.65	118.00	36.00	9064990069000
0.2756		7.00	8.00	158.00	107.50	118.00	36.00	9064990070000
0.2795		7.10	8.00	158.00	107.35	118.00	36.00	9064990071000
0.2811		7.14	8.00	158.00	107.29	118.00	36.00	9064990071400
0.2835	19/64	7.20	8.00	158.00	107.20	118.00	36.00	9064990072000
0.2874		7.30	8.00	158.00	107.05	118.00	36.00	9064990073000
0.2913		7.40	8.00	158.00	106.90	118.00	36.00	9064990074000
0.2953		7.50	8.00	158.00	106.75	118.00	36.00	9064990075000
0.2969		7.54	8.00	158.00	106.69	118.00	36.00	9064990075400
0.2972		7.55	8.00	158.00	106.68	118.00	36.00	9064990075500
0.2992		7.60	8.00	158.00	106.60	118.00	36.00	9064990076000
0.3012		7.65	8.00	158.00	106.53	118.00	36.00	9064990076500
0.3031	5/16	7.70	8.00	158.00	106.45	118.00	36.00	9064990077000
0.3071		7.80	8.00	158.00	106.30	118.00	36.00	9064990078000
0.3110		7.90	8.00	158.00	106.15	118.00	36.00	9064990079000
0.3126		7.94	8.00	158.00	106.09	118.00	36.00	9064990079400
0.3150	21/64	8.00	8.00	158.00	106.00	118.00	36.00	9064990080000
0.3189		8.10	10.00	190.00	133.85	146.00	40.00	9064990081000
0.3228		8.20	10.00	190.00	133.70	146.00	40.00	9064990082000
0.3268		8.30	10.00	190.00	133.55	146.00	40.00	9064990083000
0.3280		8.33	10.00	190.00	133.51	146.00	40.00	9064990083300
0.3307		8.40	10.00	190.00	133.40	146.00	40.00	9064990084000
0.3346		8.50	10.00	190.00	133.25	146.00	40.00	9064990085000
0.3386		8.60	10.00	190.00	133.10	146.00	40.00	9064990086000
0.3425	11/32	8.70	10.00	190.00	132.95	146.00	40.00	9064990087000
0.3437		8.73	10.00	190.00	132.91	146.00	40.00	9064990087300
0.3465		8.80	10.00	190.00	132.80	146.00	40.00	9064990088000
0.3504	23/64	8.90	10.00	190.00	132.65	146.00	40.00	9064990089000
0.3543		9.00	10.00	190.00	132.50	146.00	40.00	9064990090000
0.3583		9.10	10.00	190.00	132.35	146.00	40.00	9064990091000
0.3594		9.13	10.00	190.00	132.31	146.00	40.00	9064990091300
0.3622		9.20	10.00	190.00	132.20	146.00	40.00	9064990092000
0.3642		9.25	10.00	190.00	132.13	146.00	40.00	9064990092500
0.3661	3/8	9.30	10.00	190.00	132.05	146.00	40.00	9064990093000
0.3677		9.34	10.00	190.00	131.99	146.00	40.00	9064990093400
0.3701		9.40	10.00	190.00	131.90	146.00	40.00	9064990094000
0.3740		9.50	10.00	190.00	131.75	146.00	40.00	9064990095000
0.3748		9.52	10.00	190.00	131.72	146.00	40.00	9064990095200



Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	l3 mm	EDP #
inch	wire/ltr	mm						
0.3760		9.55	10.00	190.00	131.68	146.00	40.00	9064990095500
0.3780		9.60	10.00	190.00	131.60	146.00	40.00	9064990096000
0.3819		9.70	10.00	190.00	131.45	146.00	40.00	9064990097000
0.3858		9.80	10.00	190.00	131.30	146.00	40.00	9064990098000
0.3898		9.90	10.00	190.00	131.15	146.00	40.00	9064990099000
0.3906	25/64	9.92	10.00	190.00	131.12	146.00	40.00	9064990099200
0.3937		10.00	10.00	190.00	131.00	146.00	40.00	9064990100000
0.3976		10.10	12.00	223.00	158.85	174.00	45.00	9064990101000
0.4016		10.20	12.00	223.00	158.70	174.00	45.00	9064990102000
0.4055		10.30	12.00	223.00	158.55	174.00	45.00	9064990103000
0.4063	13/32	10.32	12.00	223.00	158.52	174.00	45.00	9064990103200
0.4094		10.40	12.00	223.00	158.40	174.00	45.00	9064990104000
0.4134		10.50	12.00	223.00	158.25	174.00	45.00	9064990105000
0.4173		10.60	12.00	223.00	158.10	174.00	45.00	9064990106000
0.4213		10.70	12.00	223.00	157.95	174.00	45.00	9064990107000
0.4220	27/64	10.72	12.00	223.00	157.92	174.00	45.00	9064990107200
0.4252		10.80	12.00	223.00	157.80	174.00	45.00	9064990108000
0.4291		10.90	12.00	223.00	157.65	174.00	45.00	9064990109000
0.4331		11.00	12.00	223.00	157.50	174.00	45.00	9064990110000
0.4370		11.10	12.00	223.00	157.35	174.00	45.00	9064990111000
0.4374	7/16	11.11	12.00	223.00	157.34	174.00	45.00	9064990111100
0.4409		11.20	12.00	223.00	157.20	174.00	45.00	9064990112000
0.4449		11.30	12.00	223.00	157.05	174.00	45.00	9064990113000
0.4488		11.40	12.00	223.00	156.90	174.00	45.00	9064990114000
0.4528		11.50	12.00	223.00	156.75	174.00	45.00	9064990115000
0.4531	29/64	11.51	12.00	223.00	156.74	174.00	45.00	9064990115100
0.4547		11.55	12.00	223.00	156.68	174.00	45.00	9064990115500
0.4567		11.60	12.00	223.00	156.60	174.00	45.00	9064990116000
0.4606		11.70	12.00	223.00	156.45	174.00	45.00	9064990117000
0.4646		11.80	12.00	223.00	156.30	174.00	45.00	9064990118000
0.4685		11.90	12.00	223.00	156.15	174.00	45.00	9064990119000
0.4689	15/32	11.91	12.00	223.00	156.14	174.00	45.00	9064990119100
0.4724		12.00	12.00	223.00	156.00	174.00	45.00	9064990120000
0.4764		12.10	14.00	251.00	183.85	202.00	45.00	9064990121000
0.4803		12.20	14.00	251.00	183.70	202.00	45.00	9064990122000
0.4843	31/64	12.30	14.00	251.00	183.55	202.00	45.00	9064990123000
0.4882		12.40	14.00	251.00	183.40	202.00	45.00	9064990124000
0.4921		12.50	14.00	251.00	183.25	202.00	45.00	9064990125000
0.4961		12.60	14.00	251.00	183.10	202.00	45.00	9064990126000
0.5000	1/2	12.70	14.00	251.00	182.95	202.00	45.00	9064990127000
0.5039		12.80	14.00	251.00	182.80	202.00	45.00	9064990128000
0.5079		12.90	14.00	251.00	182.65	202.00	45.00	9064990129000
0.5118		13.00	14.00	251.00	182.50	202.00	45.00	9064990130000
0.5157	33/64	13.10	14.00	251.00	182.35	202.00	45.00	9064990131000
0.5197		13.20	14.00	251.00	182.20	202.00	45.00	9064990132000
0.5236		13.30	14.00	251.00	182.05	202.00	45.00	9064990133000
0.5276		13.40	14.00	251.00	181.90	202.00	45.00	9064990134000
0.5311	17/32	13.49	14.00	251.00	181.77	202.00	45.00	9064990134900
0.5315		13.50	14.00	251.00	181.75	202.00	45.00	9064990135000
0.5354		13.60	14.00	251.00	181.60	202.00	45.00	9064990136000
0.5394		13.70	14.00	251.00	181.45	202.00	45.00	9064990137000
0.5433		13.80	14.00	251.00	181.30	202.00	45.00	9064990138000
0.5469	35/64	13.89	14.00	251.00	181.17	202.00	45.00	9064990138900
0.5472		13.90	14.00	251.00	181.15	202.00	45.00	9064990139000
0.5512		14.00	14.00	251.00	181.00	202.00	45.00	9064990140000
0.5551		14.10	16.00	282.00	208.85	230.00	48.00	9064990141000
0.5591		14.20	16.00	282.00	208.70	230.00	48.00	9064990142000
0.5626	9/16	14.29	16.00	282.00	208.57	230.00	48.00	9064990142900
0.5630		14.30	16.00	282.00	208.55	230.00	48.00	9064990143000



Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	l3 mm	EDP #
inch	wire/ltr	mm						
0.5669		14.40	16.00	282.00	208.40	230.00	48.00	9064990144000
0.5709		14.50	16.00	282.00	208.25	230.00	48.00	9064990145000
0.5748		14.60	16.00	282.00	208.10	230.00	48.00	9064990146000
0.5780		14.68	16.00	282.00	207.98	230.00	48.00	9064990146800
0.5787		14.70	16.00	282.00	207.95	230.00	48.00	9064990147000
0.5827		14.80	16.00	282.00	207.80	230.00	48.00	9064990148000
0.5866		14.90	16.00	282.00	207.65	230.00	48.00	9064990149000
0.5906		15.00	16.00	282.00	207.50	230.00	48.00	9064990150000
0.5937		15.08	16.00	282.00	207.38	230.00	48.00	9064990150800
0.5945		15.10	16.00	282.00	207.35	230.00	48.00	9064990151000
0.5984		15.20	16.00	282.00	207.20	230.00	48.00	9064990152000
0.6024		15.30	16.00	282.00	207.05	230.00	48.00	9064990153000
0.6063		15.40	16.00	282.00	206.90	230.00	48.00	9064990154000
0.6094	39/64	15.48	16.00	282.00	206.78	230.00	48.00	9064990154800
0.6102		15.50	16.00	282.00	206.75	230.00	48.00	9064990155000
0.6122		15.55	16.00	282.00	206.68	230.00	48.00	9064990155500
0.6142		15.60	16.00	282.00	206.60	230.00	48.00	9064990156000
0.6181	5/8	15.70	16.00	282.00	206.45	230.00	48.00	9064990157000
0.6220		15.80	16.00	282.00	206.30	230.00	48.00	9064990158000
0.6248		15.87	16.00	282.00	206.20	230.00	48.00	9064990158700
0.6260		15.90	16.00	282.00	206.15	230.00	48.00	9064990159000
0.6299		16.00	16.00	282.00	206.00	230.00	48.00	9064990160000
0.6406		16.27	18.00	310.00	233.60	258.00	48.00	9064990162700
0.6417		16.30	18.00	310.00	233.55	258.00	48.00	9064990163000
0.6496		16.50	18.00	310.00	233.25	258.00	48.00	9064990165000
0.6563		16.67	18.00	310.00	233.00	258.00	48.00	9064990166700
0.6575		16.70	18.00	310.00	232.95	258.00	48.00	9064990167000
0.6654		16.90	18.00	310.00	232.65	258.00	48.00	9064990169000
0.6693		17.00	18.00	310.00	232.50	258.00	48.00	9064990170000
0.6720		17.07	18.00	310.00	232.40	258.00	48.00	9064990170700
0.6874		17.46	18.00	310.00	231.81	258.00	48.00	9064990174600
0.6890		17.50	18.00	310.00	231.75	258.00	48.00	9064990175000
0.6909		17.55	18.00	310.00	231.68	258.00	48.00	9064990175500
0.6969		17.70	18.00	310.00	231.45	258.00	48.00	9064990177000
0.7031		17.86	18.00	310.00	231.21	258.00	48.00	9064990178600
0.7087		18.00	18.00	310.00	231.00	258.00	48.00	9064990180000
0.7189		18.26	20.00	340.00	258.61	286.00	50.00	9064990182600
0.7283		18.50	20.00	340.00	258.25	286.00	50.00	9064990185000
0.7362		18.70	20.00	340.00	257.95	286.00	50.00	9064990187000
0.7441		18.90	20.00	340.00	257.65	286.00	50.00	9064990189000
0.7480		19.00	20.00	340.00	257.50	286.00	50.00	9064990190000
0.7500	3/4	19.05	20.00	340.00	257.43	286.00	50.00	9064990190500
0.7579		19.25	20.00	340.00	257.13	286.00	50.00	9064990192500
0.7598		19.30	20.00	340.00	257.05	286.00	50.00	9064990193000
0.7657		19.45	20.00	340.00	256.83	286.00	50.00	9064990194500
0.7677		19.50	20.00	340.00	256.75	286.00	50.00	9064990195000
0.7697		19.55	20.00	340.00	256.68	286.00	50.00	9064990195500
0.7756		19.70	20.00	340.00	256.45	286.00	50.00	9064990197000
0.7795		19.80	20.00	340.00	256.30	286.00	50.00	9064990198000
0.7811		19.84	20.00	340.00	256.24	286.00	50.00	9064990198400
0.7874		20.00	20.00	340.00	256.00	286.00	50.00	9064990200000

Series 6498 & 5498

Material group	Hardness		SFM	Feed Rate - IPR					
	HRC	BHN		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
Common structural steels	-	≤ 150	655	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 32	< 301	655	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Free-cutting steels	≤ 25	≤ 255	655	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 32	< 301	655	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
Unalloyed heat-treatable steels	≤ 20	≤ 220	590	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	≤ 25	≤ 255	525	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 32	< 301	425	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
Alloyed heat-treatable steels	≤ 32	≤ 301	395	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 43	< 402	395	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Unalloyed case hardened steels	< 25	< 255	590	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
Alloyed case hardened steels	≤ 32	≤ 301	395	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 43	< 402	360	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Nitriding steels	≤ 32	≤ 301	360	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
	< 43	< 402	330	0.0030	0.0050	0.0080	0.0080	0.0100	0.0125
Tool steels	≤ 25	≤ 255	295	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
	< 43	< 402	215	0.0040	0.0065	0.0100	0.0100	0.0125	0.0155
High speed steels	< 43	< 402	195	0.0030	0.0050	0.0080	0.0080	0.0100	0.0125
Spring steels	< 38	< 354	195	0.0030	0.0050	0.0080	0.0080	0.0100	0.0125
Hardened steels	≤ 48	≤ 460	180	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
	< 66	-	-	-	-	-	-	-	-
Stainless steels, sulphured austenitic martensitic	≤ 28	≤ 273	260	0.0030	0.0050	0.0080	0.0080	0.0100	0.0125
	≤ 36	≤ 337	-	-	-	-	-	-	-
	< 46	< 435	195	0.0030	0.0050	0.0080	0.0080	0.0100	0.0125
Cast iron	≤ 23	≤ 242	590	0.0065	0.0125	0.0155	0.0195	0.0250	0.0250
	< 38	< 354	590	0.0065	0.0125	0.0155	0.0195	0.0250	0.0250
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242	525	0.0065	0.0125	0.0155	0.0195	0.0250	0.0250
	< 38	< 354	460	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
Chilled cast iron	≤ 38	≤ 354	-	-	-	-	-	-	-
New cast materials GGV	≤ 20	≤ 220	460	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 32	< 301	460	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
New cast materials ADI	≤ 32	≤ 301	260	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
	< 43	< 402	260	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Special alloys	< 54	< 549	100	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Ti and Ti-alloys	≤ 25	≤ 255	130	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
	< 43	< 402	115	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
Aluminium and Al-alloys	-	< 120	-	-	-	-	-	-	-
Al wrought alloys	-	< 200	-	-	-	-	-	-	-
Al cast alloys ≤ 10 % Si ≤ 24 % Si	-	≤ 180	-	-	-	-	-	-	-
	-	< 180	-	-	-	-	-	-	-
Magnesium alloys	-	< 120	-	-	-	-	-	-	-
Copper, low-alloyed	-	< 150	-	-	-	-	-	-	-
Brass, short-chipping long-chipping	-	≤ 180	-	-	-	-	-	-	-
	-	< 180	-	-	-	-	-	-	-
Bronze, short-chipping	-	≤ 180	-	-	-	-	-	-	-
	< 25	< 255	-	-	-	-	-	-	-
Bronze, long-chipping	≤ 25	≤ 255	-	-	-	-	-	-	-
	< 32	< 301	-	-	-	-	-	-	-
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK	-	-	-	-	-	-	-	-	-

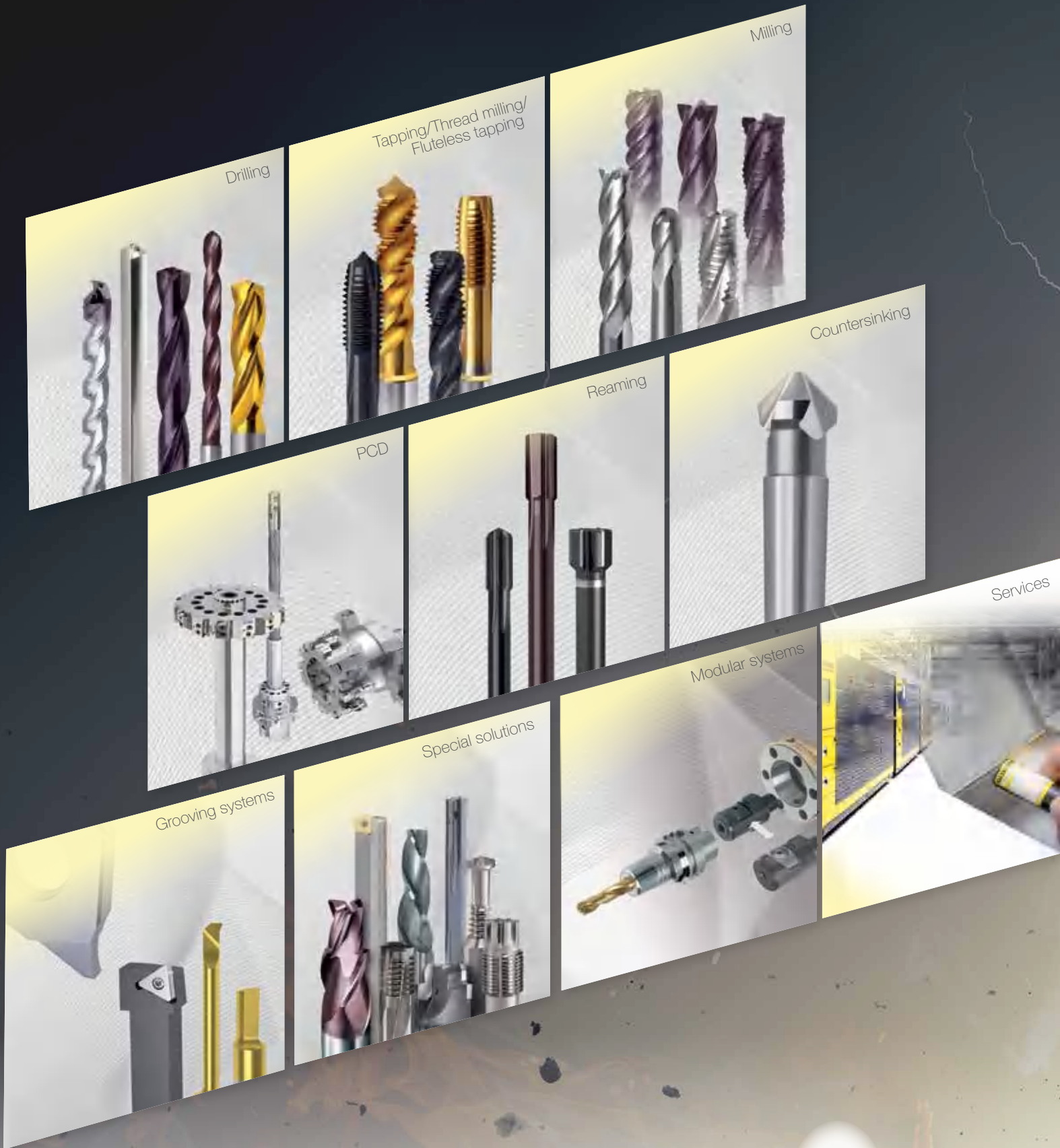


Series 5499

Material group	Hardness		SFM	Feed Rate - IPR					
	HRC	BHN		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
Common structural steels	-	≤ 150	590	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 32	< 301	590	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Free-cutting steels	≤ 25	≤ 255	590	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 32	< 301	590	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
Unalloyed heat-treatable steels	≤ 20	≤ 220	525	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	≤ 25	≤ 255	460	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 32	< 301	395	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
Alloyed heat-treatable steels	≤ 32	≤ 301	360	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 43	< 402	360	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Unalloyed case hardened steels	< 25	< 255	525	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
Alloyed case hardened steels	≤ 32	≤ 301	360	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 43	< 402	330	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Nitriding steels	≤ 32	≤ 301	330	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
	< 43	< 402	295	0.0030	0.0050	0.0080	0.0080	0.0100	0.0125
Tool steels	≤ 25	≤ 255	260	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
	< 43	< 402	195	0.0040	0.0065	0.0100	0.0100	0.0125	0.0155
High speed steels	< 43	< 402	180	0.0030	0.0050	0.0080	0.0080	0.0100	0.0125
Spring steels	< 38	< 354	180	0.0030	0.0050	0.0080	0.0080	0.0100	0.0125
Hardened steels	≤ 48	≤ 460	150	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
	< 66	-	-	-	-	-	-	-	-
Stainless steels, sulphured austenitic martensitic	≤ 28	≤ 273	230	0.0030	0.0050	0.0080	0.0080	0.0100	0.0125
	≤ 36	≤ 337	-	-	-	-	-	-	-
	< 46	< 435	165	0.0030	0.0050	0.0080	0.0080	0.0100	0.0125
Cast iron	≤ 23	≤ 242	540	0.0065	0.0125	0.0155	0.0195	0.0250	0.0250
	< 38	< 354	475	0.0065	0.0125	0.0155	0.0195	0.0250	0.0250
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242	425	0.0065	0.0125	0.0155	0.0195	0.0250	0.0250
	< 38	< 354	425	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
Chilled cast iron	≤ 38	≤ 354	-	-	-	-	-	-	-
New cast materials GGV	≤ 20	≤ 220	425	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 32	< 301	425	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
New cast materials ADI	≤ 32	≤ 301	230	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
	< 43	< 402	230	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Special alloys	< 54	< 549	80	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Ti and Ti-alloys	≤ 25	≤ 255	115	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
	< 43	< 402	100	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
Aluminium and Al-alloys	-	< 120	-	-	-	-	-	-	-
Al wrought alloys	-	< 200	-	-	-	-	-	-	-
Al cast alloys ≤ 10 % Si ≤ 24 % Si	-	≤ 180	-	-	-	-	-	-	-
	-	< 180	-	-	-	-	-	-	-
Magnesium alloys	-	< 120	-	-	-	-	-	-	-
Copper, low-alloyed	-	< 150	-	-	-	-	-	-	-
Brass, short-chipping long-chipping	-	≤ 180	-	-	-	-	-	-	-
	-	< 180	-	-	-	-	-	-	-
Bronze, short-chipping	-	≤ 180	-	-	-	-	-	-	-
	< 25	< 255	-	-	-	-	-	-	-
Bronze, long-chipping	≤ 25	≤ 255	-	-	-	-	-	-	-
	< 32	< 301	-	-	-	-	-	-	-
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK	-	-	-	-	-	-	-	-	-

Series 6499

Material group	Hardness		SFM	Feed Rate - IPR					
	HRC	BHN		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
Common structural steels	-	≤ 150	590	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 32	< 301	590	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Free-cutting steels	≤ 25	≤ 255	590	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 32	< 301	590	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
Unalloyed heat-treatable steels	≤ 20	≤ 220	525	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	≤ 25	≤ 255	460	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 32	< 301	395	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
Alloyed heat-treatable steels	≤ 32	≤ 301	360	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 43	< 402	360	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Unalloyed case hardened steels	< 25	< 255	525	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
Alloyed case hardened steels	≤ 32	≤ 301	360	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 43	< 402	330	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Nitriding steels	≤ 32	≤ 301	330	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
	< 43	< 402	295	0.0030	0.0050	0.0080	0.0080	0.0100	0.0125
Tool steels	≤ 25	≤ 255	260	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
	< 43	< 402	195	0.0040	0.0065	0.0100	0.0100	0.0125	0.0155
High speed steels	< 43	< 402	180	0.0030	0.0050	0.0080	0.0080	0.0100	0.0125
Spring steels	< 38	< 354	180	0.0030	0.0050	0.0080	0.0080	0.0100	0.0125
Hardened steels	≤ 48	≤ 460	150	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
	< 66	-							
Stainless steels, sulphured austenitic martensitic	≤ 28	≤ 273	230	0.0030	0.0050	0.0080	0.0080	0.0100	0.0125
	≤ 36	≤ 337							
	< 46	< 435	165	0.0030	0.0050	0.0080	0.0080	0.0100	0.0125
Cast iron	≤ 23	≤ 242	540	0.0065	0.0125	0.0155	0.0195	0.0250	0.0250
	< 38	< 354	475	0.0065	0.0125	0.0155	0.0195	0.0250	0.0250
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242	425	0.0065	0.0125	0.0155	0.0195	0.0250	0.0250
	< 38	< 354	425	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
Chilled cast iron	≤ 38	≤ 354							
New cast materials GGV	≤ 20	≤ 220	425	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
	< 32	< 301	425	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
New cast materials ADI	≤ 32	≤ 301	230	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
	< 43	< 402	230	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Special alloys	< 54	< 549	80	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Ti and Ti-alloys	≤ 25	≤ 255	115	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
	< 43	< 402	100	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
Aluminium and Al-alloys	-	< 120							
Al wrought alloys	-	< 200							
Al cast alloys ≤ 10 % Si ≤ 24 % Si	-	≤ 180							
	-	< 180							
Magnesium alloys	-	< 120							
Copper, low-alloyed	-	< 150							
Brass, short-chipping long-chipping	-	≤ 180							
	-	< 180							
Bronze, short-chipping	-	≤ 180							
	< 25	< 255							
Bronze, long-chipping	≤ 25	≤ 255							
	< 32	< 301							
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK									



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