DORMER PRAMET™

Force X Generation 2

Solid carbide multi-material drills

Certainty at every turn™

High-performance solid carbide drills for various materials

Boost productivity with versatility and durability

Introducing Force X Generation 2 – the perfect solution for demanding drilling applications. Available in both through-coolant and solid versions, this series includes 3xD, 5xD and 8xD for different drilling depths.

These solid carbide drills feature a 140° self-centering 4-facet split point and advanced CTW flute design, delivering superior hole quality in diverse materials (H9 hole tolerance).

With a TiAlN-top coating that enhances hardness and extends tool life, Force X Generation 2 ensures reliable performance even in challenging applications in ISO P, M and K material groups.

Related products

RC408

8xD

3 – 16 mm

TiAlN-Top coating, **Coolant feed**

RS405

5xD

3 – 20 mm

TiAlN-Top coating

RC405

5xD

3 – 20 mm

TiAlN-Top coating, **Coolant feed**

RS403

3xD

3 – 20 mm

TiAlN-Top coating

RC403

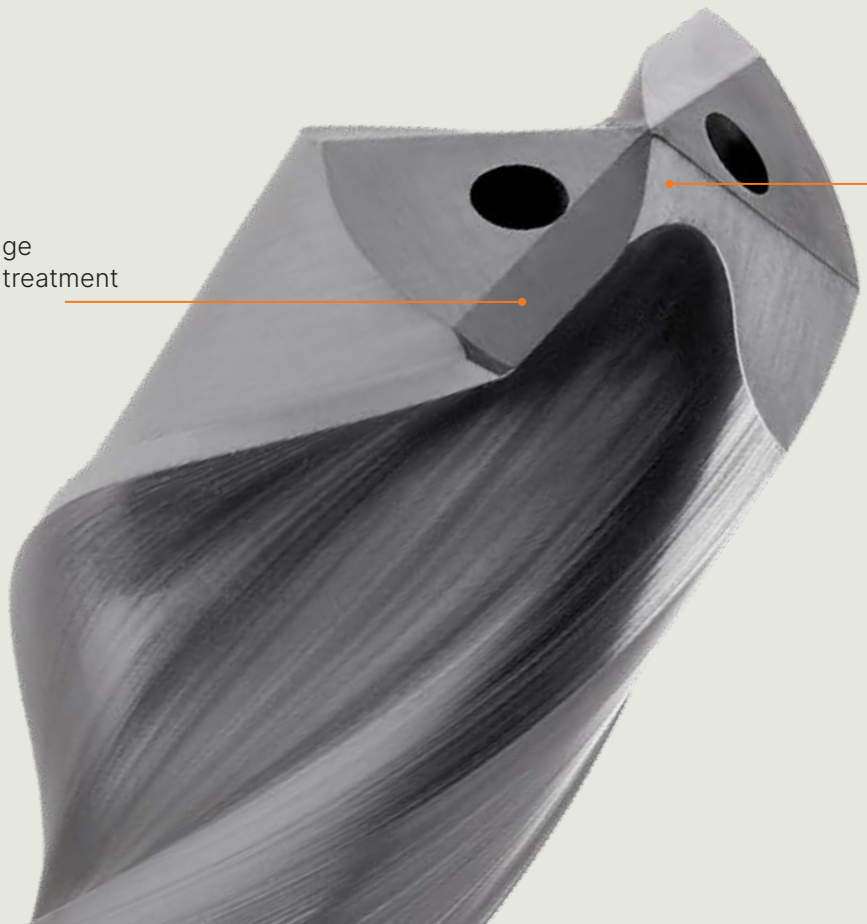
3xD

3 – 20 mm

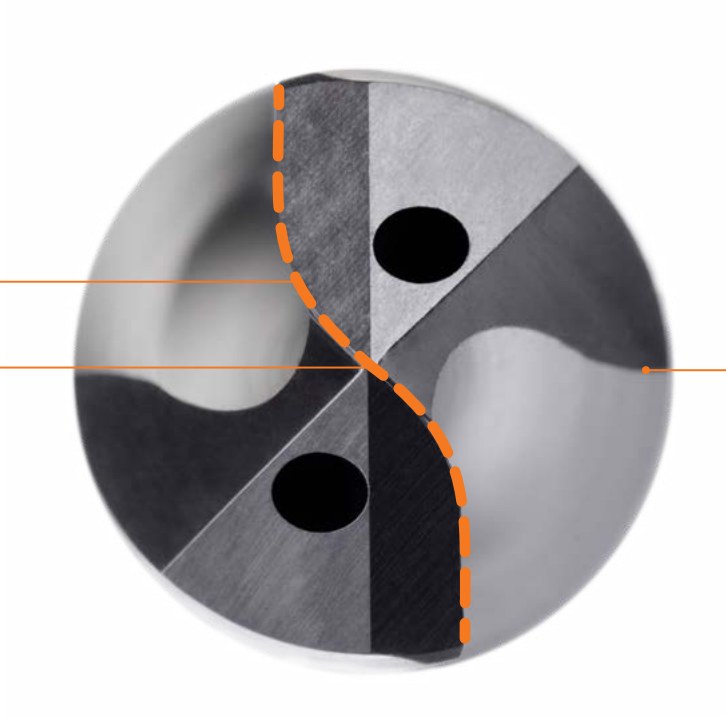
TiAlN-Top coating, **Coolant feed**

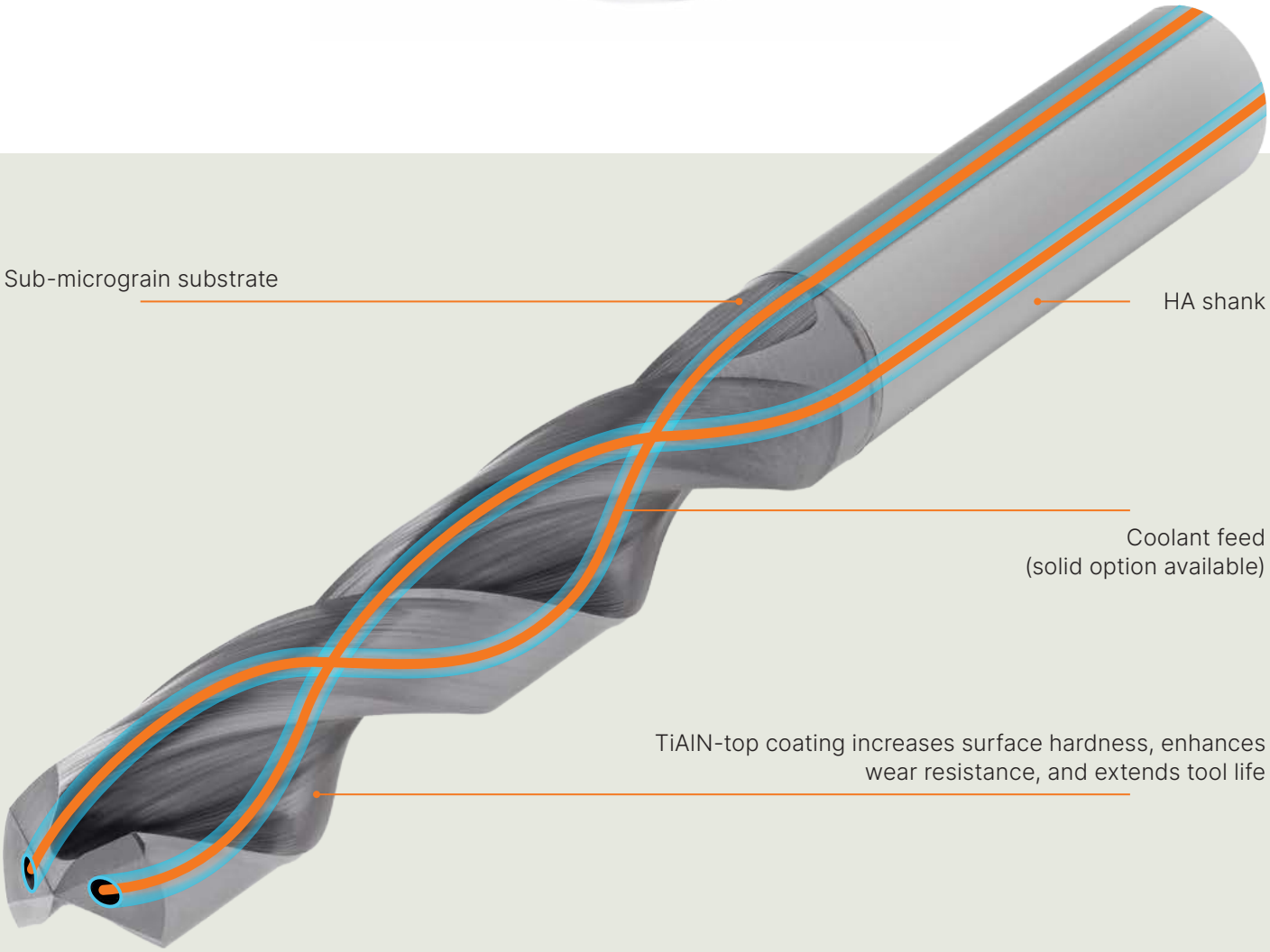
Features & benefits

Unique flute design with continuously thinned web and rolled heel.	**Reliable chip control** ensures smooth evacuation across P, M and K materials.
Sub-micron grade carbide substrate.	**Extended edge toughness and balance of hardness** delivers stable performance and long life in varied material conditions.
TiAlN-Top coating for wear protection.	**Improved tool life** Lower coefficient of friction maintains performance at high speeds over longer runs.
S-shape 4-facet split point with fine honing.	**Accurate hole positioning** supports clean entry, exit and high-quality surface finish.
Optimized chisel with strong corner geometry.	**Higher feed rates** reduce cycle times and boost productivity per part.



Features & benefits





Success stories

Achieve **57%** longer tool life at **35%** lower cost in steel machining

Customer result: Force X Generation 2 drill delivers outstanding performance in steel machining, achieving 57% longer tool life (640 vs. 408 holes) compared to premium competitor tools. Despite a comparable tool price, Force X Generation 2 lowers tool cost per piece by 35%, making it the clear choice for cost-efficient, high-performance drilling.

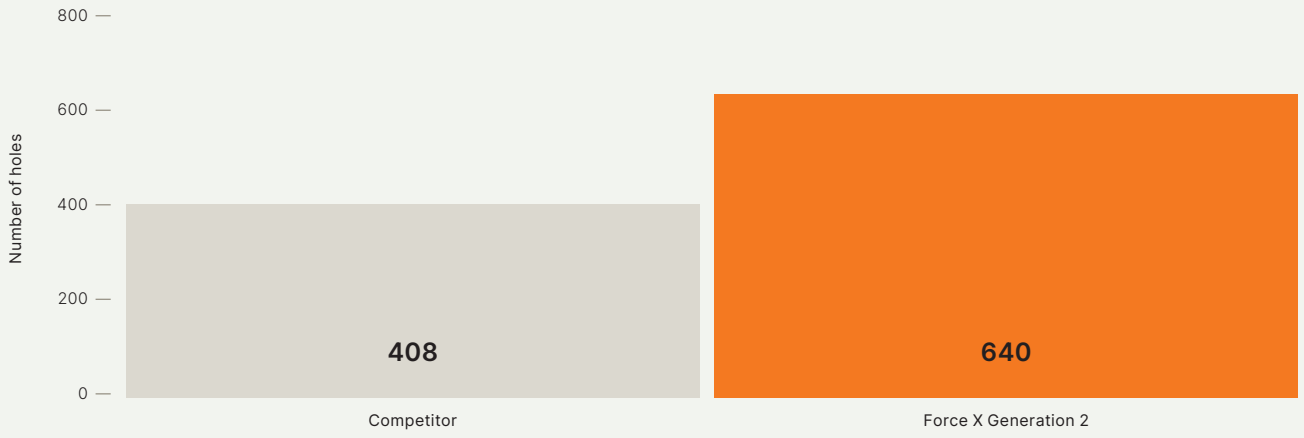
With the same cutting parameters, it maintains productivity while significantly reducing total tool costs. For manufacturers aiming to maximize output and profitability, Force X Generation 2 sets a new benchmark in ISO-P applications.

Segment:	Application:	Material:	Coolant:	Dormer Pramet solution:
Die & Mold	Thread pre-hole drilling	1.2379 / 255 HB	Yes	RC4056.8

Machining data	Competitor	Force X Generation 2
Depth	20 mm	20 mm
Cutting speed (Vc)	80 m/min	80 m/min
Feed/Revolution (fn)	0.14 mm/rev	0.15 mm/rev
Feed/Min (Vf)	524 mm/min	561 mm/min

WMG P4.1

Tool life (number of holes)



Success stories

Boost productivity with **108%** higher feed rates in steel drilling

Customer result: The Force X Generation 2 drill sets a new benchmark in multi-material machining, delivering up to 108% higher feed rate and 51% higher cutting speed in 4140 steel compared to premium competitor tools.

Even in demanding stainless steel applications, it achieves 8% higher feed rate and 4% higher cutting speed, ensuring superior productivity across ISO-P and ISO-M materials. With no visible tool wear in early trials, Force X Generation 2 proves its capability for cost-efficient, high-performance drilling in small batch operations.

Segment:	Application:	Material:	Coolant:	Dormer Pramet solution:
Automotive	Drilling pin holes	4140	Yes (external)	RS4056.0

Machining data	Competitor	Force X Generation 2
Drilling depth	1.2 inch	1.2 inch
Cutting speed (Vc)	173 feet/min	262 feet/min
Spindle speed (n)	2800 rev/min	4240 rev/min
Feed (fn)	0.0043 inch/rev	0.006 inch/rev
Feed (Vf)	12 inch/min	25 inch/min

WMG P3.2

Segment:	Application:	Material:	Coolant:	Dormer Pramet solution:
Automotive	Drilling pin holes	304	Yes (external)	RS4056.0

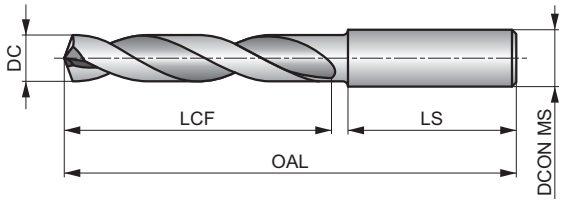
Machining data	Competitor	Force X Generation 2
Drilling depth	1.35 inch	1.35 inch
Cutting speed (Vc)	173 feet/min	180 feet/min
Spindle speed (n)	2800 rev/min	2913 rev/min
Feed (fn)	0.0043 inch/rev	0.0045 inch/rev
Feed (Vf)	12 inch/min	13 inch/min

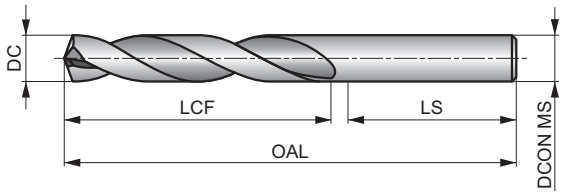
WMG M3.2

RS403

FORCE X Solid Carbide 3XD Drill, TiAlN-Top Coated

High-performance drill is specifically designed to deliver superior hole quality at high speeds and feeds (H9 hole tolerance for multi-materials). A 140° self-centering, 4-facet split point and CTW flute construction. TiAlN-top coating increases surface hardness, enhances wear resistance, and extends tool life.





HM	DIN 6537	3×D
140°	TiAlN Top	DIN 6535HA
CTW	R	DC m7

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found on page 22.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 112 V	■ 114 V	■ 114 V	■ 98 V	■ 96 V	■ 84 V	■ 88 V	■ 82 V	■ 80 V	■ 79 V	■ 76 V	■ 40 U	◪ 79 V	◪ 76 V
M2.1	M2.2	M2.3	M3.1	M3.2	M3.3	M4.1	M4.2	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3
◪ 74 U	◪ 60 U	◪ 52 U	◪ 64 U	◪ 52 U	◪ 49 U	◪ 45 U	◪ 38 U	■ 89 W	■ 86 W	■ 84 W	■ 89 W	■ 88 W	■ 79 W
K3.1	K3.2	K3.3	K4.1	K4.2	K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N1.2	N1.3	N2.1
■ 84 W	■ 79 W	■ 76 W	■ 80 W	■ 64 W	■ 62 W	■ 58 W	■ 56 W	■ 84 V	■ 80 V	■ 64 V	◪ 279 W	◪ 270 W	◪ 199 W
N2.2	N2.3	N3.1	N3.2	N3.3	S1.1	S1.2	S1.3						
◪ 198 W	◪ 180 W	◪ 166 W	◪ 162 W	◪ 158 W	◪ 40 U	◪ 32 U	◪ 28 U						

DCON MS tolerance h6.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RS4033.0	–	3.00	0.1181	20.0	62.0	36.0	6.00
RS4033.1	–	3.10	0.1220	20.0	62.0	36.0	6.00
RS4031/8	1/8	3.18	0.1250	20.0	62.0	36.0	6.00
RS4033.2	–	3.20	0.1260	20.0	62.0	36.0	6.00
RS403N30	N30	3.26	0.1283	20.0	62.0	36.0	6.00
RS4033.3	–	3.30	0.1299	20.0	62.0	36.0	6.00
RS4033.4	–	3.40	0.1339	20.0	62.0	36.0	6.00
RS403N29	N29	3.45	0.1360	20.0	62.0	36.0	6.00
RS4033.5	–	3.50	0.1378	20.0	62.0	36.0	6.00
RS403N28	N28	3.57	0.1406	20.0	62.0	36.0	6.00
RS4039/64	9/64	3.57	0.1406	20.0	62.0	36.0	6.00
RS4033.6	–	3.60	0.1417	20.0	62.0	36.0	6.00
RS403N27	N27	3.66	0.1441	20.0	62.0	36.0	6.00
RS4033.7	–	3.70	0.1457	20.0	62.0	36.0	6.00
RS4033.73	–	3.73	0.1469	24.0	66.0	36.0	6.00
RS403N26	N26	3.73	0.1469	24.0	66.0	36.0	6.00
RS403N25	N25	3.80	0.1496	24.0	66.0	36.0	6.00
RS4033.8	–	3.80	0.1496	24.0	66.0	36.0	6.00
RS403N24	N24	3.86	0.1520	24.0	66.0	36.0	6.00
RS4033.9	–	3.90	0.1535	24.0	66.0	36.0	6.00
RS403N23	N23	3.91	0.1539	24.0	66.0	36.0	6.00
RS4035/32	5/32	3.97	0.1563	24.0	66.0	36.0	6.00
RS403N22	N22	3.99	0.1571	24.0	66.0	36.0	6.00
RS4034.0	–	4.00	0.1575	24.0	66.0	36.0	6.00
RS403N21	N21	4.04	0.1591	24.0	66.0	36.0	6.00

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RS403N20	N20	4.09	0.1610	24.0	66.0	36.0	6.00
RS4034.1	–	4.10	0.1614	24.0	66.0	36.0	6.00
RS4034.2	–	4.20	0.1654	24.0	66.0	36.0	6.00
RS403N19	N19	4.22	0.1661	24.0	66.0	36.0	6.00
RS4034.3	–	4.30	0.1693	24.0	66.0	36.0	6.00
RS403N18	N18	4.31	0.1697	24.0	66.0	36.0	6.00
RS40311/64	11/64	4.37	0.1719	24.0	66.0	36.0	6.00
RS403N17	N17	4.39	0.1728	24.0	66.0	36.0	6.00
RS4034.4	–	4.40	0.1732	24.0	66.0	36.0	6.00
RS403N16	N16	4.50	0.1772	24.0	66.0	36.0	6.00
RS4034.5	–	4.50	0.1772	24.0	66.0	36.0	6.00
RS403N15	N15	4.57	0.1799	24.0	66.0	36.0	6.00
RS4034.6	–	4.60	0.1811	24.0	66.0	36.0	6.00
RS403N14	N14	4.62	0.1819	24.0	66.0	36.0	6.00
RS403N13	N13	4.70	0.1850	24.0	66.0	36.0	6.00
RS4034.7	–	4.70	0.1850	24.0	66.0	36.0	6.00
RS4033/16	3/16	4.76	0.1875	28.0	66.0	36.0	6.00
RS403N12	N12	4.80	0.1890	28.0	66.0	36.0	6.00
RS4034.8	–	4.80	0.1890	28.0	66.0	36.0	6.00
RS403N11	N11	4.85	0.1909	28.0	66.0	36.0	6.00
RS4034.9	–	4.90	0.1929	28.0	66.0	36.0	6.00
RS403N10	N10	4.92	0.1937	28.0	66.0	36.0	6.00
RS403N9	N9	4.98	0.1961	28.0	66.0	36.0	6.00
RS4035.0	–	5.00	0.1969	28.0	66.0	36.0	6.00
RS403N8	N8	5.06	0.1992	28.0	66.0	36.0	6.00

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RS4035.1	–	5.10	0.2008	28.0	66.0	36.0	6.00
RS403N7	N7	5.11	0.2010	28.0	66.0	36.0	6.00
RS40313/64	13/64	5.16	0.2031	28.0	66.0	36.0	6.00
RS403N6	N6	5.18	0.2039	28.0	66.0	36.0	6.00
RS4035.2	–	5.20	0.2047	28.0	66.0	36.0	6.00
RS403N5	N5	5.22	0.2055	28.0	66.0	36.0	6.00
RS4035.3	–	5.30	0.2087	28.0	66.0	36.0	6.00
RS403N4	N4	5.31	0.2091	28.0	66.0	36.0	6.00
RS4035.4	–	5.40	0.2126	28.0	66.0	36.0	6.00
RS403N3	N3	5.41	0.2130	28.0	66.0	36.0	6.00
RS4035.5	–	5.50	0.2165	28.0	66.0	36.0	6.00
RS4037/32	7/32	5.56	0.2188	28.0	66.0	36.0	6.00
RS4035.6	–	5.60	0.2205	28.0	66.0	36.0	6.00
RS403N2	N2	5.61	0.2209	28.0	66.0	36.0	6.00
RS4035.7	–	5.70	0.2244	28.0	66.0	36.0	6.00
RS403N1	N1	5.79	0.2280	28.0	66.0	36.0	6.00
RS4035.8	–	5.80	0.2283	28.0	66.0	36.0	6.00
RS4035.9	–	5.90	0.2323	28.0	66.0	36.0	6.00
RS403A	A	5.94	0.2339	28.0	66.0	36.0	6.00
RS40315/64	15/64	5.95	0.2344	28.0	66.0	36.0	6.00
RS4036.0	–	6.00	0.2362	28.0	66.0	36.0	6.00
RS403B	B	6.05	0.2380	34.0	79.0	36.0	8.00
RS4036.1	–	6.10	0.2402	34.0	79.0	36.0	8.00
RS403C	C	6.15	0.2421	34.0	79.0	36.0	8.00
RS4036.2	–	6.20	0.2441	34.0	79.0	36.0	8.00
RS403D	D	6.25	0.2461	34.0	79.0	36.0	8.00
RS4036.3	–	6.30	0.2480	34.0	79.0	36.0	8.00
RS403E	E	6.35	0.2500	34.0	79.0	36.0	8.00
RS4031/4	1/4	6.35	0.2500	34.0	79.0	36.0	8.00
RS4036.4	–	6.40	0.2520	34.0	79.0	36.0	8.00
RS4036.5	–	6.50	0.2559	34.0	79.0	36.0	8.00
RS403F	F	6.53	0.2571	34.0	79.0	36.0	8.00
RS4036.6	–	6.60	0.2598	34.0	79.0	36.0	8.00
RS403G	G	6.63	0.2610	34.0	79.0	36.0	8.00
RS4036.7	–	6.70	0.2638	34.0	79.0	36.0	8.00
RS40317/64	17/64	6.75	0.2656	34.0	79.0	36.0	8.00
RS403H	H	6.76	0.2661	34.0	79.0	36.0	8.00
RS4036.8	–	6.80	0.2677	34.0	79.0	36.0	8.00
RS4036.9	–	6.90	0.2717	34.0	79.0	36.0	8.00
RS403I	I	6.91	0.2720	34.0	79.0	36.0	8.00
RS4037.0	–	7.00	0.2756	34.0	79.0	36.0	8.00
RS403J	J	7.04	0.2772	34.0	79.0	36.0	8.00
RS4037.1	–	7.10	0.2795	41.0	79.0	36.0	8.00
RS403K	K	7.14	0.2811	41.0	79.0	36.0	8.00
RS4039/32	9/32	7.14	0.2813	41.0	79.0	36.0	8.00
RS4037.2	–	7.20	0.2835	41.0	79.0	36.0	8.00
RS4037.3	–	7.30	0.2874	41.0	79.0	36.0	8.00
RS403L	L	7.37	0.2902	41.0	79.0	36.0	8.00
RS4037.4	–	7.40	0.2913	41.0	79.0	36.0	8.00
RS403M	M	7.49	0.2949	41.0	79.0	36.0	8.00
RS4037.5	–	7.50	0.2953	41.0	79.0	36.0	8.00
RS40319/64	19/64	7.54	0.2969	41.0	79.0	36.0	8.00
RS4037.6	–	7.60	0.2992	41.0	79.0	36.0	8.00
RS403N	N	7.67	0.3020	41.0	79.0	36.0	8.00
RS4037.7	–	7.70	0.3031	41.0	79.0	36.0	8.00
RS4037.8	–	7.80	0.3071	41.0	79.0	36.0	8.00
RS4037.9	–	7.90	0.3110	41.0	79.0	36.0	8.00
RS4035/16	5/16	7.94	0.3125	41.0	79.0	36.0	8.00
RS4038.0	–	8.00	0.3150	41.0	79.0	36.0	8.00
RS403O	O	8.03	0.3161	47.0	89.0	40.0	10.00
RS4038.1	–	8.10	0.3189	47.0	89.0	40.0	10.00
RS4038.2	–	8.20	0.3228	47.0	89.0	40.0	10.00

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RS403P	P	8.20	0.3228	47.0	89.0	40.0	10.00
RS4038.3	–	8.30	0.3268	47.0	89.0	40.0	10.00
RS40321/64	21/64	8.33	0.3281	47.0	89.0	40.0	10.00
RS4038.4	–	8.40	0.3307	47.0	89.0	40.0	10.00
RS403Q	Q	8.43	0.3319	47.0	89.0	40.0	10.00
RS4038.5	–	8.50	0.3346	47.0	89.0	40.0	10.00
RS4038.6	–	8.60	0.3386	47.0	89.0	40.0	10.00
RS403R	R	8.61	0.3390	47.0	89.0	40.0	10.00
RS4038.7	–	8.70	0.3425	47.0	89.0	40.0	10.00
RS40311/32	11/32	8.73	0.3438	47.0	89.0	40.0	10.00
RS4038.8	–	8.80	0.3465	47.0	89.0	40.0	10.00
RS403S	S	8.84	0.3480	47.0	89.0	40.0	10.00
RS4038.9	–	8.90	0.3504	47.0	89.0	40.0	10.00
RS4039.0	–	9.00	0.3543	47.0	89.0	40.0	10.00
RS403T	T	9.09	0.3579	47.0	89.0	40.0	10.00
RS4039.1	–	9.10	0.3583	47.0	89.0	40.0	10.00
RS40323/64	23/64	9.13	0.3594	47.0	89.0	40.0	10.00
RS4039.2	–	9.20	0.3622	47.0	89.0	40.0	10.00
RS4039.3	–	9.30	0.3661	47.0	89.0	40.0	10.00
RS403U	U	9.35	0.3681	47.0	89.0	40.0	10.00
RS4039.4	–	9.40	0.3701	47.0	89.0	40.0	10.00
RS4039.5	–	9.50	0.3740	47.0	89.0	40.0	10.00
RS4033/8	3/8	9.53	0.3750	47.0	89.0	40.0	10.00
RS403V	V	9.58	0.3772	47.0	89.0	40.0	10.00
RS4039.6	–	9.60	0.3780	47.0	89.0	40.0	10.00
RS4039.7	–	9.70	0.3819	47.0	89.0	40.0	10.00
RS4039.8	–	9.80	0.3858	47.0	89.0	40.0	10.00
RS403W	W	9.80	0.3858	47.0	89.0	40.0	10.00
RS4039.9	–	9.90	0.3898	47.0	89.0	40.0	10.00
RS40325/64	25/64	9.92	0.3906	47.0	89.0	40.0	10.00
RS40310.0	–	10.00	0.3937	47.0	89.0	40.0	10.00
RS403X	X	10.08	0.3969	55.0	102.0	45.0	12.00
RS40310.1	–	10.10	0.3976	55.0	102.0	45.0	12.00
RS40310.2	–	10.20	0.4016	55.0	102.0	45.0	12.00
RS403Y	Y	10.26	0.4039	55.0	102.0	45.0	12.00
RS40310.3	–	10.30	0.4055	55.0	102.0	45.0	12.00
RS40313/32	13/32	10.32	0.4063	55.0	102.0	45.0	12.00
RS40310.4	–	10.40	0.4094	55.0	102.0	45.0	12.00
RS403Z	Z	10.49	0.4130	55.0	102.0	45.0	12.00
RS40310.5	–	10.50	0.4134	55.0	102.0	45.0	12.00
RS40310.6	–	10.60	0.4173	55.0	102.0	45.0	12.00
RS40310.7	–	10.70	0.4213	55.0	102.0	45.0	12.00
RS40327/64	27/64	10.72	0.4219	55.0	102.0	45.0	12.00
RS40310.8	–	10.80	0.4252	55.0	102.0	45.0	12.00
RS40310.9	–	10.90	0.4291	55.0	102.0	45.0	12.00
RS40311.0	–	11.00	0.4331	55.0	102.0	45.0	12.00
RS40311.1	–	11.10	0.4370	55.0	102.0	45.0	12.00
RS4037/16	7/16	11.11	0.4375	55.0	102.0	45.0	12.00
RS40311.2	–	11.20	0.4409	55.0	102.0	45.0	12.00
RS40311.3	–	11.30	0.4449	55.0	102.0	45.0	12.00
RS40311.4	–	11.40	0.4488	55.0	102.0	45.0	12.00
RS40311.5	–	11.50	0.4528	55.0	102.0	45.0	12.00
RS40329/64	29/64	11.51	0.4531	55.0	102.0	45.0	12.00
RS40311.6	–	11.60	0.4567	55.0	102.0	45.0	12.00
RS40311.7	–	11.70	0.4606	55.0	102.0	45.0	12.00
RS40311.8	–	11.80	0.4646	55.0	102.0	45.0	12.00
RS40311.9	–	11.90	0.4685	55.0	102.0	45.0	12.00
RS40315/32	15/32	11.91	0.4688	55.0	102.0	45.0	12.00
RS40312.0	–	12.00	0.4724	55.0	102.0	45.0	12.00
RS40312.1	–	12.10	0.4764	60.0	107.0	45.0	14.00
RS40312.2	–	12.20	0.4803	60.0	107.0	45.0	14.00
RS40331/64	31/64	12.30	0.4844	60.0	107.0	45.0	14.00

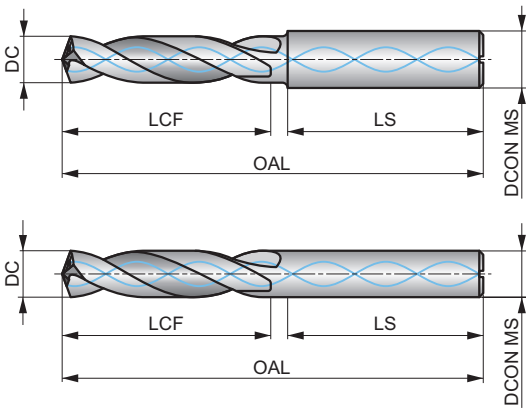
Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RS40312.5	–	12.50	0.4921	60.0	107.0	45.0	14.00
RS4031/2	1/2	12.70	0.5000	60.0	107.0	45.0	14.00
RS40312.7	–	12.70	0.5000	60.0	107.0	45.0	14.00
RS40312.8	–	12.80	0.5039	60.0	107.0	45.0	14.00
RS40313.0	–	13.00	0.5118	60.0	107.0	45.0	14.00
RS40333/64	33/64	13.10	0.5156	60.0	107.0	45.0	14.00
RS40313.3	–	13.30	0.5236	60.0	107.0	45.0	14.00
RS40317/32	17/32	13.49	0.5313	60.0	107.0	45.0	14.00
RS40313.5	–	13.50	0.5315	60.0	107.0	45.0	14.00
RS40313.8	–	13.80	0.5433	60.0	107.0	45.0	14.00
RS40335/64	35/64	13.89	0.5469	60.0	107.0	45.0	14.00
RS40314.0	–	14.00	0.5512	60.0	107.0	45.0	14.00
RS40314.25	–	14.25	0.5610	65.0	115.0	48.0	16.00
RS4039/16	9/16	14.29	0.5625	65.0	115.0	48.0	16.00
RS40314.5	–	14.50	0.5709	65.0	115.0	48.0	16.00
RS40337/64	37/64	14.68	0.5781	65.0	115.0	48.0	16.00
RS40314.8	–	14.80	0.5827	65.0	115.0	48.0	16.00
RS40315.0	–	15.00	0.5906	65.0	115.0	48.0	16.00
RS40319/32	19/32	15.08	0.5938	65.0	115.0	48.0	16.00
RS40315.1	–	15.10	0.5945	65.0	115.0	48.0	16.00
RS40315.3	–	15.30	0.6024	65.0	115.0	48.0	16.00
RS40339/64	39/64	15.48	0.6094	65.0	115.0	48.0	16.00

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RS40315.5	–	15.50	0.6102	65.0	115.0	48.0	16.00
RS40315.8	–	15.80	0.6220	65.0	115.0	48.0	16.00
RS4035/8	5/8	15.88	0.6250	65.0	115.0	48.0	16.00
RS40316.0	–	16.00	0.6299	65.0	115.0	48.0	16.00
RS40341/64	41/64	16.27	0.6406	73.0	123.0	48.0	18.00
RS40316.5	–	16.50	0.6496	73.0	123.0	48.0	18.00
RS40321/32	21/32	16.67	0.6563	73.0	123.0	48.0	18.00
RS40317.0	–	17.00	0.6693	73.0	123.0	48.0	18.00
RS40343/64	43/64	17.07	0.6720	73.0	123.0	48.0	18.00
RS40311/16	11/16	17.46	0.6874	73.0	123.0	48.0	18.00
RS40317.5	–	17.50	0.6890	73.0	123.0	48.0	18.00
RS40317.8	–	17.80	0.7008	73.0	123.0	48.0	18.00
RS40345/64	45/64	17.86	0.7031	73.0	123.0	48.0	18.00
RS40318.0	–	18.00	0.7087	73.0	123.0	48.0	18.00
RS40323/32	23/32	18.26	0.7189	79.0	131.0	50.0	20.00
RS40318.5	–	18.50	0.7283	79.0	131.0	50.0	20.00
RS40347/64	47/64	18.65	0.7343	79.0	131.0	50.0	20.00
RS40319.0	–	19.00	0.7480	79.0	131.0	50.0	20.00
RS4033/4	3/4	19.05	0.7500	79.0	131.0	50.0	20.00
RS40319.5	–	19.50	0.7677	79.0	131.0	50.0	20.00
RS40319.8	–	19.80	0.7795	79.0	131.0	50.0	20.00
RS40320.0	–	20.00	0.7874	79.0	131.0	50.0	20.00

RC403

FORCE X Solid Carbide 3XD Drill with Coolant Feed, TiAlN-Top Coated

High-performance drill is specifically designed to deliver superior hole quality at high speeds and feeds (H9 hole tolerance for multi-materials). A 140° self-centering, 4-facet split point and CTW flute construction. Coolant holes enhance chip evacuation. TiAlN-top coating increases surface hardness, enhances wear resistance, and extends tool life.



HM	DIN 6537	3×D
140°	TiAlN Top	DIN 6535HA
CTW	R	DC m7

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found on page 22.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
140 W	142 W	142 W	122 W	120 W	105 V	110 V	102 V	100 V	99 V	95 V	50 U	105 G	101 G
M2.1	M2.2	M2.3	M3.1	M3.2	M3.3	M4.1	M4.2	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3
99 G	80 G	70 E	85 G	70 G	65 F	60 F	50 E	111 W	108 W	105 W	111 W	110 W	99 W
K3.1	K3.2	K3.3	K4.1	K4.2	K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N1.1	N1.2	N1.3
105 W	99 W	95 W	100 W	80 W	77 W	72 W	70 W	105 W	100 W	80 W	305 W	310 W	300 W
N2.1	N2.2	N2.3	N3.1	N3.2	N3.3	S1.1	S1.2	S1.3	S2.1	S2.2	S3.1	S3.2	S4.1
221 W	220 W	200 W	185 W	180 W	175 W	50 V	40 V	35 U	40 U	28 U	32 U	32 U	30 U
S4.2													
25 U													

DCON MS tolerance h6.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RC4033.0	–	3.00	0.1181	20.0	62.0	36.0	6.00
RC4033.1	–	3.10	0.1220	20.0	62.0	36.0	6.00
RC4031/8	1/8	3.18	0.1250	20.0	62.0	36.0	6.00
RC4033.2	–	3.20	0.1260	20.0	62.0	36.0	6.00
RC403N30	N30	3.26	0.1283	20.0	62.0	36.0	6.00
RC4033.3	–	3.30	0.1299	20.0	62.0	36.0	6.00
RC4033.4	–	3.40	0.1339	20.0	62.0	36.0	6.00
RC403N29	N29	3.45	0.1360	20.0	62.0	36.0	6.00
RC4033.5	–	3.50	0.1378	20.0	62.0	36.0	6.00
RC403N28	N28	3.57	0.1406	20.0	62.0	36.0	6.00
RC4039/64	9/64	3.57	0.1406	20.0	62.0	36.0	6.00
RC4033.6	–	3.60	0.1417	20.0	62.0	36.0	6.00
RC403N27	N27	3.66	0.1441	20.0	62.0	36.0	6.00
RC4033.7	–	3.70	0.1457	20.0	62.0	36.0	6.00
RC403N26	N26	3.73	0.1469	24.0	66.0	36.0	6.00
RC403N25	N25	3.80	0.1496	24.0	66.0	36.0	6.00
RC4033.8	–	3.80	0.1496	24.0	66.0	36.0	6.00
RC403N24	N24	3.86	0.1520	24.0	66.0	36.0	6.00
RC4033.9	–	3.90	0.1535	24.0	66.0	36.0	6.00
RC403N23	N23	3.91	0.1539	24.0	66.0	36.0	6.00
RC4035/32	5/32	3.97	0.1563	24.0	66.0	36.0	6.00
RC403N22	N22	3.99	0.1571	24.0	66.0	36.0	6.00
RC4034.0	–	4.00	0.1575	24.0	66.0	36.0	6.00

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RC403N21	N21	4.04	0.1591	24.0	66.0	36.0	6.00
RC4034.05	–	4.05	0.1594	24.0	66.0	36.0	6.00
RC403N20	N20	4.09	0.1610	24.0	66.0	36.0	6.00
RC4034.1	–	4.10	0.1614	24.0	66.0	36.0	6.00
RC4034.2	–	4.20	0.1654	24.0	66.0	36.0	6.00
RC403N19	N19	4.22	0.1661	24.0	66.0	36.0	6.00
RC4034.3	–	4.30	0.1693	24.0	66.0	36.0	6.00
RC403N18	N18	4.31	0.1697	24.0	66.0	36.0	6.00
RC40311/64	11/64	4.37	0.1719	24.0	66.0	36.0	6.00
RC403N17	N17	4.39	0.1728	24.0	66.0	36.0	6.00
RC4034.4	–	4.40	0.1732	24.0	66.0	36.0	6.00
RC403N16	N16	4.50	0.1772	24.0	66.0	36.0	6.00
RC4034.5	–	4.50	0.1772	24.0	66.0	36.0	6.00
RC403N15	N15	4.57	0.1799	24.0	66.0	36.0	6.00
RC4034.6	–	4.60	0.1811	24.0	66.0	36.0	6.00
RC403N14	N14	4.62	0.1819	24.0	66.0	36.0	6.00
RC403N13	N13	4.70	0.1850	24.0	66.0	36.0	6.00
RC4034.7	–	4.70	0.1850	24.0	66.0	36.0	6.00
RC4033/16	3/16	4.76	0.1875	28.0	66.0	36.0	6.00
RC403N12	N12	4.80	0.1890	28.0	66.0	36.0	6.00
RC4034.8	–	4.80	0.1890	28.0	66.0	36.0	6.00
RC403N11	N11	4.85	0.1909	28.0	66.0	36.0	6.00
RC4034.9	–	4.90	0.1929	28.0	66.0	36.0	6.00

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RC403N10	N10	4.92	0.1937	28.0	66.0	36.0	6.00
RC403N9	N9	4.98	0.1961	28.0	66.0	36.0	6.00
RC4035.0	–	5.00	0.1969	28.0	66.0	36.0	6.00
RC4035.05	–	5.05	0.1988	28.0	66.0	36.0	6.00
RC403N8	N8	5.06	0.1992	28.0	66.0	36.0	6.00
RC4035.1	–	5.10	0.2008	28.0	66.0	36.0	6.00
RC403N7	N7	5.11	0.2010	28.0	66.0	36.0	6.00
RC40313/64	13/64	5.16	0.2031	28.0	66.0	36.0	6.00
RC403N6	N6	5.18	0.2039	28.0	66.0	36.0	6.00
RC4035.2	–	5.20	0.2047	28.0	66.0	36.0	6.00
RC403N5	N5	5.22	0.2055	28.0	66.0	36.0	6.00
RC4035.3	–	5.30	0.2087	28.0	66.0	36.0	6.00
RC403N4	N4	5.31	0.2091	28.0	66.0	36.0	6.00
RC4035.4	–	5.40	0.2126	28.0	66.0	36.0	6.00
RC403N3	N3	5.41	0.2130	28.0	66.0	36.0	6.00
RC4035.5	–	5.50	0.2165	28.0	66.0	36.0	6.00
RC4037/32	7/32	5.56	0.2188	28.0	66.0	36.0	6.00
RC4035.6	–	5.60	0.2205	28.0	66.0	36.0	6.00
RC403N2	N2	5.61	0.2209	28.0	66.0	36.0	6.00
RC4035.7	–	5.70	0.2244	28.0	66.0	36.0	6.00
RC403N1	N1	5.79	0.2280	28.0	66.0	36.0	6.00
RC4035.8	–	5.80	0.2283	28.0	66.0	36.0	6.00
RC4035.9	–	5.90	0.2323	28.0	66.0	36.0	6.00
RC403A	A	5.94	0.2339	28.0	66.0	36.0	6.00
RC40315/64	15/64	5.95	0.2344	28.0	66.0	36.0	6.00
RC4036.0	–	6.00	0.2362	28.0	66.0	36.0	6.00
RC403B	B	6.05	0.2380	34.0	79.0	36.0	8.00
RC4036.05	–	6.05	0.2382	34.0	79.0	36.0	8.00
RC4036.1	–	6.10	0.2402	34.0	79.0	36.0	8.00
RC403C	C	6.15	0.2421	34.0	79.0	36.0	8.00
RC4036.2	–	6.20	0.2441	34.0	79.0	36.0	8.00
RC403D	D	6.25	0.2461	34.0	79.0	36.0	8.00
RC4036.3	–	6.30	0.2480	34.0	79.0	36.0	8.00
RC403E	E	6.35	0.2500	34.0	79.0	36.0	8.00
RC4031/4	1/4	6.35	0.2500	34.0	79.0	36.0	8.00
RC4036.4	–	6.40	0.2520	34.0	79.0	36.0	8.00
RC4036.5	–	6.50	0.2559	34.0	79.0	36.0	8.00
RC403F	F	6.53	0.2571	34.0	79.0	36.0	8.00
RC4036.6	–	6.60	0.2598	34.0	79.0	36.0	8.00
RC403G	G	6.63	0.2610	34.0	79.0	36.0	8.00
RC4036.7	–	6.70	0.2638	34.0	79.0	36.0	8.00
RC40317/64	17/64	6.75	0.2656	34.0	79.0	36.0	8.00
RC403H	H	6.76	0.2661	34.0	79.0	36.0	8.00
RC4036.8	–	6.80	0.2677	34.0	79.0	36.0	8.00
RC4036.9	–	6.90	0.2717	34.0	79.0	36.0	8.00
RC403I	I	6.91	0.2720	34.0	79.0	36.0	8.00
RC4037.0	–	7.00	0.2756	34.0	79.0	36.0	8.00
RC403J	J	7.04	0.2772	41.0	79.0	36.0	8.00
RC4037.1	–	7.10	0.2795	41.0	79.0	36.0	8.00
RC403K	K	7.14	0.2811	41.0	79.0	36.0	8.00
RC4039/32	9/32	7.14	0.2813	41.0	79.0	36.0	8.00
RC4037.2	–	7.20	0.2835	41.0	79.0	36.0	8.00
RC4037.3	–	7.30	0.2874	41.0	79.0	36.0	8.00
RC403L	L	7.37	0.2902	41.0	79.0	36.0	8.00
RC4037.4	–	7.40	0.2913	41.0	79.0	36.0	8.00
RC403M	M	7.49	0.2949	41.0	79.0	36.0	8.00
RC4037.5	–	7.50	0.2953	41.0	79.0	36.0	8.00
RC40319/64	19/64	7.54	0.2969	41.0	79.0	36.0	8.00
RC4037.6	–	7.60	0.2992	41.0	79.0	36.0	8.00
RC403N	N	7.67	0.3020	41.0	79.0	36.0	8.00
RC4037.7	–	7.70	0.3031	41.0	79.0	36.0	8.00
RC4037.8	–	7.80	0.3071	41.0	79.0	36.0	8.00

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RC4037.9	–	7.90	0.3110	41.0	79.0	36.0	8.00
RC4035/16	5/16	7.94	0.3125	41.0	79.0	36.0	8.00
RC4038.0	–	8.00	0.3150	41.0	79.0	36.0	8.00
RC403O	O	8.03	0.3161	47.0	89.0	40.0	10.00
RC4038.05	–	8.05	0.3169	47.0	89.0	40.0	10.00
RC4038.1	–	8.10	0.3189	47.0	89.0	40.0	10.00
RC4038.2	–	8.20	0.3228	47.0	89.0	40.0	10.00
RC403P	P	8.20	0.3228	47.0	89.0	40.0	10.00
RC4038.3	–	8.30	0.3268	47.0	89.0	40.0	10.00
RC40321/64	21/64	8.33	0.3281	47.0	89.0	40.0	10.00
RC4038.4	–	8.40	0.3307	47.0	89.0	40.0	10.00
RC403Q	Q	8.43	0.3319	47.0	89.0	40.0	10.00
RC4038.5	–	8.50	0.3346	47.0	89.0	40.0	10.00
RC4038.6	–	8.60	0.3386	47.0	89.0	40.0	10.00
RC403R	R	8.61	0.3390	47.0	89.0	40.0	10.00
RC4038.7	–	8.70	0.3425	47.0	89.0	40.0	10.00
RC40311/32	11/32	8.73	0.3438	47.0	89.0	40.0	10.00
RC4038.8	–	8.80	0.3465	47.0	89.0	40.0	10.00
RC403S	S	8.84	0.3480	47.0	89.0	40.0	10.00
RC4038.9	–	8.90	0.3504	47.0	89.0	40.0	10.00
RC4039.0	–	9.00	0.3543	47.0	89.0	40.0	10.00
RC403T	T	9.09	0.3579	47.0	89.0	40.0	10.00
RC4039.1	–	9.10	0.3583	47.0	89.0	40.0	10.00
RC40323/64	23/64	9.13	0.3594	47.0	89.0	40.0	10.00
RC4039.2	–	9.20	0.3622	47.0	89.0	40.0	10.00
RC4039.3	–	9.30	0.3661	47.0	89.0	40.0	10.00
RC403U	U	9.35	0.3681	47.0	89.0	40.0	10.00
RC4039.4	–	9.40	0.3701	47.0	89.0	40.0	10.00
RC4039.5	–	9.50	0.3740	47.0	89.0	40.0	10.00
RC4033/8	3/8	9.53	0.3750	47.0	89.0	40.0	10.00
RC403V	V	9.58	0.3772	47.0	89.0	40.0	10.00
RC4039.6	–	9.60	0.3780	47.0	89.0	40.0	10.00
RC4039.7	–	9.70	0.3819	47.0	89.0	40.0	10.00
RC4039.8	–	9.80	0.3858	47.0	89.0	40.0	10.00
RC403W	W	9.80	0.3858	47.0	89.0	40.0	10.00
RC4039.9	–	9.90	0.3898	47.0	89.0	40.0	10.00
RC40325/64	25/64	9.92	0.3906	47.0	89.0	40.0	10.00
RC40310.0	–	10.00	0.3937	47.0	89.0	40.0	10.00
RC40310.05	–	10.05	0.3957	55.0	102.0	45.0	12.00
RC403X	X	10.08	0.3969	55.0	102.0	45.0	12.00
RC40310.1	–	10.10	0.3976	55.0	102.0	45.0	12.00
RC40310.2	–	10.20	0.4016	55.0	102.0	45.0	12.00
RC403Y	Y	10.26	0.4039	55.0	102.0	45.0	12.00
RC40310.3	–	10.30	0.4055	55.0	102.0	45.0	12.00
RC40313/32	13/32	10.32	0.4063	55.0	102.0	45.0	12.00
RC40310.4	–	10.40	0.4094	55.0	102.0	45.0	12.00
RC403Z	Z	10.49	0.4130	55.0	102.0	45.0	12.00
RC40310.5	–	10.50	0.4134	55.0	102.0	45.0	12.00
RC40310.6	–	10.60	0.4173	55.0	102.0	45.0	12.00
RC40327/64	27/64	10.72	0.4219	55.0	102.0	45.0	12.00
RC40310.8	–	10.80	0.4252	55.0	102.0	45.0	12.00
RC40310.9	–	10.90	0.4291	55.0	102.0	45.0	12.00
RC40311.0	–	11.00	0.4331	55.0	102.0	45.0	12.00
RC4037/16	7/16	11.11	0.4375	55.0	102.0	45.0	12.00
RC40311.2	–	11.20	0.4409	55.0	102.0	45.0	12.00
RC40311.3	–	11.30	0.4449	55.0	102.0	45.0	12.00
RC40311.4	–	11.40	0.4488	55.0	102.0	45.0	12.00
RC40311.5	–	11.50	0.4528	55.0	102.0	45.0	12.00
RC40329/64	29/64	11.51	0.4531	55.0	102.0	45.0	12.00
RC40311.6	–	11.60	0.4567	55.0	102.0	45.0	12.00
RC40311.8	–	11.80	0.4646	55.0	102.0	45.0	12.00
RC40315/32	15/32	11.91	0.4688	55.0	102.0	45.0	12.00

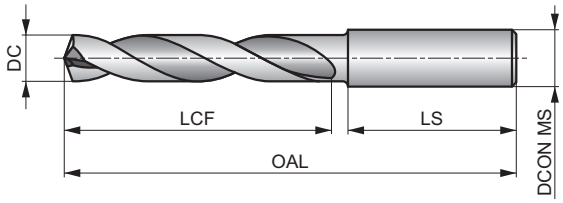
Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RC40312.0	–	12.00	0.4724	55.0	102.0	45.0	12.00
RC40312.05	–	12.05	0.4744	60.0	107.0	45.0	14.00
RC40312.1	–	12.10	0.4764	60.0	107.0	45.0	14.00
RC40312.2	–	12.20	0.4803	60.0	107.0	45.0	14.00
RC40331/64	31/64	12.30	0.4844	60.0	107.0	45.0	14.00
RC40312.5	–	12.50	0.4921	60.0	107.0	45.0	14.00
RC4031/2	1/2	12.70	0.5000	60.0	107.0	45.0	14.00
RC40312.7	–	12.70	0.5000	60.0	107.0	45.0	14.00
RC40312.8	–	12.80	0.5039	60.0	107.0	45.0	14.00
RC40313.0	–	13.00	0.5118	60.0	107.0	45.0	14.00
RC40333/64	33/64	13.10	0.5156	60.0	107.0	45.0	14.00
RC40313.3	–	13.30	0.5236	60.0	107.0	45.0	14.00
RC40317/32	17/32	13.49	0.5313	60.0	107.0	45.0	14.00
RC40313.5	–	13.50	0.5315	60.0	107.0	45.0	14.00
RC40313.8	–	13.80	0.5433	60.0	107.0	45.0	14.00
RC40335/64	35/64	13.89	0.5469	60.0	107.0	45.0	14.00
RC40314.0	–	14.00	0.5512	60.0	107.0	45.0	14.00
RC40314.25	–	14.25	0.5610	65.0	115.0	48.0	16.00
RC4039/16	9/16	14.29	0.5625	65.0	115.0	48.0	16.00
RC40314.5	–	14.50	0.5709	65.0	115.0	48.0	16.00
RC40337/64	37/64	14.68	0.5781	65.0	115.0	48.0	16.00
RC40314.8	–	14.80	0.5827	65.0	115.0	48.0	16.00
RC40315.0	–	15.00	0.5906	65.0	115.0	48.0	16.00
RC40319/32	19/32	15.08	0.5938	65.0	115.0	48.0	16.00
RC40315.1	–	15.10	0.5945	65.0	115.0	48.0	16.00

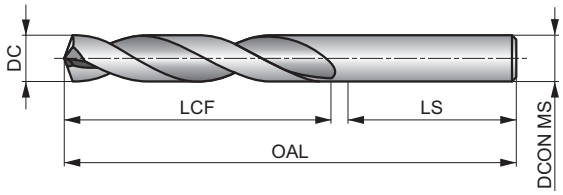
Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RC40315.3	–	15.30	0.6024	65.0	115.0	48.0	16.00
RC40339/64	39/64	15.48	0.6094	65.0	115.0	48.0	16.00
RC40315.5	–	15.50	0.6102	65.0	115.0	48.0	16.00
RC40315.8	–	15.80	0.6220	65.0	115.0	48.0	16.00
RC4035/8	5/8	15.88	0.6250	65.0	115.0	48.0	16.00
RC40316.0	–	16.00	0.6299	65.0	115.0	48.0	16.00
RC40341/64	41/64	16.27	0.6406	73.0	123.0	48.0	18.00
RC40316.5	–	16.50	0.6496	73.0	123.0	48.0	18.00
RC40321/32	21/32	16.67	0.6563	73.0	123.0	48.0	18.00
RC40317.0	–	17.00	0.6693	73.0	123.0	48.0	18.00
RC40343/64	43/64	17.07	0.6720	73.0	123.0	48.0	18.00
RC40311/16	11/16	17.46	0.6874	73.0	123.0	48.0	18.00
RC40317.5	–	17.50	0.6890	73.0	123.0	48.0	18.00
RC40345/64	45/64	17.86	0.7031	73.0	123.0	48.0	18.00
RC40318.0	–	18.00	0.7087	73.0	123.0	48.0	18.00
RC40323/32	23/32	18.26	0.7189	79.0	131.0	50.0	20.00
RC40318.5	–	18.50	0.7283	79.0	131.0	50.0	20.00
RC40347/64	47/64	18.65	0.7343	79.0	131.0	50.0	20.00
RC40318.8	–	18.80	0.7402	79.0	131.0	50.0	20.00
RC40319.0	–	19.00	0.7480	79.0	131.0	50.0	20.00
RC4033/4	3/4	19.05	0.7500	79.0	131.0	50.0	20.00
RC40319.5	–	19.50	0.7677	79.0	131.0	50.0	20.00
RC40319.8	–	19.80	0.7795	79.0	131.0	50.0	20.00
RC40320.0	–	20.00	0.7874	79.0	131.0	50.0	20.00

RS405

FORCE X Solid Carbide 5XD Drill, TiAlN-Top Coated

High-performance drill is specifically designed to deliver superior hole quality at high speeds and feeds (H9 hole tolerance for multi-materials). A 140° self-centering, 4-facet split point and CTW flute construction. TiAlN-top coating increases surface hardness, enhances wear resistance, and extends tool life.





HM	DIN 6537	5×D
140°	TiAlN Top	DIN 6535HA
CTW	R	DC m7

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found on page 22.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 112 V	■ 114 V	■ 114 V	■ 98 V	■ 96 V	■ 84 V	■ 88 V	■ 82 V	■ 80 V	■ 79 V	■ 76 V	■ 40 U	◪ 79 V	◪ 76 V
M2.1	M2.2	M2.3	M3.1	M3.2	M3.3	M4.1	M4.2	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3
◪ 74 U	◪ 60 U	◪ 52 U	◪ 64 U	◪ 52 U	◪ 49 U	◪ 45 U	◪ 38 U	■ 89 W	■ 86 W	■ 84 W	■ 89 W	■ 88 W	■ 79 W
K3.1	K3.2	K3.3	K4.1	K4.2	K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N1.2	N1.3	N2.1
■ 84 W	■ 79 W	■ 76 W	■ 80 W	■ 64 W	■ 62 W	■ 58 W	■ 56 W	■ 84 V	■ 80 V	■ 64 V	◪ 279 W	◪ 270 W	◪ 199 W
N2.2	N2.3	N3.1	N3.2	N3.3	S1.1	S1.2	S1.3						
◪ 198 W	◪ 180 W	◪ 166 W	◪ 162 W	◪ 158 W	◪ 40 U	◪ 32 U	◪ 28 U						

DCON MS tolerance h6.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RS4053.0	–	3.00	0.1181	28.0	66.0	36.0	6.00
RS4053.1	–	3.10	0.1220	28.0	66.0	36.0	6.00
RS4051/8	1/8	3.18	0.1250	28.0	66.0	36.0	6.00
RS4053.2	–	3.20	0.1260	28.0	66.0	36.0	6.00
RS405N30	N30	3.26	0.1283	28.0	66.0	36.0	6.00
RS4053.3	–	3.30	0.1299	28.0	66.0	36.0	6.00
RS4053.4	–	3.40	0.1339	28.0	66.0	36.0	6.00
RS405N29	N29	3.45	0.1360	28.0	66.0	36.0	6.00
RS4053.5	–	3.50	0.1378	28.0	66.0	36.0	6.00
RS405N28	N28	3.57	0.1406	28.0	66.0	36.0	6.00
RS4059/64	9/64	3.57	0.1406	28.0	66.0	36.0	6.00
RS4053.6	–	3.60	0.1417	28.0	66.0	36.0	6.00
RS405N27	N27	3.66	0.1441	28.0	66.0	36.0	6.00
RS4053.7	–	3.70	0.1457	28.0	66.0	36.0	6.00
RS405N26	N26	3.73	0.1469	36.0	74.0	36.0	6.00
RS405N25	N25	3.80	0.1496	36.0	74.0	36.0	6.00
RS4053.8	–	3.80	0.1496	36.0	74.0	36.0	6.00
RS405N24	N24	3.86	0.1520	36.0	74.0	36.0	6.00
RS4053.9	–	3.90	0.1535	36.0	74.0	36.0	6.00
RS405N23	N23	3.91	0.1539	36.0	74.0	36.0	6.00
RS4055/32	5/32	3.97	0.1563	36.0	74.0	36.0	6.00
RS405N22	N22	3.99	0.1571	36.0	74.0	36.0	6.00
RS4054.0	–	4.00	0.1575	36.0	74.0	36.0	6.00
RS405N21	N21	4.04	0.1591	36.0	74.0	36.0	6.00
RS405N20	N20	4.09	0.1610	36.0	74.0	36.0	6.00

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RS4054.1	–	4.10	0.1614	36.0	74.0	36.0	6.00
RS4054.2	–	4.20	0.1654	36.0	74.0	36.0	6.00
RS405N19	N19	4.22	0.1661	36.0	74.0	36.0	6.00
RS4054.3	–	4.30	0.1693	36.0	74.0	36.0	6.00
RS405N18	N18	4.31	0.1697	36.0	74.0	36.0	6.00
RS40511/64	11/64	4.37	0.1719	36.0	74.0	36.0	6.00
RS405N17	N17	4.39	0.1728	36.0	74.0	36.0	6.00
RS4054.4	–	4.40	0.1732	36.0	74.0	36.0	6.00
RS405N16	N16	4.50	0.1772	36.0	74.0	36.0	6.00
RS4054.5	–	4.50	0.1772	36.0	74.0	36.0	6.00
RS405N15	N15	4.57	0.1799	36.0	74.0	36.0	6.00
RS4054.6	–	4.60	0.1811	36.0	74.0	36.0	6.00
RS405N14	N14	4.62	0.1819	36.0	74.0	36.0	6.00
RS405N13	N13	4.70	0.1850	36.0	74.0	36.0	6.00
RS4054.7	–	4.70	0.1850	36.0	74.0	36.0	6.00
RS4053/16	3/16	4.76	0.1875	44.0	82.0	36.0	6.00
RS405N12	N12	4.80	0.1890	44.0	82.0	36.0	6.00
RS4054.8	–	4.80	0.1890	44.0	82.0	36.0	6.00
RS405N11	N11	4.85	0.1909	44.0	82.0	36.0	6.00
RS4054.9	–	4.90	0.1929	44.0	82.0	36.0	6.00
RS405N10	N10	4.92	0.1937	44.0	82.0	36.0	6.00
RS405N9	N9	4.98	0.1961	44.0	82.0	36.0	6.00
RS4055.0	–	5.00	0.1969	44.0	82.0	36.0	6.00
RS405N8	N8	5.06	0.1992	44.0	82.0	36.0	6.00
RS4055.1	–	5.10	0.2008	44.0	82.0	36.0	6.00

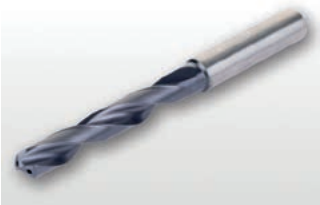
Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RS405N7	N7	5.11	0.2010	44.0	82.0	36.0	6.00
RS40513/64	13/64	5.16	0.2031	44.0	82.0	36.0	6.00
RS405N6	N6	5.18	0.2039	44.0	82.0	36.0	6.00
RS4055.2	–	5.20	0.2047	44.0	82.0	36.0	6.00
RS405N5	N5	5.22	0.2055	44.0	82.0	36.0	6.00
RS405N4	N4	5.31	0.2091	44.0	82.0	36.0	6.00
RS405N3	N3	5.41	0.2130	44.0	82.0	36.0	6.00
RS4055.5	–	5.50	0.2165	44.0	82.0	36.0	6.00
RS4057/32	7/32	5.56	0.2188	44.0	82.0	36.0	6.00
RS4055.6	–	5.60	0.2205	44.0	82.0	36.0	6.00
RS405N2	N2	5.61	0.2209	44.0	82.0	36.0	6.00
RS4055.7	–	5.70	0.2244	44.0	82.0	36.0	6.00
RS405N1	N1	5.79	0.2280	44.0	82.0	36.0	6.00
RS4055.8	–	5.80	0.2283	44.0	82.0	36.0	6.00
RS405A	A	5.94	0.2339	44.0	82.0	36.0	6.00
RS40515/64	15/64	5.95	0.2344	44.0	82.0	36.0	6.00
RS4056.0	–	6.00	0.2362	44.0	82.0	36.0	6.00
RS405B	B	6.05	0.2380	53.0	91.0	36.0	8.00
RS4056.1	–	6.10	0.2402	53.0	91.0	36.0	8.00
RS405C	C	6.15	0.2421	53.0	91.0	36.0	8.00
RS4056.2	–	6.20	0.2441	53.0	91.0	36.0	8.00
RS405D	D	6.25	0.2461	53.0	91.0	36.0	8.00
RS4056.3	–	6.30	0.2480	53.0	91.0	36.0	8.00
RS405E	E	6.35	0.2500	53.0	91.0	36.0	8.00
RS4051/4	1/4	6.35	0.2500	53.0	91.0	36.0	8.00
RS4056.4	–	6.40	0.2520	53.0	91.0	36.0	8.00
RS4056.5	–	6.50	0.2559	53.0	91.0	36.0	8.00
RS405F	F	6.53	0.2571	53.0	91.0	36.0	8.00
RS4056.6	–	6.60	0.2598	53.0	91.0	36.0	8.00
RS405G	G	6.63	0.2610	53.0	91.0	36.0	8.00
RS4056.7	–	6.70	0.2638	53.0	91.0	36.0	8.00
RS40517/64	17/64	6.75	0.2656	53.0	91.0	36.0	8.00
RS405H	H	6.76	0.2661	53.0	91.0	36.0	8.00
RS4056.8	–	6.80	0.2677	53.0	91.0	36.0	8.00
RS4056.9	–	6.90	0.2717	53.0	91.0	36.0	8.00
RS405I	I	6.91	0.2720	53.0	91.0	36.0	8.00
RS4057.0	–	7.00	0.2756	53.0	91.0	36.0	8.00
RS405J	J	7.04	0.2772	53.0	91.0	36.0	8.00
RS4057.1	–	7.10	0.2795	53.0	91.0	36.0	8.00
RS405K	K	7.14	0.2811	53.0	91.0	36.0	8.00
RS4059/32	9/32	7.14	0.2813	53.0	91.0	36.0	8.00
RS4057.3	–	7.30	0.2874	53.0	91.0	36.0	8.00
RS405L	L	7.37	0.2902	53.0	91.0	36.0	8.00
RS4057.4	–	7.40	0.2913	53.0	91.0	36.0	8.00
RS405M	M	7.49	0.2949	53.0	91.0	36.0	8.00
RS4057.5	–	7.50	0.2953	53.0	91.0	36.0	8.00
RS40519/64	19/64	7.54	0.2969	53.0	91.0	36.0	8.00
RS4057.6	–	7.60	0.2992	53.0	91.0	36.0	8.00
RS405N	N	7.67	0.3020	53.0	91.0	36.0	8.00
RS4057.7	–	7.70	0.3031	53.0	91.0	36.0	8.00
RS4057.8	–	7.80	0.3071	53.0	91.0	36.0	8.00
RS4057.9	–	7.90	0.3110	53.0	91.0	36.0	8.00
RS4055/16	5/16	7.94	0.3125	53.0	91.0	36.0	8.00
RS4058.0	–	8.00	0.3150	53.0	91.0	36.0	8.00
RS405O	O	8.03	0.3161	61.0	103.0	40.0	10.00
RS4058.1	–	8.10	0.3189	61.0	103.0	40.0	10.00
RS4058.2	–	8.20	0.3228	61.0	103.0	40.0	10.00
RS405P	P	8.20	0.3228	61.0	103.0	40.0	10.00
RS40521/64	21/64	8.33	0.3281	61.0	103.0	40.0	10.00
RS4058.4	–	8.40	0.3307	61.0	103.0	40.0	10.00
RS405Q	Q	8.43	0.3319	61.0	103.0	40.0	10.00
RS4058.5	–	8.50	0.3346	61.0	103.0	40.0	10.00

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RS4058.6	–	8.60	0.3386	61.0	103.0	40.0	10.00
RS405R	R	8.61	0.3390	61.0	103.0	40.0	10.00
RS4058.7	–	8.70	0.3425	61.0	103.0	40.0	10.00
RS40511/32	11/32	8.73	0.3438	61.0	103.0	40.0	10.00
RS4058.8	–	8.80	0.3465	61.0	103.0	40.0	10.00
RS405S	S	8.84	0.3480	61.0	103.0	40.0	10.00
RS4058.9	–	8.90	0.3504	61.0	103.0	40.0	10.00
RS4059.0	–	9.00	0.3543	61.0	103.0	40.0	10.00
RS405T	T	9.09	0.3579	61.0	103.0	40.0	10.00
RS4059.1	–	9.10	0.3583	61.0	103.0	40.0	10.00
RS40523/64	23/64	9.13	0.3594	61.0	103.0	40.0	10.00
RS4059.3	–	9.30	0.3661	61.0	103.0	40.0	10.00
RS405U	U	9.35	0.3681	61.0	103.0	40.0	10.00
RS4059.4	–	9.40	0.3701	61.0	103.0	40.0	10.00
RS4059.5	–	9.50	0.3740	61.0	103.0	40.0	10.00
RS4053/8	3/8	9.53	0.3750	61.0	103.0	40.0	10.00
RS405V	V	9.58	0.3772	61.0	103.0	40.0	10.00
RS4059.6	–	9.60	0.3780	61.0	103.0	40.0	10.00
RS4059.7	–	9.70	0.3819	61.0	103.0	40.0	10.00
RS4059.8	–	9.80	0.3858	61.0	103.0	40.0	10.00
RS405W	W	9.80	0.3858	61.0	103.0	40.0	10.00
RS4059.9	–	9.90	0.3898	61.0	103.0	40.0	10.00
RS40525/64	25/64	9.92	0.3906	61.0	103.0	40.0	10.00
RS40510.0	–	10.00	0.3937	61.0	103.0	40.0	10.00
RS405X	X	10.08	0.3969	70.0	118.0	45.0	12.00
RS40510.1	–	10.10	0.3976	70.0	118.0	45.0	12.00
RS40510.2	–	10.20	0.4016	70.0	118.0	45.0	12.00
RS405Y	Y	10.26	0.4039	70.0	118.0	45.0	12.00
RS40510.3	–	10.30	0.4055	70.0	118.0	45.0	12.00
RS40513/32	13/32	10.32	0.4063	70.0	118.0	45.0	12.00
RS40510.4	–	10.40	0.4094	70.0	118.0	45.0	12.00
RS405Z	Z	10.49	0.4130	70.0	118.0	45.0	12.00
RS40510.5	–	10.50	0.4134	70.0	118.0	45.0	12.00
RS40510.6	–	10.60	0.4173	70.0	118.0	45.0	12.00
RS40527/64	27/64	10.72	0.4219	70.0	118.0	45.0	12.00
RS40511.0	–	11.00	0.4331	70.0	118.0	45.0	12.00
RS4057/16	7/16	11.11	0.4375	70.0	118.0	45.0	12.00
RS40511.2	–	11.20	0.4409	70.0	118.0	45.0	12.00
RS40511.4	–	11.40	0.4488	70.0	118.0	45.0	12.00
RS40511.5	–	11.50	0.4528	70.0	118.0	45.0	12.00
RS40529/64	29/64	11.51	0.4531	70.0	118.0	45.0	12.00
RS40511.6	–	11.60	0.4567	70.0	118.0	45.0	12.00
RS40511.8	–	11.80	0.4646	70.0	118.0	45.0	12.00
RS40515/32	15/32	11.91	0.4688	70.0	118.0	45.0	12.00
RS40512.0	–	12.00	0.4724	70.0	118.0	45.0	12.00
RS40512.1	–	12.10	0.4764	76.0	124.0	45.0	14.00
RS40512.2	–	12.20	0.4803	76.0	124.0	45.0	14.00
RS40531/64	31/64	12.30	0.4844	76.0	124.0	45.0	14.00
RS40512.5	–	12.50	0.4921	76.0	124.0	45.0	14.00
RS4051/2	1/2	12.70	0.5000	76.0	124.0	45.0	14.00
RS40512.7	–	12.70	0.5000	76.0	124.0	45.0	14.00
RS40512.8	–	12.80	0.5039	76.0	124.0	45.0	14.00
RS40513.0	–	13.00	0.5118	76.0	124.0	45.0	14.00
RS40533/64	33/64	13.10	0.5156	76.0	124.0	45.0	14.00
RS40517/32	17/32	13.49	0.5313	76.0	124.0	45.0	14.00
RS40513.5	–	13.50	0.5315	76.0	124.0	45.0	14.00
RS40513.8	–	13.80	0.5433	76.0	124.0	45.0	14.00
RS40535/64	35/64	13.89	0.5469	76.0	124.0	45.0	14.00
RS40514.0	–	14.00	0.5512	76.0	124.0	45.0	14.00
RS40514.25	–	14.25	0.5610	82.0	133.0	48.0	16.00
RS4059/16	9/16	14.29	0.5625	82.0	133.0	48.0	16.00
RS40514.5	–	14.50	0.5709	82.0	133.0	48.0	16.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
RS40537/64	37/64	14.68	0.5781	82.0	133.0	48.0	16.00
RS40514.8	–	14.80	0.5827	82.0	133.0	48.0	16.00
RS40515.0	–	15.00	0.5906	82.0	133.0	48.0	16.00
RS40519/32	19/32	15.08	0.5938	82.0	133.0	48.0	16.00
RS40515.1	–	15.10	0.5945	82.0	133.0	48.0	16.00
RS40539/64	39/64	15.48	0.6094	82.0	133.0	48.0	16.00
RS40515.5	–	15.50	0.6102	82.0	133.0	48.0	16.00
RS40515.8	–	15.80	0.6220	82.0	133.0	48.0	16.00
RS4055/8	5/8	15.88	0.6250	82.0	133.0	48.0	16.00
RS40516.0	–	16.00	0.6299	82.0	133.0	48.0	16.00
RS40541/64	41/64	16.27	0.6406	91.0	143.0	48.0	18.00
RS40516.5	–	16.50	0.6496	91.0	143.0	48.0	18.00
RS40521/32	21/32	16.67	0.6563	91.0	143.0	48.0	18.00
RS40517.0	–	17.00	0.6693	91.0	143.0	48.0	18.00

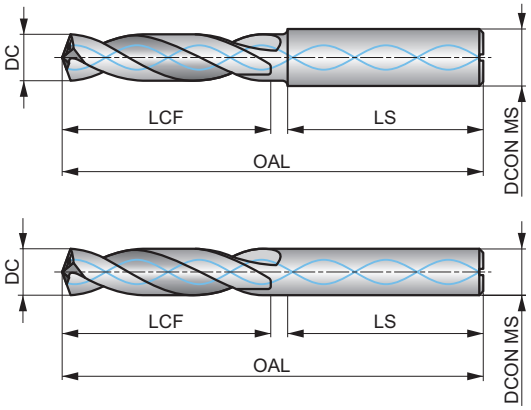
Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
RS40543/64	43/64	17.07	0.6720	91.0	143.0	48.0	18.00
RS40511/16	11/16	17.46	0.6874	91.0	143.0	48.0	18.00
RS40517.5	–	17.50	0.6890	91.0	143.0	48.0	18.00
RS40517.8	–	17.80	0.7008	91.0	143.0	48.0	18.00
RS40545/64	45/64	17.86	0.7031	91.0	143.0	48.0	18.00
RS40518.0	–	18.00	0.7087	91.0	143.0	48.0	18.00
RS40523/32	23/32	18.26	0.7189	99.0	153.0	50.0	20.00
RS40518.5	–	18.50	0.7283	99.0	153.0	50.0	20.00
RS40547/64	47/64	18.65	0.7343	99.0	153.0	50.0	20.00
RS40519.0	–	19.00	0.7480	99.0	153.0	50.0	20.00
RS4053/4	3/4	19.05	0.7500	99.0	153.0	50.0	20.00
RS40519.5	–	19.50	0.7677	99.0	153.0	50.0	20.00
RS40519.8	–	19.80	0.7795	99.0	153.0	50.0	20.00
RS40520.0	–	20.00	0.7874	99.0	153.0	50.0	20.00

RC405



FORCE X Solid Carbide 5XD Drill with Coolant Feed, TiAlN-Top Coated

High-performance drill is specifically designed to deliver superior hole quality at high speeds and feeds (H9 hole tolerance for multi-materials). A 140° self-centering, 4-facet split point and CTW flute construction. Coolant holes enhance chip evacuation. TiAlN-top coating increases surface hardness, enhances wear resistance, and extends tool life.



HM	DIN 6537	5×D
140°	TiAlN Top	DIN 6535HA
CTW	R	DC m7

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found on page 22.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 140 W	■ 142 W	■ 142 W	■ 122 W	■ 120 W	■ 105 V	■ 110 V	■ 102 V	■ 100 V	■ 99 V	■ 95 V	■ 50 U	■ 105 G	■ 101 G
M2.1	M2.2	M2.3	M3.1	M3.2	M3.3	M4.1	M4.2	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3
■ 99 G	■ 80 G	■ 70 E	■ 85 G	■ 70 G	■ 65 F	■ 60 F	■ 50 E	■ 111 W	■ 108 W	■ 105 W	■ 111 W	■ 110 W	■ 99 W
K3.1	K3.2	K3.3	K4.1	K4.2	K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N1.1	N1.2	N1.3
■ 105 W	■ 99 W	■ 95 W	■ 100 W	■ 80 W	■ 77 W	■ 72 W	■ 70 W	■ 105 W	■ 100 W	■ 80 W	◪ 305 W	◪ 310 W	◪ 300 W
N2.1	N2.2	N2.3	N3.1	N3.2	N3.3	S1.1	S1.2	S1.3	S2.1	S2.2	S3.1	S3.2	S4.1
◪ 221 W	◪ 220 W	◪ 200 W	◪ 185 W	◪ 180 W	◪ 175 W	■ 50 V	■ 40 V	■ 35 U	◪ 40 U	◪ 28 U	◪ 32 U	◪ 32 U	◪ 30 U
S4.2													
◪ 25 U													

DCON MS tolerance h6.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RC4053.0	–	3.00	0.1181	28.0	66.0	36.0	6.00
RC4053.1	–	3.10	0.1220	28.0	66.0	36.0	6.00
RC4051/8	1/8	3.18	0.1250	28.0	66.0	36.0	6.00
RC4053.2	–	3.20	0.1260	28.0	66.0	36.0	6.00
RC405N30	N30	3.26	0.1283	28.0	66.0	36.0	6.00
RC4053.3	–	3.30	0.1299	28.0	66.0	36.0	6.00
RC4053.4	–	3.40	0.1339	28.0	66.0	36.0	6.00
RC405N29	N29	3.45	0.1360	28.0	66.0	36.0	6.00
RC4053.5	–	3.50	0.1378	28.0	66.0	36.0	6.00
RC405N28	N28	3.57	0.1406	28.0	66.0	36.0	6.00
RC4059/64	9/64	3.57	0.1406	28.0	66.0	36.0	6.00
RC4053.6	–	3.60	0.1417	28.0	66.0	36.0	6.00
RC405N27	N27	3.66	0.1441	28.0	66.0	36.0	6.00
RC4053.7	–	3.70	0.1457	28.0	66.0	36.0	6.00
RC405N26	N26	3.73	0.1469	36.0	74.0	36.0	6.00
RC405N25	N25	3.80	0.1496	36.0	74.0	36.0	6.00
RC4053.8	–	3.80	0.1496	36.0	74.0	36.0	6.00
RC405N24	N24	3.86	0.1520	36.0	74.0	36.0	6.00
RC4053.9	–	3.90	0.1535	36.0	74.0	36.0	6.00
RC405N23	N23	3.91	0.1539	36.0	74.0	36.0	6.00
RC4055/32	5/32	3.97	0.1563	36.0	74.0	36.0	6.00
RC405N22	N22	3.99	0.1571	36.0	74.0	36.0	6.00
RC4054.0	–	4.00	0.1575	36.0	74.0	36.0	6.00

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RC405N21	N21	4.04	0.1591	36.0	74.0	36.0	6.00
RC4054.05	–	4.05	0.1594	36.0	74.0	36.0	6.00
RC405N20	N20	4.09	0.1610	36.0	74.0	36.0	6.00
RC4054.1	–	4.10	0.1614	36.0	74.0	36.0	6.00
RC4054.2	–	4.20	0.1654	36.0	74.0	36.0	6.00
RC405N19	N19	4.22	0.1661	36.0	74.0	36.0	6.00
RC4054.3	–	4.30	0.1693	36.0	74.0	36.0	6.00
RC405N18	N18	4.31	0.1697	36.0	74.0	36.0	6.00
RC40511/64	11/64	4.37	0.1719	36.0	74.0	36.0	6.00
RC405N17	N17	4.39	0.1728	36.0	74.0	36.0	6.00
RC4054.4	–	4.40	0.1732	36.0	74.0	36.0	6.00
RC405N16	N16	4.50	0.1772	36.0	74.0	36.0	6.00
RC4054.5	–	4.50	0.1772	36.0	74.0	36.0	6.00
RC405N15	N15	4.57	0.1799	36.0	74.0	36.0	6.00
RC4054.6	–	4.60	0.1811	36.0	74.0	36.0	6.00
RC405N14	N14	4.62	0.1819	36.0	74.0	36.0	6.00
RC405N13	N13	4.70	0.1850	36.0	74.0	36.0	6.00
RC4054.7	–	4.70	0.1850	36.0	74.0	36.0	6.00
RC4053/16	3/16	4.76	0.1875	44.0	82.0	36.0	6.00
RC405N12	N12	4.80	0.1890	44.0	82.0	36.0	6.00
RC4054.8	–	4.80	0.1890	44.0	82.0	36.0	6.00
RC405N11	N11	4.85	0.1909	44.0	82.0	36.0	6.00
RC4054.9	–	4.90	0.1929	44.0	82.0	36.0	6.00

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RC405N10	N10	4.92	0.1937	44.0	82.0	36.0	6.00
RC405N9	N9	4.98	0.1961	44.0	82.0	36.0	6.00
RC4055.0	–	5.00	0.1969	44.0	82.0	36.0	6.00
RC4055.05	–	5.05	0.1988	44.0	82.0	36.0	6.00
RC405N8	N8	5.06	0.1992	44.0	82.0	36.0	6.00
RC4055.1	–	5.10	0.2008	44.0	82.0	36.0	6.00
RC405N7	N7	5.11	0.2010	44.0	82.0	36.0	6.00
RC40513/64	13/64	5.16	0.2031	44.0	82.0	36.0	6.00
RC405N6	N6	5.18	0.2039	44.0	82.0	36.0	6.00
RC4055.2	–	5.20	0.2047	44.0	82.0	36.0	6.00
RC405N5	N5	5.22	0.2055	44.0	82.0	36.0	6.00
RC4055.3	–	5.30	0.2087	44.0	82.0	36.0	6.00
RC405N4	N4	5.31	0.2091	44.0	82.0	36.0	6.00
RC4055.4	–	5.40	0.2126	44.0	82.0	36.0	6.00
RC405N3	N3	5.41	0.2130	44.0	82.0	36.0	6.00
RC4055.5	–	5.50	0.2165	44.0	82.0	36.0	6.00
RC4057/32	7/32	5.56	0.2188	44.0	82.0	36.0	6.00
RC4055.6	–	5.60	0.2205	44.0	82.0	36.0	6.00
RC405N2	N2	5.61	0.2209	44.0	82.0	36.0	6.00
RC4055.7	–	5.70	0.2244	44.0	82.0	36.0	6.00
RC405N1	N1	5.79	0.2280	44.0	82.0	36.0	6.00
RC4055.8	–	5.80	0.2283	44.0	82.0	36.0	6.00
RC4055.9	–	5.90	0.2323	44.0	82.0	36.0	6.00
RC405A	A	5.94	0.2339	44.0	82.0	36.0	6.00
RC40515/64	15/64	5.95	0.2344	44.0	82.0	36.0	6.00
RC4056.0	–	6.00	0.2362	44.0	82.0	36.0	6.00
RC405B	B	6.05	0.2380	53.0	91.0	36.0	8.00
RC4056.05	–	6.05	0.2382	53.0	91.0	36.0	8.00
RC4056.1	–	6.10	0.2402	53.0	91.0	36.0	8.00
RC405C	C	6.15	0.2421	53.0	91.0	36.0	8.00
RC4056.2	–	6.20	0.2441	53.0	91.0	36.0	8.00
RC405D	D	6.25	0.2461	53.0	91.0	36.0	8.00
RC4056.3	–	6.30	0.2480	53.0	91.0	36.0	8.00
RC405E	E	6.35	0.2500	53.0	91.0	36.0	8.00
RC4051/4	1/4	6.35	0.2500	53.0	91.0	36.0	8.00
RC4056.4	–	6.40	0.2520	53.0	91.0	36.0	8.00
RC4056.5	–	6.50	0.2559	53.0	91.0	36.0	8.00
RC405F	F	6.53	0.2571	53.0	91.0	36.0	8.00
RC4056.6	–	6.60	0.2598	53.0	91.0	36.0	8.00
RC405G	G	6.63	0.2610	53.0	91.0	36.0	8.00
RC4056.7	–	6.70	0.2638	53.0	91.0	36.0	8.00
RC40517/64	17/64	6.75	0.2656	53.0	91.0	36.0	8.00
RC405H	H	6.76	0.2661	53.0	91.0	36.0	8.00
RC4056.8	–	6.80	0.2677	53.0	91.0	36.0	8.00
RC4056.9	–	6.90	0.2717	53.0	91.0	36.0	8.00
RC405I	I	6.91	0.2720	53.0	91.0	36.0	8.00
RC4057.0	–	7.00	0.2756	53.0	91.0	36.0	8.00
RC405J	J	7.04	0.2772	53.0	91.0	36.0	8.00
RC4057.1	–	7.10	0.2795	53.0	91.0	36.0	8.00
RC405K	K	7.14	0.2811	53.0	91.0	36.0	8.00
RC4059/32	9/32	7.14	0.2813	53.0	91.0	36.0	8.00
RC4057.2	–	7.20	0.2835	53.0	91.0	36.0	8.00
RC4057.3	–	7.30	0.2874	53.0	91.0	36.0	8.00
RC405L	L	7.37	0.2902	53.0	91.0	36.0	8.00
RC4057.4	–	7.40	0.2913	53.0	91.0	36.0	8.00
RC405M	M	7.49	0.2949	53.0	91.0	36.0	8.00
RC4057.5	–	7.50	0.2953	53.0	91.0	36.0	8.00
RC40519/64	19/64	7.54	0.2969	53.0	91.0	36.0	8.00
RC4057.6	–	7.60	0.2992	53.0	91.0	36.0	8.00
RC405N	N	7.67	0.3020	53.0	91.0	36.0	8.00
RC4057.7	–	7.70	0.3031	53.0	91.0	36.0	8.00
RC4057.8	–	7.80	0.3071	53.0	91.0	36.0	8.00

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RC4057.9	–	7.90	0.3110	53.0	91.0	36.0	8.00
RC4055/16	5/16	7.94	0.3125	53.0	91.0	36.0	8.00
RC4058.0	–	8.00	0.3150	53.0	91.0	36.0	8.00
RC405O	O	8.03	0.3161	61.0	103.0	40.0	10.00
RC4058.05	–	8.05	0.3169	61.0	103.0	40.0	10.00
RC4058.1	–	8.10	0.3189	61.0	103.0	40.0	10.00
RC4058.2	–	8.20	0.3228	61.0	103.0	40.0	10.00
RC405P	P	8.20	0.3228	61.0	103.0	40.0	10.00
RC4058.3	–	8.30	0.3268	61.0	103.0	40.0	10.00
RC40521/64	21/64	8.33	0.3281	61.0	103.0	40.0	10.00
RC4058.4	–	8.40	0.3307	61.0	103.0	40.0	10.00
RC405Q	Q	8.43	0.3319	61.0	103.0	40.0	10.00
RC4058.5	–	8.50	0.3346	61.0	103.0	40.0	10.00
RC4058.6	–	8.60	0.3386	61.0	103.0	40.0	10.00
RC405R	R	8.61	0.3390	61.0	103.0	40.0	10.00
RC4058.7	–	8.70	0.3425	61.0	103.0	40.0	10.00
RC40511/32	11/32	8.73	0.3438	61.0	103.0	40.0	10.00
RC4058.8	–	8.80	0.3465	61.0	103.0	40.0	10.00
RC405S	S	8.84	0.3480	61.0	103.0	40.0	10.00
RC4058.9	–	8.90	0.3504	61.0	103.0	40.0	10.00
RC4059.0	–	9.00	0.3543	61.0	103.0	40.0	10.00
RC405T	T	9.09	0.3579	61.0	103.0	40.0	10.00
RC4059.1	–	9.10	0.3583	61.0	103.0	40.0	10.00
RC40523/64	23/64	9.13	0.3594	61.0	103.0	40.0	10.00
RC4059.2	–	9.20	0.3622	61.0	103.0	40.0	10.00
RC4059.3	–	9.30	0.3661	61.0	103.0	40.0	10.00
RC405U	U	9.35	0.3681	61.0	103.0	40.0	10.00
RC4059.4	–	9.40	0.3701	61.0	103.0	40.0	10.00
RC4059.5	–	9.50	0.3740	61.0	103.0	40.0	10.00
RC4053/8	3/8	9.53	0.3750	61.0	103.0	40.0	10.00
RC405V	V	9.58	0.3772	61.0	103.0	40.0	10.00
RC4059.6	–	9.60	0.3780	61.0	103.0	40.0	10.00
RC4059.7	–	9.70	0.3819	61.0	103.0	40.0	10.00
RC4059.8	–	9.80	0.3858	61.0	103.0	40.0	10.00
RC405W	W	9.80	0.3858	61.0	103.0	40.0	10.00
RC4059.9	–	9.90	0.3898	61.0	103.0	40.0	10.00
RC40525/64	25/64	9.92	0.3906	61.0	103.0	40.0	10.00
RC40510.0	–	10.00	0.3937	61.0	103.0	40.0	10.00
RC40510.05	–	10.05	0.3957	70.0	118.0	45.0	12.00
RC405X	X	10.08	0.3969	70.0	118.0	45.0	12.00
RC40510.1	–	10.10	0.3976	70.0	118.0	45.0	12.00
RC40510.2	–	10.20	0.4016	70.0	118.0	45.0	12.00
RC405Y	Y	10.26	0.4039	70.0	118.0	45.0	12.00
RC40510.3	–	10.30	0.4055	70.0	118.0	45.0	12.00
RC40513/32	13/32	10.32	0.4063	70.0	118.0	45.0	12.00
RC40510.4	–	10.40	0.4094	70.0	118.0	45.0	12.00
RC405Z	Z	10.49	0.4130	70.0	118.0	45.0	12.00
RC40510.5	–	10.50	0.4134	70.0	118.0	45.0	12.00
RC40510.6	–	10.60	0.4173	70.0	118.0	45.0	12.00
RC40527/64	27/64	10.72	0.4219	70.0	118.0	45.0	12.00
RC40510.8	–	10.80	0.4252	70.0	118.0	45.0	12.00
RC40510.9	–	10.90	0.4291	70.0	118.0	45.0	12.00
RC40511.0	–	11.00	0.4331	70.0	118.0	45.0	12.00
RC4057/16	7/16	11.11	0.4375	70.0	118.0	45.0	12.00
RC40511.2	–	11.20	0.4409	70.0	118.0	45.0	12.00
RC40511.3	–	11.30	0.4449	70.0	118.0	45.0	12.00
RC40511.4	–	11.40	0.4488	70.0	118.0	45.0	12.00
RC40511.5	–	11.50	0.4528	70.0	118.0	45.0	12.00
RC40529/64	29/64	11.51	0.4531	70.0	118.0	45.0	12.00
RC40511.6	–	11.60	0.4567	70.0	118.0	45.0	12.00
RC40511.8	–	11.80	0.4646	70.0	118.0	45.0	12.00
RC40515/32	15/32	11.91	0.4688	70.0	118.0	45.0	12.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
RC40512.0	–	12.00	0.4724	70.0	118.0	45.0	12.00
RC40512.05	–	12.05	0.4744	76.0	124.0	45.0	14.00
RC40512.2	–	12.20	0.4803	76.0	124.0	45.0	14.00
RC40531/64	31/64	12.30	0.4844	76.0	124.0	45.0	14.00
RC40512.5	–	12.50	0.4921	76.0	124.0	45.0	14.00
RC4051/2	1/2	12.70	0.5000	76.0	124.0	45.0	14.00
RC40512.7	–	12.70	0.5000	76.0	124.0	45.0	14.00
RC40512.8	–	12.80	0.5039	76.0	124.0	45.0	14.00
RC40513.0	–	13.00	0.5118	76.0	124.0	45.0	14.00
RC40533/64	33/64	13.10	0.5156	76.0	124.0	45.0	14.00
RC40513.3	–	13.30	0.5236	76.0	124.0	45.0	14.00
RC40517/32	17/32	13.49	0.5313	76.0	124.0	45.0	14.00
RC40513.5	–	13.50	0.5315	76.0	124.0	45.0	14.00
RC40513.8	–	13.80	0.5433	76.0	124.0	45.0	14.00
RC40535/64	35/64	13.89	0.5469	76.0	124.0	45.0	14.00
RC40514.0	–	14.00	0.5512	76.0	124.0	45.0	14.00
RC40514.25	–	14.25	0.5610	82.0	133.0	48.0	16.00
RC4059/16	9/16	14.29	0.5625	82.0	133.0	48.0	16.00
RC40514.5	–	14.50	0.5709	82.0	133.0	48.0	16.00
RC40537/64	37/64	14.68	0.5781	82.0	133.0	48.0	16.00
RC40514.8	–	14.80	0.5827	82.0	133.0	48.0	16.00
RC40515.0	–	15.00	0.5906	82.0	133.0	48.0	16.00
RC40519/32	19/32	15.08	0.5938	82.0	133.0	48.0	16.00
RC40515.1	–	15.10	0.5945	82.0	133.0	48.0	16.00

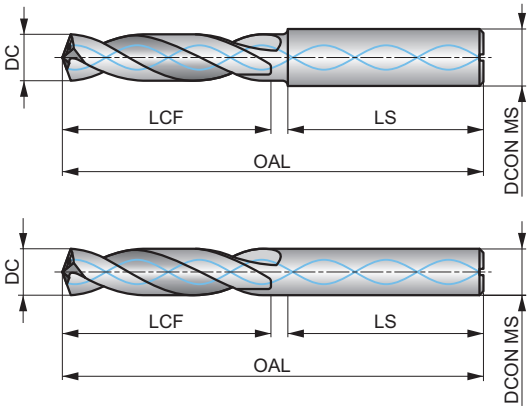
Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
RC40515.3	–	15.30	0.6024	82.0	133.0	48.0	16.00
RC40539/64	39/64	15.48	0.6094	82.0	133.0	48.0	16.00
RC40515.5	–	15.50	0.6102	82.0	133.0	48.0	16.00
RC40515.8	–	15.80	0.6220	82.0	133.0	48.0	16.00
RC4055/8	5/8	15.88	0.6250	82.0	133.0	48.0	16.00
RC40516.0	–	16.00	0.6299	82.0	133.0	48.0	16.00
RC40541/64	41/64	16.27	0.6406	91.0	143.0	48.0	18.00
RC40516.5	–	16.50	0.6496	91.0	143.0	48.0	18.00
RC40521/32	21/32	16.67	0.6563	91.0	143.0	48.0	18.00
RC40517.0	–	17.00	0.6693	91.0	143.0	48.0	18.00
RC40543/64	43/64	17.07	0.6720	91.0	143.0	48.0	18.00
RC40511/16	11/16	17.46	0.6874	91.0	143.0	48.0	18.00
RC40517.5	–	17.50	0.6890	91.0	143.0	48.0	18.00
RC40517.8	–	17.80	0.7008	91.0	143.0	48.0	18.00
RC40545/64	45/64	17.86	0.7031	91.0	143.0	48.0	18.00
RC40518.0	–	18.00	0.7087	91.0	143.0	48.0	18.00
RC40523/32	23/32	18.26	0.7189	99.0	153.0	50.0	20.00
RC40518.5	–	18.50	0.7283	99.0	153.0	50.0	20.00
RC40547/64	47/64	18.65	0.7343	99.0	153.0	50.0	20.00
RC40519.0	–	19.00	0.7480	99.0	153.0	50.0	20.00
RC4053/4	3/4	19.05	0.7500	99.0	153.0	50.0	20.00
RC40519.5	–	19.50	0.7677	99.0	153.0	50.0	20.00
RC40519.8	–	19.80	0.7795	99.0	153.0	50.0	20.00
RC40520.0	–	20.00	0.7874	99.0	153.0	50.0	20.00

RC408

FORCE X Solid Carbide 8XD Drill with Coolant Feed, TiAlN-Top Coated

High-performance drill is specifically designed to deliver superior hole quality at high speeds and feeds (H9 hole tolerance for multi-materials). A 140° self-centering, 4-facet split point and CTW flute construction. Coolant holes enhance chip evacuation. TiAlN-top coating increases surface hardness, enhances wear resistance, and extends tool life.

HM	WORK NORM	8×D
140°	TiAlN Top	DIN 6535HA
CTW	R	DC m7



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found on page 22.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
140 W	142 W	142 W	122 W	120 W	105 V	110 V	102 V	100 V	99 V	95 V	50 T	105 G	101 G
M2.1	M2.2	M2.3	M3.1	M3.2	M3.3	M4.1	M4.2	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3
99 G	80 G	70 E	85 G	70 G	65 F	60 F	50 E	111 W	108 W	105 W	111 W	110 W	99 W
K3.1	K3.2	K3.3	K4.1	K4.2	K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N1.1	N1.2	N1.3
105 W	99 W	95 W	100 W	80 W	77 W	72 W	70 W	105 W	100 W	80 W	305 W	310 W	300 W
N2.1	N2.2	N2.3	N3.1	N3.2	N3.3	S1.1	S1.2	S1.3	S2.1	S2.2	S3.1	S3.2	S4.1
221 W	220 W	200 W	185 W	180 W	175 W	50 V	40 V	35 U	40 U	28 U	32 U	32 U	30 U
S4.2													
25 U													

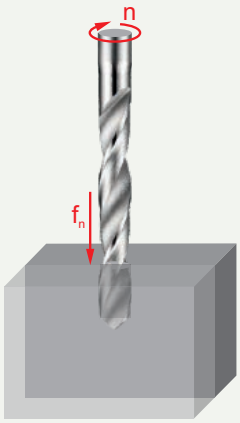
DCON MS tolerance h6.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RC4083.0	–	3.00	0.1181	37.0	79.0	36.0	6.00
RC4083.1	–	3.10	0.1220	37.0	79.0	36.0	6.00
RC4081/8	1/8	3.18	0.1250	37.0	79.0	36.0	6.00
RC4083.2	–	3.20	0.1260	37.0	79.0	36.0	6.00
RC4083.3	–	3.30	0.1299	37.0	79.0	36.0	6.00
RC4083.4	–	3.40	0.1339	37.0	79.0	36.0	6.00
RC4083.5	–	3.50	0.1378	37.0	79.0	36.0	6.00
RC4089/64	9/64	3.57	0.1406	37.0	79.0	36.0	6.00
RC4083.6	–	3.60	0.1417	37.0	79.0	36.0	6.00
RC4083.7	–	3.70	0.1457	37.0	79.0	36.0	6.00
RC4083.8	–	3.80	0.1496	48.0	90.0	36.0	6.00
RC4083.9	–	3.90	0.1535	48.0	90.0	36.0	6.00
RC4085/32	5/32	3.97	0.1563	48.0	90.0	36.0	6.00
RC4084.0	–	4.00	0.1575	48.0	90.0	36.0	6.00
RC4084.1	–	4.10	0.1614	48.0	90.0	36.0	6.00
RC4084.2	–	4.20	0.1654	48.0	90.0	36.0	6.00
RC4084.3	–	4.30	0.1693	48.0	90.0	36.0	6.00
RC40811/64	11/64	4.37	0.1719	48.0	90.0	36.0	6.00
RC4084.4	–	4.40	0.1732	48.0	90.0	36.0	6.00
RC4084.5	–	4.50	0.1772	48.0	90.0	36.0	6.00
RC4084.6	–	4.60	0.1811	48.0	90.0	36.0	6.00
RC4084.7	–	4.70	0.1850	62.0	104.0	36.0	6.00
RC4083/16	3/16	4.76	0.1875	62.0	104.0	36.0	6.00

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RC4084.8	–	4.80	0.1890	62.0	104.0	36.0	6.00
RC4084.9	–	4.90	0.1929	62.0	104.0	36.0	6.00
RC4085.0	–	5.00	0.1969	62.0	104.0	36.0	6.00
RC4085.1	–	5.10	0.2008	62.0	104.0	36.0	6.00
RC40813/64	13/64	5.16	0.2031	62.0	104.0	36.0	6.00
RC4085.2	–	5.20	0.2047	62.0	104.0	36.0	6.00
RC4085.3	–	5.30	0.2087	62.0	104.0	36.0	6.00
RC4085.4	–	5.40	0.2126	62.0	104.0	36.0	6.00
RC4085.5	–	5.50	0.2165	62.0	104.0	36.0	6.00
RC4087/32	7/32	5.56	0.2188	62.0	104.0	36.0	6.00
RC4085.6	–	5.60	0.2205	62.0	104.0	36.0	6.00
RC4085.7	–	5.70	0.2244	62.0	104.0	36.0	6.00
RC4085.8	–	5.80	0.2283	62.0	104.0	36.0	6.00
RC4085.9	–	5.90	0.2323	62.0	104.0	36.0	6.00
RC40815/64	15/64	5.95	0.2344	62.0	104.0	36.0	6.00
RC4086.0	–	6.00	0.2362	62.0	104.0	36.0	6.00
RC4086.1	–	6.10	0.2402	84.0	126.0	36.0	8.00
RC4086.2	–	6.20	0.2441	84.0	126.0	36.0	8.00
RC4086.3	–	6.30	0.2480	84.0	126.0	36.0	8.00
RC4081/4	1/4	6.35	0.2500	84.0	126.0	36.0	8.00
RC4086.4	–	6.40	0.2520	84.0	126.0	36.0	8.00
RC4086.5	–	6.50	0.2559	84.0	126.0	36.0	8.00
RC4086.6	–	6.60	0.2598	84.0	126.0	36.0	8.00

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RC4086.7	–	6.70	0.2638	84.0	126.0	36.0	8.00
RC40817/64	17/64	6.75	0.2656	84.0	126.0	36.0	8.00
RC4086.8	–	6.80	0.2677	84.0	126.0	36.0	8.00
RC4086.9	–	6.90	0.2717	84.0	126.0	36.0	8.00
RC4087.0	–	7.00	0.2756	84.0	126.0	36.0	8.00
RC4087.1	–	7.10	0.2795	84.0	126.0	36.0	8.00
RC4089/32	9/32	7.14	0.2813	84.0	126.0	36.0	8.00
RC4087.2	–	7.20	0.2835	84.0	126.0	36.0	8.00
RC4087.3	–	7.30	0.2874	84.0	126.0	36.0	8.00
RC4087.4	–	7.40	0.2913	84.0	126.0	36.0	8.00
RC4087.5	–	7.50	0.2953	84.0	126.0	36.0	8.00
RC40819/64	19/64	7.54	0.2969	84.0	126.0	36.0	8.00
RC4087.6	–	7.60	0.2992	84.0	126.0	36.0	8.00
RC4087.7	–	7.70	0.3031	84.0	126.0	36.0	8.00
RC4087.8	–	7.80	0.3071	84.0	126.0	36.0	8.00
RC4087.9	–	7.90	0.3110	84.0	126.0	36.0	8.00
RC4085/16	5/16	7.94	0.3125	84.0	126.0	36.0	8.00
RC4088.0	–	8.00	0.3150	84.0	126.0	36.0	8.00
RC4088.1	–	8.10	0.3189	106.0	152.0	40.0	10.00
RC4088.2	–	8.20	0.3228	106.0	152.0	40.0	10.00
RC4088.3	–	8.30	0.3268	106.0	152.0	40.0	10.00
RC40821/64	21/64	8.33	0.3281	106.0	152.0	40.0	10.00
RC4088.4	–	8.40	0.3307	106.0	152.0	40.0	10.00
RC4088.5	–	8.50	0.3346	106.0	152.0	40.0	10.00
RC4088.6	–	8.60	0.3386	106.0	152.0	40.0	10.00
RC4088.7	–	8.70	0.3425	106.0	152.0	40.0	10.00
RC40811/32	11/32	8.73	0.3438	106.0	152.0	40.0	10.00
RC4088.8	–	8.80	0.3465	106.0	152.0	40.0	10.00
RC4088.9	–	8.90	0.3504	106.0	152.0	40.0	10.00
RC4089.0	–	9.00	0.3543	106.0	152.0	40.0	10.00
RC4089.1	–	9.10	0.3583	106.0	152.0	40.0	10.00
RC40823/64	23/64	9.13	0.3594	106.0	152.0	40.0	10.00
RC4089.2	–	9.20	0.3622	106.0	152.0	40.0	10.00
RC4089.3	–	9.30	0.3661	106.0	152.0	40.0	10.00
RC4089.4	–	9.40	0.3701	106.0	152.0	40.0	10.00
RC4089.5	–	9.50	0.3740	106.0	152.0	40.0	10.00
RC4083/8	3/8	9.53	0.3750	106.0	152.0	40.0	10.00
RC4089.6	–	9.60	0.3780	106.0	152.0	40.0	10.00
RC4089.7	–	9.70	0.3819	106.0	152.0	40.0	10.00
RC4089.8	–	9.80	0.3858	106.0	152.0	40.0	10.00
RC4089.9	–	9.90	0.3898	106.0	152.0	40.0	10.00

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
RC40825/64	25/64	9.92	0.3906	106.0	152.0	40.0	10.00
RC40810.0	–	10.00	0.3937	106.0	152.0	40.0	10.00
RC40810.2	–	10.20	0.4016	128.0	180.0	45.0	12.00
RC40810.3	–	10.30	0.4055	128.0	180.0	45.0	12.00
RC40813/32	13/32	10.32	0.4063	128.0	180.0	45.0	12.00
RC40810.4	–	10.40	0.4094	128.0	180.0	45.0	12.00
RC40810.5	–	10.50	0.4134	128.0	180.0	45.0	12.00
RC40827/64	27/64	10.72	0.4219	128.0	180.0	45.0	12.00
RC40810.8	–	10.80	0.4252	128.0	180.0	45.0	12.00
RC40811.0	–	11.00	0.4331	128.0	180.0	45.0	12.00
RC4087/16	7/16	11.11	0.4375	128.0	180.0	45.0	12.00
RC40811.2	–	11.20	0.4409	128.0	180.0	45.0	12.00
RC40811.3	–	11.30	0.4449	128.0	180.0	45.0	12.00
RC40811.5	–	11.50	0.4528	128.0	180.0	45.0	12.00
RC40829/64	29/64	11.51	0.4531	128.0	180.0	45.0	12.00
RC40811.8	–	11.80	0.4646	128.0	180.0	45.0	12.00
RC40815/32	15/32	11.91	0.4688	128.0	180.0	45.0	12.00
RC40812.0	–	12.00	0.4724	128.0	180.0	45.0	12.00
RC40812.2	–	12.20	0.4803	151.0	202.0	48.0	14.00
RC40831/64	31/64	12.30	0.4844	151.0	202.0	48.0	14.00
RC40812.5	–	12.50	0.4921	151.0	202.0	48.0	14.00
RC4081/2	1/2	12.70	0.5000	151.0	202.0	48.0	14.00
RC40812.8	–	12.80	0.5039	151.0	202.0	48.0	14.00
RC40813.0	–	13.00	0.5118	151.0	202.0	48.0	14.00
RC40833/64	33/64	13.10	0.5156	151.0	202.0	48.0	14.00
RC40817/32	17/32	13.49	0.5313	151.0	202.0	48.0	14.00
RC40813.5	–	13.50	0.5315	151.0	202.0	48.0	14.00
RC40835/64	35/64	13.89	0.5469	151.0	202.0	48.0	14.00
RC40814.0	–	14.00	0.5512	151.0	202.0	48.0	14.00
RC40814.25	–	14.25	0.5610	172.0	227.0	48.0	16.00
RC4089/16	9/16	14.29	0.5625	172.0	227.0	48.0	16.00
RC40814.5	–	14.50	0.5709	172.0	227.0	48.0	16.00
RC40837/64	37/64	14.68	0.5781	172.0	227.0	48.0	16.00
RC40815.0	–	15.00	0.5906	172.0	227.0	48.0	16.00
RC40819/32	19/32	15.08	0.5938	172.0	227.0	48.0	16.00
RC40815.1	–	15.10	0.5945	172.0	227.0	48.0	16.00
RC40839/64	39/64	15.48	0.6094	172.0	227.0	48.0	16.00
RC40815.5	–	15.50	0.6102	172.0	227.0	48.0	16.00
RC4085/8	5/8	15.88	0.6250	172.0	227.0	48.0	16.00
RC40816.0	–	16.00	0.6299	172.0	227.0	48.0	16.00



Feed per revolution (f_n in mm/rev)
Depending on the working conditions it might be necessary to adjust these values ± 25 %.

How to use this table to find the feed per revolution (f_n):

1. Find your Alpha Code on the product page (example: 46J, "**J**" is the Alpha Code).
2. Find the closest diameter for your cutting application in the top row of the table.
3. Find your Alpha Code in the left column of the table.
4. The intersection (cell) of the Diameter and Alpha Code is the feed per revolution (f_n).

Feed rates (mm/rev)	ø DC (mm)																		
	0.15	0.5	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	15.0	16.0	20.0	25.0	30.0	40.0	50.0	100
A	0.003	0.006	0.012	0.023	0.029	0.032	0.036	0.042	0.054	0.062	0.069	0.082	0.086	0.110	0.125	0.135	0.155	0.175	0.263
B	0.004	0.007	0.014	0.028	0.037	0.041	0.046	0.053	0.067	0.080	0.090	0.103	0.108	0.135	0.153	0.165	0.188	0.208	0.312
C	0.004	0.008	0.015	0.032	0.044	0.050	0.056	0.064	0.080	0.098	0.110	0.125	0.130	0.160	0.180	0.195	0.220	0.240	0.360
D	0.004	0.008	0.016	0.038	0.053	0.060	0.068	0.078	0.098	0.119	0.130	0.149	0.155	0.188	0.210	0.228	0.253	0.275	0.413
E	0.004	0.009	0.017	0.043	0.062	0.071	0.080	0.092	0.115	0.140	0.150	0.173	0.180	0.215	0.240	0.260	0.285	0.310	0.465
F	0.005	0.009	0.018	0.050	0.073	0.084	0.095	0.109	0.138	0.165	0.178	0.202	0.210	0.248	0.275	0.295	0.320	0.343	0.515
G	0.005	0.010	0.019	0.056	0.084	0.096	0.109	0.126	0.160	0.190	0.205	0.231	0.240	0.280	0.310	0.330	0.355	0.375	0.563
H	0.005	0.010	0.020	0.066	0.102	0.116	0.130	0.150	0.190	0.228	0.243	0.271	0.280	0.320	0.355	0.375	0.398	0.418	0.627
I	0.005	0.011	0.021	0.076	0.119	0.134	0.150	0.173	0.220	0.265	0.280	0.310	0.320	0.360	0.400	0.420	0.440	0.460	0.690
J	0.006	0.012	0.024	0.084	0.135	0.152	0.170	0.197	0.250	0.298	0.315	0.349	0.360	0.405	0.445	0.465	0.485	0.503	0.755
K	0.007	0.013	0.026	0.092	0.150	0.170	0.190	0.220	0.280	0.330	0.350	0.388	0.400	0.450	0.490	0.510	0.530	0.545	0.818
L	0.007	0.014	0.028	0.101	0.165	0.186	0.208	0.240	0.305	0.360	0.385	0.419	0.430	0.485	0.525	0.545	0.568	0.588	0.882
M	0.008	0.015	0.030	0.110	0.180	0.202	0.225	0.260	0.330	0.390	0.420	0.450	0.460	0.520	0.560	0.580	0.605	0.630	0.945
N	0.008	0.016	0.032	0.119	0.195	0.218	0.242	0.280	0.355	0.420	0.455	0.481	0.490	0.555	0.595	0.615	0.642	0.672	1.008
S	0.002	0.004	0.008	0.014	0.020	0.025	0.030	0.037	0.050	0.080	0.100	0.123	0.130	0.150	0.170	0.190	0.220	0.240	–
T	0.004	0.008	0.015	0.028	0.040	0.050	0.060	0.070	0.090	0.110	0.130	0.160	0.170	0.190	0.210	0.230	0.260	0.275	–
U	0.007	0.013	0.026	0.048	0.070	0.080	0.090	0.107	0.140	0.170	0.200	0.223	0.230	0.240	0.270	0.300	0.360	0.375	–
V	0.010	0.019	0.038	0.069	0.100	0.115	0.130	0.153	0.200	0.250	0.280	0.310	0.320	0.340	0.400	0.440	0.510	0.530	–
W	0.012	0.025	0.049	0.089	0.130	0.150	0.170	0.200	0.260	0.330	0.380	0.418	0.430	0.450	0.470	0.490	0.520	0.540	–
X	0.014	0.028	0.056	0.103	0.150	0.180	0.210	0.250	0.330	0.420	0.480	0.533	0.550	0.580	–	–	–	–	–
Y	0.017	0.034	0.068	0.124	0.180	0.220	0.260	0.317	0.430	0.550	0.700	0.700	0.700	0.740	–	–	–	–	–
Z	0.024	0.047	0.094	0.172	0.250	0.325	0.400	0.533	0.800	1.000	1.100	1.175	1.200	1.200	–	–	–	–	–

ISO group		WMG (Work Material Group)			Hardness (HB or HRC)	Ultimate Tensile Strength (MPa)
P	P1	P1.1	Free machining steel (carbon steels with increased machinability)	Sulfurized	< 240 HB	≤ 830
		P1.2		Sulfurized and phosphorized	< 180 HB	≤ 620
		P1.3		Sulfurized/phosphorized and leaded	< 180 HB	≤ 620
	P2	P2.1	Plain carbon steel (steels comprised of mainly iron and carbon)	Containing <0.25 % C	< 180 HB	≤ 620
		P2.2		Containing <0.55 % C	< 240 HB	≤ 830
		P2.3		Containing >0.55 % C	< 300 HB	≤ 1030
	P3	P3.1	Alloy steel (carbon steels with an alloying content ≤ 10%)	Annealed	< 180 HB	≤ 620
		P3.2		Hardened and tempered	180 – 260 HB	> 620 ≤ 900
		P3.3			260 – 360 HB	> 900 ≤ 1240
	P4	P4.1	Tool steel (special alloy steel for tools, dies and molds)	Annealed	< 26 HRC	≤ 900
		P4.2		Hardened and tempered	26 – 39 HRC	> 900 ≤ 1240
		P4.3			39 – 45 HRC	> 1240 ≤ 1450
M	M1	M1.1	Ferritic stainless steel (straight chromium non-hardenable alloys)		< 160 HB	≤ 520
		M1.2			160 – 220 HB	> 520 ≤ 700
	M2	M2.1	Martensitic stainless steel (straight chromium hardenable alloys)	Annealed	< 200 HB	≤ 670
		M2.2		Quenched and tempered	200 – 280 HB	> 670 ≤ 950
		M2.3		Precipitation-hardened	280 – 380 HB	> 950 ≤ 1300
	M3	M3.1	Austenitic stainless steel (chromium-nickel and chromium-nickel-manganese alloys)		< 200 HB	≤ 750
		M3.2			200 – 260 HB	> 750 ≤ 870
		M3.3			260 – 300 HB	> 870 ≤ 1040
	M4	M4.1	Austenitic-ferritic (DUPLEX) or super-austenitic stainless steel		< 300 HB	≤ 990
		M4.2	Precipitation hardening austenitic stainless steel		300 – 380 HB	≤ 1320
K	K1	K1.1	Gray iron or Automotive Gray iron (GG) (iron-carbon castings with a lamellar graphite microstructure)	Ferritic or ferritic-pearlitic	< 180 HB	≤ 190
		K1.2		Ferritic-pearlictic or pearlitic	180 – 240 HB	> 190 ≤ 310
		K1.3		Pearlitic	240 – 280 HB	> 310 ≤ 390
	K2	K2.1	Malleable iron (GTS/GTW) (iron-carbon castings with a graphite-free microstructure)	Ferritic	< 160 HB	≤ 400
		K2.2		Ferritic or pearlitic	160 – 200 HB	> 400 ≤ 550
		K2.3		Pearlitic	200 – 240 HB	> 550 ≤ 660
	K3	K3.1	Ductile iron (GGG) (iron-carbon castings with a nodular graphite microstructure)	Ferritic	< 180 HB	≤ 560
		K3.2		Ferritic or pearlitic	180 – 220 HB	> 560 ≤ 680
		K3.3		Pearlitic	220 – 260 HB	> 680 ≤ 800
	K4	K4.1	Austenitic gray iron (ASTM A436) (iron-carbon alloy castings with an austenitic lamellar graphite microstructure)		< 180 HB	≤ 190
		K4.2	Austenitic ductile iron (ASTM A439 or ASTM A571) (iron-carbon alloy castings with an austenitic nodular graphite microstructure)		< 240 HB	≤ 740
		K4.3	Austempered ductile iron (ASTM A897) (iron-carbon alloy castings with an ausferrite microstructure)		< 280 HB	> 840 ≤ 980
		K4.4			280 – 320 HB	> 980 ≤ 1130
		K4.5			320 – 360 HB	> 1130 ≤ 1280
	K5	K5.1	Compacted graphite iron CGI (ASTM A842) (iron-carbon castings with a vermicular graphite structure)	Ferritic	< 180 HB	≤ 400
		K5.2		Ferritic-pearlitic	180 – 220 HB	> 400 ≤ 450
		K5.3		Pearlitic	220 – 260 HB	> 450 ≤ 500
N	N1	N1.1	Commercially pure wrought aluminium		< 60 HB	≤ 240
		N1.2	Wrought aluminium alloys	Half hard tempered	60 – 100 HB	> 240 ≤ 400
		N1.3		Full hard tempered	100 – 150 HB	> 400 ≤ 590
	N2	N2.1	Cast aluminium alloys		< 75 HB	≤ 240
		N2.2			75 – 90 HB	> 240 ≤ 270
		N2.3			90 – 140 HB	> 270 ≤ 440
	N3	N3.1	Free-cutting copper-alloys materials with excellent machining properties		–	–
		N3.2	Short-chip copper-alloys with good to moderate machining properties		–	–
		N3.3	Electrolytic copper and long-chip copper-alloys with moderate to poor machining properties		–	–
	N4	N4.1	Thermoplastic polymers		–	–
		N4.2	Thermosetting polymers		–	–
		N4.3	Reinforced polymers or composites		–	–
	N5	N5.1	Graphite		–	–
S	S1	S1.1	Titanium or titanium alloys		< 200 HB	≤ 660
		S1.2			200 – 280 HB	> 660 ≤ 950
		S1.3			280 – 360 HB	> 950 ≤ 1200
	S2	S2.1	Fe-based high-temperature alloys		< 200 HB	≤ 690
		S2.2			200 – 280 HB	> 690 ≤ 970
	S3	S3.1	Ni-based high-temperature alloys		< 280 HB	≤ 940
		S3.2			280 – 360 HB	> 940 ≤ 1200
	S4	S4.1	Co-based high-temperature alloys		< 240 HB	≤ 800
		S4.2			240 – 320 HB	> 800 ≤ 1070
H	H1	H1.1	Chilled cast iron		< 440 HB	–
	H2	H2.1	Hardened cast iron		< 55 HRC	–
		H2.2			> 55 HRC	–
	H3	H3.1	Hardened steel < 55 HRC		< 51 HRC	–
		H3.2			51 – 55 HRC	–
	H4	H4.1	Hardened steel > 55 HRC		55 – 59 HRC	–
		H4.2			> 59 HRC	–

DORMER PRAMET™

Certainty at every turn

Together we will keep our world turning, now and into the future. We want to help our community feel confident they can get the job done with simplified access to the right advice, tools and training whenever and wherever they need it. Delivering certainty to help our customers achieve their goals today – and be ready for tomorrow.

Need some help?
Contact sales support

Download our apps

Library app

Calculator app

Certainty at every turn™