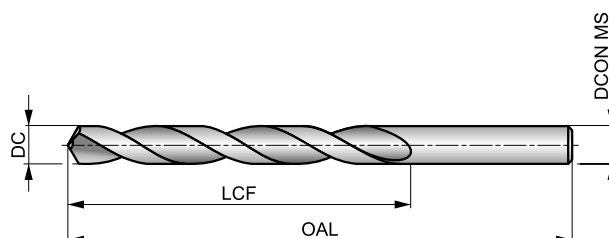


R100

DORMER

Solid Carbide Jobber Drill, Bright Finish

Improved wear resistance for increased productivity and extended tool life. A 120°, 4-facet point helps with self-centering and reduces cutting forces. Can be used with all CNC machine applications.



HM	DIN 338	4×D
120°	Bright	
λ 20-35°	R	DC h7

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 65.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	K1.1	K1.2
99 S	111 S	115 S	85 S	75 S	66 S	66 S	53 S	45 S	40 S	34 S	27 S	75 T	56 T
K1.3	K2.1	K2.2	K2.3	K3.1	K3.2	K3.3	K4.1	K4.2	K4.3	K4.4	K4.5	K5.1	K5.2
42 T	68 T	55 T	44 T	60 T	46 T	37 T	55 T	42 T	31 T	26 T	22 T	63 T	47 T
K5.3	N1.1	N1.2	N1.3	N2.1	N2.2	N2.3	N3.1	N3.2	N4.1	N4.2	H1.1	H2.1	H2.2
37 T	200 V	150 V	100 V	172 V	155 V	112 V	423 V	250 V	60 X	100 V	56 S	33 S	36 S
H3.1	H3.2												
37 S	30 S												

Product	DC	DC	LCF	OAL	DCON MS
	[mm]	[inch]	[mm]	[mm]	[mm]
R1001.0	1.00	0.0394	12.0	34.0	1.00
R1001.1	1.10	0.0433	14.0	36.0	1.10
R1001.2	1.20	0.0472	16.0	38.0	1.20
R1001.3	1.30	0.0512	16.0	38.0	1.30
R1001.4	1.40	0.0551	18.0	40.0	1.40
R1001.5	1.50	0.0591	18.0	40.0	1.50
R1001.6	1.60	0.0630	20.0	43.0	1.60
R1001.7	1.70	0.0669	20.0	43.0	1.70
R1001.8	1.80	0.0709	22.0	46.0	1.80
R1001.9	1.90	0.0748	22.0	46.0	1.90
R1002.0	2.00	0.0787	24.0	49.0	2.00
R1002.1	2.10	0.0827	24.0	49.0	2.10
R1002.2	2.20	0.0866	27.0	53.0	2.20
R1002.3	2.30	0.0906	27.0	53.0	2.30
R1002.4	2.40	0.0945	30.0	57.0	2.40
R1002.5	2.50	0.0984	30.0	57.0	2.50
R1002.6	2.60	0.1024	30.0	57.0	2.60
R1002.7	2.70	0.1063	33.0	61.0	2.70
R1002.8	2.80	0.1102	33.0	61.0	2.80
R1002.9	2.90	0.1142	33.0	61.0	2.90
R1003.0	3.00	0.1181	33.0	61.0	3.00
R1003.1	3.10	0.1220	36.0	65.0	3.10
R1003.2	3.20	0.1260	36.0	65.0	3.20
R1003.3	3.30	0.1299	36.0	65.0	3.30
R1003.4	3.40	0.1339	39.0	70.0	3.40
R1003.5	3.50	0.1378	39.0	70.0	3.50

Product	DC	DC	LCF	OAL	DCON MS
	[mm]	[inch]	[mm]	[mm]	[mm]
R1003.6	3.60	0.1417	39.0	70.0	3.60
R1003.7	3.70	0.1457	39.0	70.0	3.70
R1003.8	3.80	0.1496	43.0	75.0	3.80
R1003.9	3.90	0.1535	43.0	75.0	3.90
R1004.0	4.00	0.1575	43.0	75.0	4.00
R1004.1	4.10	0.1614	43.0	75.0	4.10
R1004.2	4.20	0.1654	43.0	75.0	4.20
R1004.3	4.30	0.1693	47.0	80.0	4.30
R1004.4	4.40	0.1732	47.0	80.0	4.40
R1004.5	4.50	0.1772	47.0	80.0	4.50
R1004.6	4.60	0.1811	47.0	80.0	4.60
R1004.7	4.70	0.1850	47.0	80.0	4.70
R1004.8	4.80	0.1890	52.0	86.0	4.80
R1004.9	4.90	0.1929	52.0	86.0	4.90
R1005.0	5.00	0.1969	52.0	86.0	5.00
R1005.1	5.10	0.2008	52.0	86.0	5.10
R1005.2	5.20	0.2047	52.0	86.0	5.20
R1005.3	5.30	0.2087	52.0	86.0	5.30
R1005.4	5.40	0.2126	57.0	93.0	5.40
R1005.5	5.50	0.2165	57.0	93.0	5.50
R1005.6	5.60	0.2205	57.0	93.0	5.60
R1005.7	5.70	0.2244	57.0	93.0	5.70
R1005.8	5.80	0.2283	57.0	93.0	5.80
R1005.9	5.90	0.2323	57.0	93.0	5.90
R1006.0	6.00	0.2362	57.0	93.0	6.00
R1006.1	6.10	0.2402	63.0	101.0	6.10

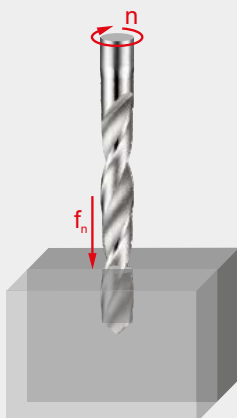


Product	DC	DC	LCF	OAL	DCON MS
	[mm]	[inch]	[mm]	[mm]	[mm]
R1006.2	6.20	0.2441	63.0	101.0	6.20
R1006.3	6.30	0.2480	63.0	101.0	6.30
R1006.4	6.40	0.2520	63.0	101.0	6.40
R1006.5	6.50	0.2559	63.0	101.0	6.50
R1006.6	6.60	0.2598	63.0	101.0	6.60
R1006.7	6.70	0.2638	63.0	101.0	6.70
R1006.8	6.80	0.2677	69.0	109.0	6.80
R1006.9	6.90	0.2717	69.0	109.0	6.90
R1007.0	7.00	0.2756	69.0	109.0	7.00
R1007.1	7.10	0.2795	69.0	109.0	7.10
R1007.2	7.20	0.2835	69.0	109.0	7.20
R1007.3	7.30	0.2874	69.0	109.0	7.30
R1007.4	7.40	0.2913	69.0	109.0	7.40
R1007.5	7.50	0.2953	69.0	109.0	7.50
R1007.6	7.60	0.2992	75.0	117.0	7.60
R1007.7	7.70	0.3031	75.0	117.0	7.70
R1007.8	7.80	0.3071	75.0	117.0	7.80
R1007.9	7.90	0.3110	75.0	117.0	7.90
R1008.0	8.00	0.3150	75.0	117.0	8.00
R1008.1	8.10	0.3189	75.0	117.0	8.10
R1008.2	8.20	0.3228	75.0	117.0	8.20
R1008.3	8.30	0.3268	75.0	117.0	8.30
R1008.4	8.40	0.3307	75.0	117.0	8.40

Product	DC	DC	LCF	OAL	DCON MS
	[mm]	[inch]	[mm]	[mm]	[mm]
R1008.5	8.50	0.3346	75.0	117.0	8.50
R1008.6	8.60	0.3386	81.0	125.0	8.60
R1008.7	8.70	0.3425	81.0	125.0	8.70
R1008.8	8.80	0.3465	81.0	125.0	8.80
R1008.9	8.90	0.3504	81.0	125.0	8.90
R1009.0	9.00	0.3543	81.0	125.0	9.00
R1009.1	9.10	0.3583	81.0	125.0	9.10
R1009.2	9.20	0.3622	81.0	125.0	9.20
R1009.3	9.30	0.3661	81.0	125.0	9.30
R1009.4	9.40	0.3701	81.0	125.0	9.40
R1009.5	9.50	0.3740	81.0	125.0	9.50
R1009.6	9.60	0.3780	87.0	133.0	9.60
R1009.7	9.70	0.3819	87.0	133.0	9.70
R1009.8	9.80	0.3858	87.0	133.0	9.80
R1009.9	9.90	0.3898	87.0	133.0	9.90
R10010.0	10.00	0.3937	87.0	133.0	10.00
R10010.2	10.20	0.4016	87.0	133.0	10.20
R10010.5	10.50	0.4134	87.0	133.0	10.50
R10011.0	11.00	0.4331	94.0	142.0	11.00
R10011.5	11.50	0.4528	94.0	142.0	11.50
R10012.0	12.00	0.4724	101.0	151.0	12.00
R10013.0	13.00	0.5118	101.0	151.0	13.00
R10014.0	14.00	0.5512	108.0	160.0	14.00



DRILLING FEED RATE CHART



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

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).

		$\varnothing$ DC [mm]																		
		0.15	0.50	1.00	2.00	3.00	4.00	5.00	6.00	8.00	10.00	12.00	15.00	16.00	20.00	25.00	30.00	40.00	50.00	100.00
Feed rates	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	–	–	–	–	–



WMG (WORK MATERIAL GROUP)

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-pearlitic 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	–		