Twister® HPD Performance Drill

HPDSS / HPDCS Series Recommended Cutting Data - **Inch** 3xD,
Solid and Coolant-Fed Drilling

Workpiece Material Group		Material Type	HPDSS 3xD - Solid			HPDCS 3xD - Through Coolant		
			Low	Mid	High	Low	Mid	High
			Vc - SFM			Vc - SFM		
Steels	P	Low Carbon Steels ≤180HB	460	**525**	590	560	**625**	690
		Med Carbon / Alloy Steels 180-350HB	260	**295**	330	295	**360**	425
		Pre-Hardened Steels 35-45HRC	130	**165**	195	195	**230**	260
Stainless Steels	M	Martensitic Stainless - 400 Series	295	**330**	360	330	**395**	460
		Austenitic Stainless - 300 Series	130	**165**	195	195	**230**	260
Cast Irons	K	Grey Cast Iron	330	**395**	460	425	**490**	560
		Ductile Cast Iron	165	**195**	230	230	**260**	295
Special Alloys	S	High Temp Alloys		**N/A**		35	**65**	100
		Titanium Alloys		**N/A**		130	**165**	195

RPM Formula For Inch Drills Only - RPM = SFM x 3.82 ÷ Drill Ø D

Workpiece Material Group		Material Type	Drill Diameter (inch)							
			1/8	5/32	3/16	1/4	5/16	3/8	1/2	5/8
			Feed (in/rev)							
Steels	P	Low Carbon Steels ≤180HB	.0057	.0071	.0071	.0089	.0112	.0143	.0143	.0178
		Med Carbon / Alloy Steels 180-350HB								
		Pre-Hardened Steels 35-45HRC								
Stainless Steels	M	Martensitic Stainless - 400 Series	.0028	.0035	.0035	.0043	.0055	.0071	.0071	.0089
		Austenitic Stainless - 300 Series								
Cast Irons	K	Grey Cast Iron	.0061	.0076	.0085	.0120	.0120	.0152	.0171	.0209
		Ductile Cast Iron								
Special Alloys	S	High Temp Alloys	.0013	.0016	.0019	.0025	.0031	.0038	.0050	.0063
		Titanium Alloys								

Feedrate Formula For Inch Drills - Feed = RPM x in/rev

HPDSS / HPDCS Series Recommended Cutting Data - **Metric** 3xD,
Solid and Coolant-Fed Drilling

Workpiece Material Group		Material Type	HPDSS 3xD - Solid			HPDCS 3xD - Through Coolant		
			Low	Mid	High	Low	Mid	High
			Vc-m/min			Vc-m/min		
Steels	P	Low Carbon Steels ≤180HB	140	**160**	180	170	**190**	210
		Med Carbon / Alloy Steels 180-350HB	80	**90**	100	90	**110**	130
		Pre-Hardened Steels 35-45HRC	40	**50**	60	60	**70**	80
Stainless Steels	M	Martensitic Stainless - 400 Series	90	**100**	110	100	**120**	140
		Austenitic Stainless - 300 Series	40	**50**	60	60	**70**	80
Cast Irons	K	Grey Cast Iron	100	**120**	140	130	**150**	170
		Ductile Cast Iron	50	**60**	70	70	**80**	90
Special Alloys	S	High Temp Alloys		**N/A**		10	**20**	30
		Titanium Alloys		**N/A**		40	**50**	60

RPM Formula For Metric Drills - RPM = (Vc x 318) / Drill Ø D

Workpiece Material Group		Material Type	Drill Diameter (mm)							
			3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0
			Feed (mm/rev)							
Steels	P	Low Carbon Steels ≤180HB	0.145	0.181	0.181	0.226	0.285	0.362	0.362	0.453
		Med Carbon / Alloy Steels 180-350HB								
		Pre-Hardened Steels 35-45HRC								
Stainless Steels	M	Martensitic Stainless - 400 Series	0.07	0.09	0.09	0.11	0.14	0.18	0.18	0.225
		Austenitic Stainless - 300 Series								
Cast Irons	K	Grey Cast Iron	0.155	0.193	0.217	0.305	0.305	0.386	0.435	0.532
		Ductile Cast Iron								
Special Alloys	S	High Temp Alloys	0.030	0.040	0.050	0.060	0.080	0.100	0.120	0.160
		Titanium Alloys								

Feedrate Formula For Metric Drills - Feed = RPM x mm/rev

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.