

4TEX® Drill | Imperial (inch)

ISO	Material	Hardness (BHN)	Speed (SFM)			Feed Rate (IPR) by Diameter - 2xD, 3xD**			
			P	K	H	M	N	.432 - .591	.630 - .709
			AM480	AM485	TiCN				
P	Free Machining Steel 1118, 1215, 12L14, etc.	100 - 150	–	400 - 1200	–	.0024 - .0039	.0024 - .0047	.0031 - .0055	.0031 - .0055
		150 - 200	–	400 - 1000	–	.0024 - .0039	.0024 - .0047	.0031 - .0055	.0031 - .0055
		200 - 250	400 - 800	400 - 800	–	.0024 - .0039	.0024 - .0047	.0031 - .0055	.0031 - .0055
	Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	–	400 - 1000	–	.0024 - .0039	.0024 - .0047	.0031 - .0055	.0031 - .0055
		125 - 175	–	400 - 1000	–	.0024 - .0039	.0024 - .0047	.0031 - .0055	.0031 - .0055
		175 - 225	–	400 - 800	–	.0024 - .0039	.0024 - .0047	.0031 - .0055	.0031 - .0055
		225 - 275	400 - 800	400 - 800	–	.0024 - .0039	.0024 - .0047	.0031 - .0055	.0031 - .0055
	Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	–	330 - 800	–	.0016 - .0055	.0024 - .0063	.0031 - .008	.0031 - .008
		175 - 225	–	330 - 800	–	.0016 - .0055	.0024 - .0063	.0031 - .008	.0031 - .008
		225 - 275	–	330 - 800	–	.0016 - .0055	.0024 - .0063	.0031 - .008	.0031 - .008
		275 - 325	330 - 600	330 - 600	–	.0016 - .0055	.0024 - .0063	.0031 - .008	.0031 - .008
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	330 - 800	–	–	.0016 - .0055	.0024 - .0063	.0031 - .008	.0031 - .008
		175 - 225	330 - 800	–	–	.0016 - .0055	.0024 - .0063	.0031 - .008	.0031 - .008
		225 - 275	330 - 800	–	–	.0016 - .0055	.0024 - .0063	.0031 - .008	.0031 - .008
		275 - 325	330 - 800	–	–	.0016 - .0055	.0024 - .0063	.0031 - .008	.0031 - .008
325 - 375		330 - 800	–	–	.0016 - .0055	.0024 - .0063	.0031 - .008	.0031 - .008	
High Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	330 - 600	–	–	.0016 - .0055	.0024 - .0063	.0031 - .008	.0031 - .008	
	300 - 350	330 - 600	–	–	.0016 - .0055	.0024 - .0063	.0031 - .008	.0031 - .008	
	350 - 400	330 - 600	–	–	.0016 - .0055	.0024 - .0063	.0031 - .008	.0031 - .008	
Structural Steel A36, A285, A516, etc.	100 - 150	330 - 600	–	–	.0016 - .005	.0024 - .005	.0031 - .005	.0031 - .005	
	150 - 250	330 - 600	–	–	.0016 - .005	.0024 - .005	.0031 - .005	.0031 - .005	
	250 - 350	330 - 600	–	–	.0016 - .005	.0024 - .005	.0031 - .005	.0031 - .005	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	270 - 600	–	–	.0016 - .0031	.0024 - .0047	.0031 - .0059	.0031 - .0059	
	200 - 250	270 - 600	–	–	.0016 - .0031	.0024 - .0047	.0031 - .0059	.0031 - .0059	
S	High Temp Alloy* Hastelloy B, Inconel 600, etc.	140 - 220	–	100 - 250	–	.0020 - .0031	.0020 - .0031	.0024 - .0039	.0024 - .0039
		220 - 310	–	100 - 200	–	.0020 - .0031	.0020 - .0031	.0024 - .0039	.0024 - .0039
	Titanium Alloy*	140 - 220	–	140 - 500	–	.0020 - .0031	.0020 - .0031	.0024 - .0039	.0024 - .0039
		220 - 310	–	140 - 300	–	.0020 - .0031	.0020 - .0031	.0024 - .0039	.0024 - .0039
	Aerospace Alloy* S82	185 - 275	–	100 - 250	–	.0020 - .0031	.0020 - .0031	.0024 - .0039	.0024 - .0039
275 - 350		–	100 - 200	–	.0020 - .0031	.0020 - .0031	.0024 - .0039	.0024 - .0039	
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	240 - 600	240 - 700	–	.0016 - .0039	.0024 - .0047	.0024 - .0055	.0024 - .0055
		275 - 350	240 - 470	240 - 500	–	.0016 - .0039	.0024 - .0047	.0024 - .0055	.0024 - .0055
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	240 - 600	240 - 700	–	.0016 - .0039	.0024 - .0047	.0024 - .0055	.0024 - .0055
		185 - 275	240 - 470	240 - 500	–	.0016 - .0039	.0024 - .0047	.0024 - .0055	.0024 - .0055
	Super Duplex Stainless Steel	–	240 - 600	240 - 700	–	.0016 - .0039	.0024 - .0047	.0024 - .0055	.0024 - .0055
135 - 275		240 - 470	240 - 500	–	.0016 - .0039	.0024 - .0047	.0024 - .0055	.0024 - .0055	
H	Wear Plate Hardox, AR400, T-1, etc.	400	100 - 200	–	–	.0016 - .0031	.0024 - .0047	.0031 - .0059	.0031 - .0059
		500	100 - 200	–	–	.0016 - .0031	.0024 - .0047	.0031 - .0059	.0031 - .0059
		600	100 - 200	–	–	.0016 - .0031	.0024 - .0047	.0031 - .0059	.0031 - .0059
	Hardened Steel	300 - 400	100 - 300	–	–	.0016 - .0031	.0024 - .0047	.0031 - .0059	.0031 - .0059
400 - 500		100 - 200	–	–	.0016 - .0031	.0024 - .0047	.0031 - .0059	.0031 - .0059	
K	Nodular, Grey, Ductile Cast Iron	120 - 150	300 - 800	–	–	.0031 - .0055	.0031 - .0071	.0031 - .0079	.0031 - .008
		150 - 200	300 - 800	–	–	.0031 - .0055	.0031 - .0071	.0031 - .0079	.0031 - .008
		200 - 220	300 - 500	–	–	.0031 - .0055	.0031 - .0071	.0031 - .0079	.0031 - .008
		220 - 260	270 - 400	–	–	.0031 - .0055	.0031 - .0071	.0031 - .0079	.0031 - .008
		260 - 320	270 - 400	–	–	.0031 - .0055	.0031 - .0071	.0031 - .0079	.0031 - .008
N	Cast Aluminum	30	–	–	800 - 2000	.0024 - .0047	.0031 - .0055	.0031 - .0063	.0031 - .008
		180	–	–	800 - 2000	.0024 - .0047	.0031 - .0055	.0031 - .0063	.0031 - .008
	Wrought Aluminum	30	–	–	800 - 2000	.0024 - .0047	.0031 - .0055	.0031 - .0063	.0031 - .008
		180	–	–	800 - 2000	.0024 - .0047	.0031 - .0055	.0031 - .0063	.0031 - .008
	Aluminum Bronze	100 - 200	–	–	500 - 1000	.0024 - .0047	.0031 - .0055	.0031 - .0063	.0031 - .008
		200 - 250	–	–	500 - 1000	.0024 - .0047	.0031 - .0055	.0031 - .0063	.0031 - .008
	Brass	100	–	–	500 - 1000	.0024 - .0047	.0031 - .0055	.0031 - .0063	.0031 - .008
Copper	60	–	–	500 - 1000	.0024 - .0047	.0031 - .0055	.0031 - .0063	.0031 - .008	

*For high temp materials, 1000 PSI is recommended as well as a quality synthetic coolant at approximately 10% emulsion.

**For 4xD tools, begin at low end of feed recommendation.

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team.