

# Drill Speed Recommendation Chart

For Various Materials Using High-Speed Steel (HSS) Drills\*

MATERIAL	SPEED (SFPM)		DRILL SIZES – INCHES (mm)			
	MIN.	MAX.	1/16 (1.5)		1/8 (3)	
			0.063		0.125	
			MIN. RPM	MAX. RPM	MIN. RPM	MAX. RPM
MARBLE	15	25	909	1,515	458	763
SLATE	15	25	909	1,515	458	763
STONE	15	25	909	1,515	458	763
STEEL – ALLOY (300-400 Bhn)	20	30	1,212	1,818	611	916
CAST IRON – HARD (260-320 Bhn)	30	40	1,818	2,425	916	1,222
STEEL – STAINLESS (375-425 Bhn)	30	40	1,818	2,425	916	1,222
MONEL	40	50	2,425	3,031	1,222	1,527
STEEL – AUTOMOTIVE FORGINGS	40	50	2,425	3,031	1,222	1,527
STEEL – TOOL (150-200 Bhn)	50	60	3,031	3,637	1,527	1,833
STEEL – 0.4-0.5%C (125-175 Bhn)	70	80	4,244	4,850	2,139	2,444
CAST IRON – MED HARD (150-190 Bhn)	70	100	4,244	6,063	2,139	3,055
BRONZE – HIGH TENSILE	30	100	1,818	6,063	916	3,055
MALLEABLE IRON	80	90	4,850	5,456	2,444	2,750
MILD MACHINERY – 0.2-0.3%C (120-150 Bhn)	80	110	4,850	6,669	2,444	3,361
BAKELITE AND SIMILAR MATERIAL	100	150	6,063	9,094	3,055	4,583
CAST IRON – SOFT (110-140 Bhn)	100	150	6,063	9,094	3,055	4,583
PLASTIC – SOFT	100	150	6,063	9,094	3,055	4,583
BRASS AND BRONZE	200	300	12,126	18,189	6,111	9,167
ALUMINUM & ALUMINUM ALLOYS (CAST, NON-HEAT TREATED)	200	300	12,126	18,189	6,111	9,167
MAGNESIUM AND ALLOYS	250	400	15,157	24,252	7,639	12,223
FIBERGLASS	300	400	18,189	24,252	9,167	12,223
WOOD	300	400	18,189	24,252	9,167	12,223
<b>RPM RANGES</b>						
LOW	0	301	601	901	1,201	1,801
HIGH	300	600	900	1,200	1,800	2,400

\*Chart is based on High-Speed Steel (HSS) drills and drill bits. For other drill materials and coatings, follow drill bit manufacturer's recommendations.

DRILLS & SPECIALTY TOOLS