



## REAMERS - COBALT & HIGH SPEED STEEL

### Technical Information

Recommended Speeds	
MATERIAL	SFM
<b>STEEL - ALL TYPES</b>	
60 + RC	8 - 12
50 - 60 RC	15 - 30
40 - 50 RC	20 - 40
30 - 40 RC	35 - 65
LESS THAN 30 RC	60 - 90
CAST IRON & MALLEABLE	50 - 85
<b>NON-FERROUS</b>	
ALUMINUM, BRASS, BRONZE, COPPER	90 - 175
FIBER, PLASTIC, HARD RUBBER, ETC.	90 - 175

Workpiece hardness and machinability must be considered when setting machine speed. The feed rate plays an important part in the life expectancy of a tool and the hole finish which one is looking to attain. Improper feed rate can cause excessive tool wear as well as an inadequate hole finish.

To eliminate chatter, slow cutting speed and increase feed appropriately. Stock removal roughing operations should not exceed 2 to 4 percent of tool diameter in most case. Stock removal recommendations on finishing operations .002" to .004".

For best results with brass, cast iron, and some plastics, use a Left-Hand Spiral-Fluted reamer with negative shear action. This type of reamer helps prevent chips from working back into the flutes and scoring the hole. In all reaming operations, use constant-flow coolants. Soluble oil is effective for most metals; however, sulfur-based oils are recommended for stainless and certain alloy steels, lard oil and kerosene improve the finish on aluminum.

Recommended Feeds	
MATERIAL	IPR
<b>STEEL - ALL TYPES</b>	
50 + RC	.0020 - .0040
30 - 50 RC	.0040 - .0080
CAST IRON & MALLEABLE IRON	.0050 - .0120
<b>NON-FERROUS</b>	
ALUMINUM, BRASS, BRONZE, COPPER	.0050 - .0120
FIBER, PLASTIC, HARD RUBBER, ETC.	.0050 - .0120

Recommended Stock Removal	
REAMER DIAMETER	REMOVAL (IN)
<b>STEEL - ALL TYPES</b>	
UP TO 1/16" INCL.	.0030 - .0050
OVER 1/16" TO 1/8" INCL.	.0040 - .0080
OVER 1/8" TO 1/4" INCL.	.0060 - .0120
OVER 1/4" TO 3/8" INCL.	.0080 - .0140
OVER 3/8" TO 1/2" INCL.	.0100 - .0150
OVER 1/2" TO 3/4" INCL.	.0120 - .0180

Recommended Lubricants	
MATERIAL	LUBRICANT
<b>STEEL - ALL TYPES</b>	
STEEL HARDER THAN 50 RC	Light Oil
STEEL SOFTER THAN 50 RC	Light Oil for good finished or Soluable Oil and Water
CAST IRON & MALLEABLE IRON	Soluable Oil and Water
NON-FERROUS MATERIALS	Soluable Oil and Water