RPM=(CS x 3.82)/Ø

RPM=spindle speed

CS=cutting speed (surface feet per minute)

Ø= diameter of cutter

FEED=feed rate (inches per minute)

CL (chip load)=feed rate (inches per minute)/(RPM x F)

Chip load: measurement of material thickness removed by each cutting edge during a cut

F=number of flutes (cutting edges)

CUTTING SPEED (HSS)

MATL	Low Carbon Steel	Tool Steels	Aluminum	303 Stainless	304 Stainless	Brass	Plastics
CS (HSS)	80	60	400	70	50	200	250
CL	.003-.005	0.003	0.007	0.005	0.005	0.004	.008-.012
CUTTER Ø							
1/8	**2445**	**1834**	**12224**	**2139**	**1528**	**6112**	**7640**
3/16	**1630**	**1222**	**8149**	**1426**	**1019**	**4075**	**5093**
1/4	**1222**	**917**	**6112**	**1070**	**764**	**3056**	**3820**
5/16	**978**	**733**	**4890**	**856**	**611**	**2445**	**3056**
3/8	**815**	**611**	**4075**	**713**	**509**	**2037**	**2547**
7/16	**699**	**524**	**3493**	**611**	**437**	**1746**	**2183**
1/2	**611**	**458**	**3056**	**535**	**382**	**1528**	**1910**
9/16	**543**	**407**	**2716**	**475**	**340**	**1358**	**1698**
5/8	**489**	**367**	**2445**	**428**	**306**	**1222**	**1528**
3/4	**407**	**306**	**2037**	**357**	**255**	**1019**	**1273**
1	**306**	**229**	**1528**	**267**	**191**	**764**	**955**

CUTTING SPEED (CARBIDE)

MATL	Low Carbon Steel	Tool Steels	Aluminum	303 Stainless	304 Stainless	Brass	Plastics
CS (CARBIDE)	200	160	800	400	150	440	550
CL	.003-.005	0.003	0.007	0.005	0.005	0.004	.008-.012
CUTTER Ø							
1/8	**6112**	**4890**	**24448**	**12224**	**4584**	**13446**	**16808**
3/16	**4075**	**3260**	**16299**	**8149**	**3056**	**8964**	**11205**
1/4	**3056**	**2445**	**12224**	**6112**	**2292**	**6723**	**8404**
5/16	**2445**	**1956**	**9779**	**4890**	**1834**	**5379**	**6723**
3/8	**2037**	**1630**	**8149**	**4075**	**1528**	**4482**	**5603**
7/16	**1746**	**1397**	**6985**	**3493**	**1310**	**3842**	**4802**
1/2	**1528**	**1222**	**6112**	**3056**	**1146**	**3362**	**4202**
9/16	**1358**	**1087**	**5433**	**2716**	**1019**	**2988**	**3735**
5/8	**1222**	**978**	**4890**	**2445**	**917**	**2689**	**3362**
3/4	**1019**	**815**	**4075**	**2037**	**764**	**2241**	**2801**
1	**764**	**611**	**3056**	**1528**	**573**	**1681**	**2101**