

Point Angle SIG 60°

Recommended Cutting Conditions

(inch)

Workpiece Material		Mild Steels ($\leq 180\text{HB}$)		Carbon Steels, Alloy Steels (180—280HB)		Carbon Steels, Alloy Steels (280—350HB)	
		AISI 1010 etc.		AISI 1045, 4140 etc.		AISI 4340 etc.	
DC		Cutting Speed (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (SFM)	Feed (Min.—Max.) (IPR)
(mm)	(inch)						
3	.1181	245	.0020 (.0012—.0028)	210	.0020 (.0012—.0028)	195	.0016 (.0008—.0024)
4	.1575	245	.0020 (.0012—.0028)	210	.0020 (.0012—.0028)	195	.0016 (.0008—.0024)
5	.1969	260	.0024 (.0016—.0031)	230	.0024 (.0016—.0031)	210	.0020 (.0012—.0028)
6	.2362	260	.0024 (.0016—.0031)	230	.0024 (.0016—.0031)	210	.0020 (.0012—.0028)
7	.2756	260	.0028 (.0016—.0035)	230	.0028 (.0016—.0035)	210	.0020 (.0012—.0028)
8	.3150	260	.0028 (.0016—.0035)	230	.0028 (.0016—.0035)	210	.0020 (.0012—.0028)
10	.3937	280	.0031 (.0016—.0039)	245	.0031 (.0016—.0039)	230	.0024 (.0012—.0031)
12	.4724	280	.0031 (.0016—.0039)	245	.0031 (.0016—.0039)	230	.0024 (.0012—.0031)

Workpiece Material		Austenitic Stainless Steels ($\leq 200\text{HB}$)		Gray Cast Irons ($\leq 350\text{MPa}$)		Ductile Cast Irons ($\leq 450\text{MPa}$)	
		AISI 304, 316 etc.		AISI No45B etc.		AISI 60-40-18 etc.	
DC		Cutting Speed (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (SFM)	Feed (Min.—Max.) (IPR)
(mm)	(inch)						
3	.1181	50	.0012 (.0004—.0020)	245	.0020 (.0012—.0028)	180	.0020 (.0012—.0028)
4	.1575	50	.0012 (.0004—.0020)	245	.0020 (.0012—.0028)	180	.0020 (.0012—.0028)
5	.1969	65	.0016 (.0008—.0024)	260	.0024 (.0016—.0031)	195	.0024 (.0016—.0031)
6	.2362	65	.0016 (.0008—.0024)	260	.0024 (.0016—.0031)	195	.0024 (.0016—.0031)
7	.2756	65	.0016 (.0008—.0024)	260	.0028 (.0016—.0035)	195	.0024 (.0016—.0031)
8	.3150	65	.0016 (.0008—.0024)	260	.0028 (.0016—.0035)	195	.0024 (.0016—.0031)
10	.3937	65	.0016 (.0008—.0024)	280	.0031 (.0016—.0039)	195	.0028 (.0016—.0035)
12	.4724	65	.0016 (.0008—.0024)	280	.0031 (.0016—.0039)	195	.0028 (.0016—.0035)

Note 1) When chamfering a circumference of a guide hole, make sure that the tool diameter(DC) is $D < DC < 2D$.

Note 2) When centering into curved or inclined surfaces, please reduce the feed rate.

Note 3) When V-grooving and chamfering, please reduce cutting conditions.

Note 4) When chatter vibration or abnormal noise is generated, please shorten the time of dwell program or lower the rotation speed.

Note 5) When centering, please do not exceed the **LU** (usable length).

Point Angle SIG 90°, 120° and 145°

Recommended Cutting Conditions

(inch)

Workpiece Material		Mild Steels ($\leq 180\text{HB}$)		Carbon Steels, Alloy Steels (180—280HB)		Carbon Steels, Alloy Steels (280—350HB)	
		AISI 1010 etc.		AISI 1045, 4140 etc.		AISI 4340 etc.	
DC		Cutting Speed (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (SFM)	Feed (Min.—Max.) (IPR)
(mm)	(inch)						
1.0	.0394	100	.0008 (.0004—.0012)	65	.0008 (.0004—.0012)	15	.0008 (.0004—.0012)
1.5	.0591	150	.0008 (.0004—.0012)	115	.0008 (.0004—.0012)	30	.0008 (.0004—.0012)
2.0	.0787	195	.0016 (.0012—.0020)	165	.0016 (.0012—.0020)	45	.0016 (.0012—.0020)
2.5	.0984	245	.0016 (.0012—.0020)	210	.0016 (.0012—.0020)	195	.0016 (.0012—.0020)
3.0	.1181	245	.0024 (.0016—.0031)	210	.0024 (.0016—.0031)	195	.0020 (.0012—.0028)
4.0	.1575	245	.0024 (.0016—.0031)	210	.0024 (.0016—.0031)	195	.0020 (.0012—.0028)
5.0	.1969	260	.0028 (.0020—.0035)	230	.0028 (.0020—.0035)	210	.0024 (.0016—.0031)
6.0	.2362	260	.0028 (.0020—.0035)	230	.0028 (.0020—.0035)	210	.0024 (.0016—.0031)
7.0	.2756	260	.0031 (.0020—.0039)	230	.0031 (.0020—.0039)	210	.0024 (.0016—.0031)
8.0	.3150	260	.0031 (.0020—.0039)	230	.0031 (.0020—.0039)	210	.0024 (.0016—.0031)
10.0	.3937	280	.0035 (.0020—.0043)	245	.0035 (.0020—.0043)	230	.0028 (.0016—.0035)
12.0	.4724	280	.0035 (.0020—.0043)	245	.0035 (.0020—.0043)	230	.0028 (.0016—.0035)
16.0	.6299	295	.0047 (.0039—.0055)	260	.0047 (.0039—.0055)	245	.0031 (.0024—.0039)

Workpiece Material		Austenitic Stainless Steels ($\leq 200\text{HB}$)		Gray Cast Irons ($\leq 350\text{MPa}$)		Ductile Cast Irons ($\leq 450\text{MPa}$)	
		AISI 304, 316 etc.		AISI No45B etc.		AISI 60-40-18 etc.	
DC		Cutting Speed (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (SFM)	Feed (Min.—Max.) (IPR)
(mm)	(inch)						
1.0	.0394	65	.0004 (.0002—.0006)	100	.0008 (.0004—.0012)	30	.0008 (.0004—.0012)
1.5	.0591	65	.0004 (.0002—.0006)	150	.0008 (.0004—.0012)	80	.0008 (.0004—.0012)
2.0	.0787	65	.0016 (.0012—.0020)	195	.0016 (.0012—.0020)	130	.0016 (.0012—.0020)
2.5	.0984	65	.0016 (.0012—.0020)	245	.0016 (.0012—.0020)	180	.0016 (.0012—.0020)
3.0	.1181	65	.0016 (.0008—.0024)	245	.0024 (.0016—.0031)	180	.0024 (.0016—.0031)
4.0	.1575	65	.0016 (.0008—.0024)	245	.0024 (.0016—.0031)	180	.0024 (.0016—.0031)
5.0	.1969	65	.0024 (.0016—.0031)	260	.0028 (.0020—.0035)	195	.0028 (.0020—.0035)
6.0	.2362	65	.0024 (.0016—.0031)	260	.0028 (.0020—.0035)	195	.0028 (.0020—.0035)
7.0	.2756	65	.0024 (.0016—.0031)	260	.0031 (.0020—.0039)	195	.0028 (.0020—.0035)
8.0	.3150	65	.0024 (.0016—.0031)	260	.0031 (.0020—.0039)	195	.0028 (.0020—.0035)
10.0	.3937	65	.0024 (.0016—.0031)	280	.0035 (.0020—.0043)	195	.0031 (.0020—.0039)
12.0	.4724	65	.0024 (.0016—.0031)	280	.0035 (.0020—.0043)	195	.0031 (.0020—.0039)
16.0	.6299	65	.0031 (.0024—.0039)	295	.0047 (.0039—.0055)	195	.0043 (.0035—.0051)

Note 1) When chamfering a circumference of a guide hole, make sure that the tool diameter(DC) is $D < DC < 2D$.

Note 2) When centering into curved or inclined surfaces, please reduce the feed rate.

Note 3) When V-grooving and chamfering, please reduce cutting conditions.

Note 4) When chatter vibration or abnormal noise is generated, please shorten the time of dwell program or lower the rotation speed.

Note 5) When centering, please do not exceed the LU (usable length).