

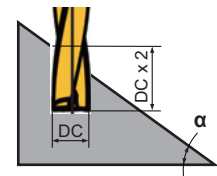
# Recommended Cutting Conditions

(inch)

Work 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)
inch	mm						
<b>.0295</b>	<b>0.75</b>	180	.0012 (.0004—.0020)	150	.0012 (.0004—.0020)	130	.0012 (.0004—.0020)
<b>.0394</b>	<b>1.0</b>	180	.0012 (.0004—.0020)	150	.0012 (.0004—.0020)	130	.0012 (.0004—.0020)
<b>.0591</b>	<b>1.5</b>	190	.0014 (.0006—.0022)	155	.0014 (.0006—.0022)	130	.0014 (.0006—.0020)
<b>.0787</b>	<b>2.0</b>	195	.0016 (.0008—.0024)	165	.0016 (.0008—.0024)	140	.0016 (.0008—.0024)
<b>.0984</b>	<b>2.5</b>	205	.0020 (.0012—.0028)	170	.0020 (.0012—.0028)	150	.0020 (.0012—.0028)
<b>.1181</b>	<b>3.0</b>	245	.0024 (.0016—.0031)	245	.0024 (.0016—.0031)	210	.0024 (.0016—.0031)
<b>.1575</b>	<b>4.0</b>	245	.0031 (.0024—.0039)	245	.0031 (.0024—.0039)	210	.0031 (.0024—.0039)
<b>.1969</b>	<b>5.0</b>	245	.0039 (.0031—.0051)	245	.0039 (.0031—.0051)	210	.0039 (.0031—.0051)
<b>.2362</b>	<b>6.0</b>	245	.0051 (.0039—.0059)	245	.0051 (.0039—.0059)	210	.0051 (.0039—.0059)
<b>.3150</b>	<b>8.0</b>	245	.0059 (.0051—.0067)	245	.0059 (.0051—.0067)	210	.0059 (.0051—.0067)
<b>.3937</b>	<b>10.0</b>	245	.0067 (.0059—.0079)	245	.0067 (.0059—.0079)	210	.0067 (.0059—.0079)
<b>.4724</b>	<b>12.0</b>	245	.0079 (.0067—.0098)	245	.0079 (.0067—.0098)	210	.0079 (.0067—.0098)
<b>.6299</b>	<b>16.0</b>	245	.0098 (.0079—.0118)	245	.0098 (.0079—.0118)	210	.0098 (.0079—.0118)
<b>.7874</b>	<b>20.0</b>	245	.0118 (.0098—.0138)	245	.0118 (.0098—.0138)	210	.0118 (.0098—.0138)

Work 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)
inch	mm						
<b>.0295</b>	<b>0.75</b>	80	.0003 (.0001—.0004)	180	.0012 (.0004—.0020)	130	.0004 (.0002—.0006)
<b>.0394</b>	<b>1.0</b>	80	.0003 (.0001—.0004)	180	.0012 (.0004—.0020)	130	.0004 (.0002—.0006)
<b>.0591</b>	<b>1.5</b>	80	.0004 (.0002—.0006)	190	.0014 (.0006—.0022)	155	.0008 (.0004—.0012)
<b>.0787</b>	<b>2.0</b>	100	.0006 (.0004—.0008)	195	.0016 (.0008—.0024)	180	.0012 (.0006—.0018)
<b>.0984</b>	<b>2.5</b>	100	.0006 (.0004—.0008)	205	.0020 (.0012—.0028)	190	.0018 (.0010—.0026)
<b>.1181</b>	<b>3.0</b>	100	.0008 (.0004—.0012)	245	.0024 (.0016—.0031)	210	.0020 (.0016—.0024)
<b>.1575</b>	<b>4.0</b>	100	.0012 (.0008—.0016)	245	.0031 (.0024—.0039)	230	.0024 (.0020—.0031)
<b>.1969</b>	<b>5.0</b>	100	.0016 (.0012—.0020)	245	.0039 (.0031—.0047)	230	.0031 (.0024—.0039)
<b>.2362</b>	<b>6.0</b>	100	.0020 (.0016—.0024)	245	.0047 (.0039—.0055)	230	.0039 (.0031—.0047)
<b>.3150</b>	<b>8.0</b>	100	.0024 (.0020—.0031)	245	.0055 (.0047—.0063)	230	.0047 (.0039—.0059)
<b>.3937</b>	<b>10.0</b>	100	.0031 (.0024—.0039)	245	.0063 (.0055—.0071)	230	.0059 (.0047—.0071)
<b>.4724</b>	<b>12.0</b>	100	.0039 (.0031—.0047)	245	.0071 (.0063—.0079)	230	.0071 (.0059—.0079)
<b>.6299</b>	<b>16.0</b>	100	.0047 (.0039—.0059)	245	.0079 (.0071—.0094)	230	.0079 (.0071—.0098)
<b>.7874</b>	<b>20.0</b>	100	.0059 (.0047—.0079)	245	.0094 (.0079—.0110)	230	.0098 (.0079—.0118)

Work Material		Aluminum Alloys (Si<5%)	
		AISI 6061, 7075 etc.	
DC		Cutting Speed (SFM)	Feed (Min.—Max.) (IPR)
inch	mm		
<b>.0295</b>	<b>0.75</b>	330	.0008 (.0004—.0012)
<b>.0394</b>	<b>1.0</b>	330	.0008 (.0004—.0012)
<b>.0591</b>	<b>1.5</b>	330	.0008 (.0004—.0012)
<b>.0787</b>	<b>2.0</b>	360	.0020 (.0012—.0028)
<b>.0984</b>	<b>2.5</b>	360	.0024 (.0016—.0035)
<b>.1181</b>	<b>3.0</b>	360	.0024 (.0016—.0035)
<b>.1575</b>	<b>4.0</b>	360	.0031 (.0024—.0039)
<b>.1969</b>	<b>5.0</b>	360	.0039 (.0031—.0051)
<b>.2362</b>	<b>6.0</b>	360	.0051 (.0039—.0063)
<b>.3150</b>	<b>8.0</b>	360	.0063 (.0051—.0079)
<b>.3937</b>	<b>10.0</b>	360	.0079 (.0063—.0094)
<b>.4724</b>	<b>12.0</b>	360	.0094 (.0079—.0110)
<b>.6299</b>	<b>16.0</b>	360	.0110 (.0094—.0126)
<b>.7874</b>	<b>20.0</b>	360	.0126 (.0110—.0142)



(Note 1) The recommended hole depth is  $DC \times 2$ . This should be the depth from the uppermost surface of the work material when machining on an angled surface. (Refer to diagram)

(Note 2) The above cutting table assumes drilling on a flat surface. (Refer to diagram)

For hole drilling on an angled surface, adjust the feed rate in accordance with the inclination angle.

When the inclination angle  $\alpha$  is  $30^\circ$  or less, adjust the feed rate to 70% or lower as a guideline.

When the inclination angle  $\alpha$  is greater than  $30^\circ$ , adjust the feed rate to 50% or lower as a guideline.

(Note 3) This product is a tool intended for hole drilling. It cannot be used for cross-feed machining or helical machining.