



## XHP, 3X Diameter, Solid Carbide Drills Technical Information

- Solid Carbide XHP 3X Diameter drills
- h6 shank and h7 tool tolerances
- Great drill for job shop and production applications
- High performance at an economical price
- 140° point geometry eliminates the need for spotting
- Recommended for steels, stainless, cast iron and special alloy's
- AlTiN Coated for lubricity and high heat control
- 45° Corner chamfer protects from material breakout on through hole applications and minimizes burrs

### XHP, 3X Diameter, Solid Carbide Drills Speeds & Feeds

Material	Grades	Starting SFM	Tool Diameter (IPR)								
			1/8 (.1250)	5/32 (.1562)	3/16 (.1875)	1/4 (.2500)	5/16 (.3125)	3/8 (.3750)	1/2 (.5000)	5/8 (.6250)	
<b>P - Steels</b>											
High Strength Tool Steel	A2, D2, P20, H11, H13, S2, 01	130-195									
Low Carbon	A36, 12L14, 12L15, 1005, 1018, 1020, 1108-1119, 1213-1215, 1513-1518, 4012, 5015, 9310	460-590	.0057	.0071	.0071	.0089	.0112	.0143	.0143	.0178	
Medium Carbon	1040-1095, 1140-1151, 1330-1345, 1520-1572, 4023-4063, 4120-4161, 4330-4340, 4620-4640, 8620-8660, 8740-8750, 6150, 51000, 52100	260-330									
<b>M - Stainless Steels</b>											
Austenitic	300 Series	130-195	.0028	.0035	.0035	.0043	.0055	.0071	.0071	.0089	
Martensitic	400 Series	295-360									
<b>K - Cast Irons</b>											
	Ductile	165-230	.0061	.0076	.0085	.012	.012	.0152	.0171	.0209	
	Gray	330-460									
<b>S - Special Alloys</b>											
	High Temp Alloys	N/A									
	Titanium Alloys	N/A									

**NOTE: Speeds and Feeds listed are estimated and will vary by application.**



## XHP, 3X Diameter, Coolant Fed, Carbide Drills Technical Information



- Carbide coolant fed XHP 3X Diameter drills
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XHP, 3X Diameter, Coolant Fed Drills Speeds & Feeds										
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			1/8 (.1250)	5/32 (.1562)	3/16 (.1875)	1/4 (.2500)	5/16 (.3125)	3/8 (.3750)	1/2 (.5000)	5/8 (.6250)
<b>P - Steels</b>										
High Strength Tool Steel	A2, D2, P20, H11, H13, S2, 01	195-260								
Low Carbon	A36, 12L14, 12L15, 1005, 1018, 1020, 1108-1119, 1213-1215, 1513-1518, 4012, 5015, 9310	560-690	.0057	.0071	.0071	.0089	.0112	.0143	.0143	.0178
Medium Carbon	1040-1095, 1140-1151, 1330-1345, 1520-1572, 4023-4063, 4120-4161, 4330-4340, 4620-4640, 8620-8660, 8740-8750, 6150, 51000, 52100	295-425								
<b>M - Stainless Steels</b>										
Austenitic	300 Series	195-260	.0028	.0035	.0035	.0043	.0055	.0071	.0071	.0089
Martensitic	400 Series	330-460								
<b>K - Cast Irons</b>										
	Ductile	230-295	.0061	.0076	.0085	.012	.012	.0152	.0171	.0209
	Gray	425-560								
<b>S - Special Alloys</b>										
	High Temp Alloys	35-100	.0013	.0016	.0019	.0025	.0031	.0038	.0050	.0063
	Titanium Alloys	130-195								

**NOTE:** Speeds and Feeds listed are estimated and will vary by application.



## XHP, 5X Diameter, Solid Carbide Drills Technical Information



- Solid Carbide XHP 5X Diameter drills
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			1/8 (.1250)	5/32 (.1562)	3/16 (.1875)	1/4 (.2500)	5/16 (.3125)	3/8 (.3750)	1/2 (.5000)	5/8 (.6250)
<b>P - Steels</b>										
High Strength Tool Steel	A2, D2, P20, H11, H13, S2, 01	130-195								
Low Carbon	A36, 12L14, 12L15, 1005, 1018, 1020, 1108-1119, 1213-1215, 1513-1518, 4012, 5015, 9310	425- 560	.0057	.0071	.0071	.0089	.0112	.0143	.0143	.0178
Medium Carbon	1040-1095, 1140-1151, 1330-1345, 1520-1572, 4023-4063, 4120-4161, 4330-4340, 4620-4640, 8620-8660, 8740-8750, 6150, 51000, 52100	230-295								
<b>M - Stainless Steels</b>										
Austenitic	300 Series	130-195	.0028	.0035	.0035	.0043	.0055	.0071	.0071	.0089
Martensitic	400 Series	260-330								
<b>K - Cast Irons</b>										
	Ductile	130-195	.0061	.0076	.0085	.012	.012	.0152	.0171	.0209
	Gray	295-425								
<b>S - Special Alloys</b>										
	High Temp Alloys	N/A								
	Titanium Alloys	N/A								

**NOTE: Speeds and Feeds listed are estimated and will vary by application.**



## XHP, 5X Diameter, Coolant Fed Drills Technical Information



- Carbide coolant fed XHP 5X Diameter drills
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XHP, 5X Diameter, Coolant Fed Drills Speeds & Feeds										
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			1/8 (.1250)	5/32 (.1562)	3/16 (.1875)	1/4 (.2500)	5/16 (.3125)	3/8 (.3750)	1/2 (.5000)	5/8 (.6250)
<b>P - Steels</b>										
High Strength Tool Steel	A2, D2, P20, H11, H13, S2, 01	165-230								
Low Carbon	A36, 12L14, 12L15, 1005, 1018, 1020, 1108-1119, 1213-1215, 1513-1518, 4012, 5015, 9310	525-655	.0057	.0071	.0071	.0089	.0112	.0143	.0143	.0178
Medium Carbon	1040-1095, 1140-1151, 1330-1345, 1520-1572, 4023-4063, 4120-4161, 4330-4340, 4620-4640, 8620-8660, 8740-8750, 6150, 51000, 52100	295-360								
<b>M - Stainless Steels</b>										
Austenitic	300 Series	165-230	.0028	.0035	.0035	.0043	.0055	.0071	.0071	.0089
Martensitic	400 Series	295-425								
<b>K - Cast Irons</b>										
	Ductile	195-260	.0061	.0076	.0085	.012	.012	.0152	.0171	.0209
	Gray	395-525								
<b>S - Special Alloys</b>										
	High Temp Alloys	35-65	.0013	.0016	.0019	.0025	.0031	.0038	.0050	.0063
	Titanium Alloys	100-165								

NOTE: Speeds and Feeds listed are estimated and will vary by application.

## RedLine Tools Tool Coating Application Guide

Coatings play a crucial part in the performance of your cutting tools, however, tool geometry is just as important to be successful. Although we do not offer all of these coatings, this helpful guide shows most of the coatings in use today and what materials they are designed to be used with.

<b>P - Steels</b>		
<b>Best Coatings:</b>	AlCrN	Aluminum Chromium Nitride
	AlTiNX	Aluminum Titanium Nitride Xtreme
	TiAlNX	Titanium Aluminum Nitride Xtreme
	AlTiN	Aluminum Titanium Nitride
<b>Alternatives:</b>	TiCN	Titanium Carbo-Nitride
	TiN	Titanium Nitride
	CrC	Chromium Carbide
<b>M - Stainless Steels</b>		
<b>Best Coatings:</b>	AlCrN	Aluminum Chromium Nitride
	AlTiNX	Aluminum Titanium Nitride Xtreme
	TiAlNX	Titanium Aluminum Nitride Xtreme
	AlTiN	Aluminum Titanium Nitride
<b>Alternatives:</b>	TiCN	Titanium Carbo-Nitride
	CrC	Chromium Carbide
<b>K - Cast Irons</b>		
<b>Best Coatings:</b>	AlTiNX	Aluminum Titanium Nitride Xtreme
	TiAlNX	Titanium Aluminum Nitride Xtreme
	AlTiN	Aluminum Titanium Nitride
<b>Alternatives:</b>	AlCrN	Aluminum Chromium Nitride
	TiCN	Titanium Carbo-Nitride
	TiN	Titanium Nitride
<b>N - Non Ferrous</b>		
<b>Best Coatings:</b>	ZrN	Zirconium Nitride
	TiCN	Titanium Carbo-Nitride
	TiB2	Titanium Diboride
	DLC	Diamond Like Carbide
<b>S - High Temp Alloys</b>		
<b>Best Coatings:</b>	AlCrN	Aluminum Chromium Nitride
	AlTiNX	Aluminum Titanium Nitride Xtreme
	TiAlNX	Titanium Aluminum Nitride Xtreme
	AlTiN	Aluminum Titanium Nitride
<b>Alternatives:</b>	TiCN	Titanium Carbo-Nitride
	CrC	Chromium Carbide