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**CUTTING TOOLS**

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# HIGH PERFORMANCE CARBIDE DRILLS for ALUMINUM

- Premium Submicron Carbide
- Zirconium Carbo-Nitride Coated
- 135° 4-Facet Self-Centering Point
- Triple Margin
- Coolant-Through 3xD - 5xD - 12xD
- Non-Coolant-Through 3xD - 5xD



**For High Performance Drilling of Aluminum  
and other Non-Ferrous Materials**



# High Performance Carbide Drills for Aluminum

## Technical Information

All components of the drilling system contribute to the achievement of the quality of the hole produced and the productivity that can be realized. In order to maximize success the following should be considered.

1. Toolholding – High quality tool holders should be used. Total indicated tool run out measured at the point should be less than .001”.
2. Machine – A rigid machine with a high quality spindle is required.
3. Workholding – The workpiece must be held rigidly so that it cannot deflect or vibrate during drilling
4. Drilling and Chamfering – A chamfer should be added to a hole only after drilling, never before.
5. The drill should be perpendicular to the surface being drilled. An inclined or rough surface should be pre-machined with an end mill to make it perpendicular before drilling.
6. Drilling On Turning Machines – When drilling on a turning machine the drill must be on center. The tolerance range for centrality should not exceed  $\pm .001$ . When drilling more than 3XD the drill may require a reduction in speed.
7. Coolant – **SHEARDRILL™** drills are high penetration drills. To perform to their potential they must be properly cooled. A high pressure and high volume with a quality high lubricity coolant will aid chip removal, enhance tool life, and increase hole quality.
  - Without adequate coolant, drills can heat up quickly and expand, sometimes leading to the drill seizing in the hole.
  - Heat at the drill point can cause coolant to vaporize resulting in thermal damage to the point. Coolant pressure should be high enough to break this barrier keeping the point within acceptable operating parameters.

Drill and Shank Diameter Tolerances			
Diameter Range		Drill Dia. h7	Shank Dia. h6
INCH	≤ .1181	+0.000 / -0.00039	+0.000 / -0.00024
METRIC (mm)	≤ 3.0	+0.000 / -0.010	+0.000 / -0.006
INCH	.1182 - .2362	+0.000 / -0.00047	+0.000 / -0.00031
METRIC (mm)	3.01 - 6.0	+0.000 / -0.012	+0.000 / -0.008
INCH	.2363 - .3937	+0.000 / -0.00059	+0.000 / -0.00035
METRIC (mm)	6.01 - 10.0	+0.000 / -0.015	+0.000 / -0.009
INCH	.3938 - .7087	+0.000 / -0.00071	+0.000 / -0.00043
METRIC (mm)	10.01 - 18.0	+0.000 / -0.018	+0.000 / -0.011



# High Performance Carbide Drills for Aluminum

Coolant-Through & Non-Coolant-Through

Premium Submicron Carbide

ZrCN - Zirconium Carbo-Nitride Coating increases wear resistance, heat resistance and chip flow and resists chip welding.

135° 4-Facet Self-Centering High Performance Point

15° Helix Angle with Polished Flutes

Edge Preparation for enhanced edge strength, tool life, coating adhesion and surface finish. Higher speeds and feeds.

Triple Margin Design for improved drilling stability, surface finish, hole quality and size precision.



List No. 5604 3xD Non-Coolant-Through

List No. 5605 3xD **Coolant-Through**



List No. 5604 5xD Non-Coolant-Through

List No. 5605 5xD **Coolant-Through**

**COOLANT THROUGH SEE PAGE 7**



List No. 5605 12xD **Coolant-Through**

**Coolant-Through Design** delivers coolant directly to the drill point enabling higher speeds and chip loads. Eliminates the need for "pecking" in deeper hole drilling.

**Recommended for Aluminum and a wide range of other Non-Ferrous Materials. Increased Productivity and Long Tool Life.**

## High Performance Carbide Drills for Aluminum

List No. 5604 3xD Non-Coolant-Through

**3xD - WITHOUT COOLANT HOLES**

SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.
1/16	.0625	1/8	5/8	2	<b>06015</b>
#52	.0635	1/8	11/16	2	<b>06016</b>
#51	.0670	1/8	11/16	2	<b>06017</b>
#50	.0700	1/8	11/16	2	<b>06018</b>
#49	.0730	1/8	11/16	2	<b>06019</b>
#48	.0760	1/8	11/16	2	<b>06020</b>
5/64	.0781	1/8	11/16	2	<b>06021</b>
#47	.0785	1/8	3/4	2-1/2	<b>06022</b>
2.00 MM	.0787	1/8	3/4	2-1/2	<b>06023</b>
#46	.0810	1/8	3/4	2-1/2	<b>06024</b>
#45	.0820	1/8	3/4	2-1/2	<b>06025</b>
#44	.0860	1/8	3/4	2-1/2	<b>06026</b>
#43	.0890	1/8	3/4	2-1/2	<b>06027</b>
#42	.0935	1/8	3/4	2-1/2	<b>06028</b>
3/32	.0938	1/8	3/4	2-1/2	<b>06029</b>
#41	.0960	1/8	13/16	2-1/2	<b>06030</b>
#40	.0980	1/8	13/16	2-1/2	<b>06031</b>
2.50 MM	.0984	1/8	13/16	2-1/2	<b>06032</b>
#39	.0995	1/8	13/16	2-1/2	<b>06033</b>
#38	.1015	1/8	13/16	2-1/2	<b>06034</b>

SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.
#37	.1040	1/8	13/16	2-1/2	<b>06035</b>
#36	.1065	1/8	13/16	2-1/2	<b>06036</b>
7/64	.1094	1/8	13/16	2-1/2	<b>06037</b>
#35	.1100	1/8	7/8	2-1/2	<b>06038</b>
#34	.1110	1/8	7/8	2-1/2	<b>06039</b>
#33	.1130	1/8	7/8	2-1/2	<b>06040</b>
#32	.1160	1/8	7/8	2-1/2	<b>06041</b>
3.00 MM	.1181	1/8	7/8	2-1/2	<b>06042</b>
#31	.1200	1/8	7/8	2-1/2	<b>06043</b>
1/8	.1250	1/8	7/8	2-1/2	<b>06044</b>
#30	.1285	3/16	15/16	2-1/2	<b>06045</b>
#29	.1360	3/16	15/16	2-1/2	<b>06046</b>
3.50 MM	.1378	3/16	15/16	2-1/2	<b>06047</b>
#28	.1405	3/16	15/16	2-1/2	<b>06048</b>
9/64	.1406	3/16	1	2-1/2	<b>06049</b>
#27	.1440	3/16	1	2-1/2	<b>06050</b>
#26	.1470	3/16	1	2-1/2	<b>06051</b>
#25	.1495	3/16	1	2-1/2	<b>06052</b>
#24	.1520	3/16	1	2-1/2	<b>06053</b>
#23	.1540	3/16	1	2-1/2	<b>06054</b>

(continued)



# High Performance Carbide Drills for Aluminum

List No. 5604 3xD Non-Coolant-Through (continued)

3xD - WITHOUT  
COOLANT HOLES

SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.	SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.
5/32	.1562	3/16	1	2-1/2	06055	I	.2720	5/16	1-1/2	3	06100
#22	.1570	3/16	1-1/16	2-1/2	06056	7.00 MM	.2756	5/16	1-1/2	3	06101
4.00 MM	.1575	3/16	1-1/16	2-1/2	06057	J	.2770	5/16	1-1/2	3	06102
#21	.1590	3/16	1-1/16	2-1/2	06058	K	.2810	5/16	1-1/2	3	06103
#20	.1610	3/16	1-1/16	2-1/2	06059	9/32	.2812	5/16	1-1/2	3	06104
4.20 MM	.1654	3/16	1-1/16	2-1/2	06060	L	.2900	5/16	1-9/16	4	06105
#19	.1660	3/16	1-1/16	2-1/2	06061	M	.2950	5/16	1-9/16	4	06106
#18	.1695	3/16	1-1/16	2-1/2	06062	7.50 MM	.2953	5/16	1-9/16	4	06107
11/64	.1719	3/16	1-1/16	2-1/2	06063	19/64	.2969	5/16	1-9/16	4	06108
#17	.1730	3/16	1-1/8	3	06064	N	.3020	5/16	1-5/8	4	06109
#16	.1770	3/16	1-1/8	3	06065	5/16	.3125	5/16	1-5/8	4	06110
4.50 MM	.1772	3/16	1-1/8	3	06066	8.00 MM	.3150	3/8	1-11/16	4	06111
#15	.1800	3/16	1-1/8	3	06067	O	.3160	3/8	1-11/16	4	06112
#14	.1820	3/16	1-1/8	3	06068	P	.3230	3/8	1-11/16	4	06113
#13	.1850	3/16	1-1/8	3	06069	21/64	.3281	3/8	1-11/16	4	06114
3/16	.1875	3/16	1-1/8	3	06070	Q	.3320	3/8	1-11/16	4	06115
#12	.1890	1/4	1-3/16	3	06071	8.50 MM	.3346	3/8	1-11/16	4	06116
#11	.1910	1/4	1-3/16	3	06072	R	.3390	3/8	1-11/16	4	06117
#10	.1935	1/4	1-3/16	3	06073	11/32	.3438	3/8	1-11/16	4	06118
#9	.1960	1/4	1-3/16	3	06074	S	.3480	3/8	1-3/4	4	06119
5.00 MM	.1969	1/4	1-3/16	3	06075	9.00 MM	.3543	3/8	1-3/4	4	06120
#8	.1990	1/4	1-3/16	3	06076	T	.3580	3/8	1-3/4	4	06121
5.10 MM	.2008	1/4	1-3/16	3	06077	23/64	.3594	3/8	1-3/4	4	06122
#7	.2010	1/4	1-3/16	3	06078	U	.3680	3/8	1-13/16	4	06123
13/64	.2031	1/4	1-3/16	3	06079	9.50 MM	.3740	3/8	1-13/16	4	06124
#6	.2040	1/4	1-1/4	3	06080	3/8	.3750	3/8	1-13/16	4	06125
#5	.2055	1/4	1-1/4	3	06081	V	.3770	7/16	1-7/8	4	06126
#4	.2090	1/4	1-1/4	3	06082	W	.3860	7/16	1-7/8	4	06127
#3	.2130	1/4	1-1/4	3	06083	25/64	.3906	7/16	1-7/8	4	06128
5.50 MM	.2165	1/4	1-1/4	3	06084	10.00 MM	.3937	7/16	1-15/16	4	06129
7/32	.2188	1/4	1-1/4	3	06085	X	.3970	7/16	1-15/16	4	06130
#2	.2210	1/4	1-1/4	3	06086	Y	.4040	7/16	1-15/16	4	06131
#1	.2280	1/4	1-1/4	3	06087	13/32	.4062	7/16	1-15/16	4	06132
A	.2340	1/4	1-1/4	3	06088	Z	.4130	7/16	2	4	06133
15/64	.2344	1/4	1-1/4	3	06089	10.50 MM	.4134	7/16	2	4	06134
6.00 MM	.2362	1/4	1-3/8	3	06090	27/64	.4219	7/16	2	4	06135
B	.2380	1/4	1-3/8	3	06091	10.80 MM	.4252	7/16	2	4	06136
C	.2420	1/4	1-3/8	3	06092	11.00 MM	.4331	7/16	2-1/16	4	06137
D	.2460	1/4	1-3/8	3	06093	7/16	.4375	7/16	2-1/16	4	06138
1/4 (E)	.2500	1/4	1-3/8	3	06094	11.50 MM	.4528	1/2	2-1/8	4	06139
6.50 MM	.2559	5/16	1-7/16	3	06095	29/64	.4531	1/2	2-1/8	4	06140
F	.2570	5/16	1-7/16	3	06096	15/32	.4688	1/2	2-1/8	4	06141
G	.2610	5/16	1-7/16	3	06097	12.00 MM	.4724	1/2	2-3/16	5	06142
17/64	.2656	5/16	1-7/16	3	06098	31/64	.4844	1/2	2-3/16	5	06143
H	.2660	5/16	1-1/2	3	06099	12.50 MM	.4921	1/2	2-1/4	5	06144

(continued)



SPEEDS  
& FEEDS  
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# High Performance Carbide Drills for Aluminum

List No. 5604 3xD Non-Coolant-Through (continued)

3xD - WITHOUT  
COOLANT HOLES

SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.	SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.
1/2	.5000	1/2	2-1/4	5	06145	14.50 MM	.5709	5/8	3	5	06153
13.00 MM	.5118	9/16	2-3/8	5	06146	37/64	.5781	5/8	3	5	06154
33/64	.5156	9/16	2-3/8	5	06147	15.00 MM	.5906	5/8	3	5	06155
17/32	.5312	9/16	2-1/2	5	06148	19/32	.5938	5/8	3	5	06156
13.50 MM	.5315	9/16	2-1/2	5	06149	39/64	.6094	5/8	3	5	06157
35/64	.5469	9/16	2-1/2	5	06150	15.50 MM	.6102	5/8	3	5	06158
14.00 MM	.5512	9/16	2-1/2	5	06151	5/8	.6250	5/8	3	5	06159
9/16	.5625	9/16	3	5	06152	16.00 MM	.6299	3/4	3	5	06160

# High Performance Carbide Drills for Aluminum

List No. 5604 5xD Non-Coolant-Through

5xD - WITHOUT  
COOLANT HOLES

SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.	SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.
1/16	.0625	1/8	3/4	2-1/2	06161	#30	.1285	3/16	1-1/4	3	06191
#52	.0635	1/8	3/4	2-1/2	06162	#29	.1360	3/16	1-3/8	3	06192
#51	.0670	1/8	3/4	2-1/2	06163	3.50 MM	.1378	3/16	1-3/8	3	06193
#50	.0700	1/8	7/8	2-1/2	06164	#28	.1405	3/16	1-3/8	3	06194
#49	.0730	1/8	7/8	2-1/2	06165	9/64	.1406	3/16	1-3/8	3	06195
#48	.0760	1/8	7/8	2-1/2	06166	#27	.1440	3/16	1-3/8	3	06196
5/64	.0781	1/8	7/8	2-1/2	06167	#26	.1470	3/16	1-3/8	3	06197
#47	.0785	1/8	7/8	2-1/2	06168	#25	.1495	3/16	1-3/8	3	06198
2.00 MM	.0787	1/8	7/8	2-1/2	06169	#24	.1520	3/16	1-3/8	3	06199
#46	.0810	1/8	7/8	2-1/2	06170	#23	.1540	3/16	1-3/8	3	06200
#45	.0820	1/8	7/8	2-1/2	06171	5/32	.1562	3/16	1-3/8	3	06201
#44	.0860	1/8	1	2-1/2	06172	#22	.1570	3/16	1-3/8	3	06202
#43	.0890	1/8	1	2-1/2	06173	4.00 MM	.1575	3/16	1-3/8	3	06203
#42	.0935	1/8	1	2-1/2	06174	#21	.1590	3/16	1-3/8	3	06204
3/32	.0938	1/8	1	2-1/2	06175	#20	.1610	3/16	1-3/8	3	06205
#41	.0960	1/8	1	3	06176	4.20 MM	.1654	3/16	1-5/8	4	06206
#40	.0980	1/8	1	3	06177	#19	.1660	3/16	1-5/8	4	06207
2.50 MM	.0984	1/8	1-1/4	3	06178	#18	.1695	3/16	1-5/8	4	06208
#39	.0995	1/8	1-1/4	3	06179	11/64	.1719	3/16	1-5/8	4	06209
#38	.1015	1/8	1-1/4	3	06180	#17	.1730	3/16	1-5/8	4	06210
#37	.1040	1/8	1-1/4	3	06181	#16	.1770	3/16	1-5/8	4	06211
#36	.1065	1/8	1-1/4	3	06182	4.50 MM	.1772	3/16	1-5/8	4	06212
7/64	.1094	1/8	1-1/4	3	06183	#15	.1800	3/16	1-5/8	4	06213
#35	.1100	1/8	1-1/4	3	06184	#14	.1820	3/16	1-5/8	4	06214
#34	.1110	1/8	1-1/4	3	06185	#13	.1850	3/16	1-5/8	4	06215
#33	.1130	1/8	1-1/4	3	06186	3/16	.1875	3/16	1-5/8	4	06216
#32	.1160	1/8	1-1/4	3	06187	#12	.1890	1/4	1-5/8	4	06217
3.00 MM	.1181	1/8	1-1/4	3	06188	#11	.1910	1/4	1-5/8	4	06218
#31	.1200	1/8	1-1/4	3	06189	#10	.1935	1/4	1-3/4	4	06219
1/8	.1250	1/8	1-1/4	3	06190	#9	.1960	1/4	1-3/4	4	06220

(continued)



# High Performance Carbide Drills for Aluminum

List No. 5604 5xD Non-Coolant-Through (continued)

5xD - WITHOUT  
COOLANT HOLES

SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.	SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.
5.00 MM	.1969	1/4	1-3/4	4	06221	11/32	.3438	3/8	2-1/2	5	06264
#8	.1990	1/4	1-3/4	4	06222	S	.3480	3/8	2-3/4	5	06265
5.10 MM	.2008	1/4	1-3/4	4	06223	9.00 MM	.3543	3/8	2-3/4	5	06266
#7	.2010	1/4	1-3/4	4	06224	T	.3580	3/8	2-3/4	5	06267
13/64	.2031	1/4	1-3/4	4	06225	23/64	.3594	3/8	2-3/4	5	06268
#6	.2040	1/4	1-3/4	4	06226	U	.3680	3/8	2-3/4	5	06269
#5	.2055	1/4	1-3/4	4	06227	9.50 MM	.3740	3/8	2-3/4	5	06270
#4	.2090	1/4	1-3/4	4	06228	3/8	.3750	3/8	2-7/8	5	06271
#3	.2130	1/4	1-3/4	4	06229	V	.3770	7/16	2-7/8	5	06272
5.50 MM	.2165	1/4	1-3/4	4	06230	W	.3860	7/16	2-7/8	5	06273
7/32	.2188	1/4	1-3/4	4	06231	25/64	.3906	7/16	2-7/8	5	06274
#2	.2210	1/4	2	4	06232	10.00 MM	.3937	7/16	2-7/8	5	06275
#1	.2280	1/4	2	4	06233	X	.3970	7/16	2-7/8	5	06276
A	.2340	1/4	2	4	06234	Y	.4040	7/16	2-7/8	5	06277
15/64	.2344	1/4	2	4	06235	13/32	.4062	7/16	2-7/8	5	06278
6.00 MM	.2362	1/4	2	4	06236	Z	.4130	7/16	2-7/8	5	06279
B	.2380	1/4	2	4	06237	10.50 MM	.4134	7/16	2-7/8	5	06280
C	.2420	1/4	2	4	06238	27/64	.4219	7/16	2-7/8	5	06281
D	.2460	1/4	2	4	06239	10.80 MM	.4252	7/16	2-7/8	5	06282
1/4 (E)	.2500	1/4	2	4	06240	11.00 MM	.4331	7/16	2-7/8	5	06283
6.50 MM	.2559	5/16	2-1/8	4	06241	7/16	.4375	7/16	3	5	06284
F	.2570	5/16	2-1/8	4	06242	11.50 MM	.4528	1/2	3	5	06285
G	.2610	5/16	2-1/8	4	06243	29/64	.4531	1/2	3	5	06286
17/64	.2656	5/16	2-1/8	4	06244	15/32	.4688	1/2	3	5	06287
H	.2660	5/16	2-1/8	4	06245	12.00 MM	.4724	1/2	3	5	06288
I	.2720	5/16	2-1/8	4	06246	31/64	.4844	1/2	3	5	06289
7.00 MM	.2756	5/16	2-1/8	4	06247	12.50 MM	.4921	1/2	3	5	06290
J	.2770	5/16	2-1/8	4	06248	1/2	.5000	1/2	3-1/4	5	06291
K	.2810	5/16	2-1/8	4	06249	13.00 MM	.5118	9/16	3-1/4	5	06292
9/32	.2812	5/16	2-3/8	4	06250	33/64	.5156	9/16	3-1/4	5	06293
L	.2900	5/16	2-3/8	4	06251	17/32	.5312	9/16	3-1/4	5	06294
M	.2950	5/16	2-3/8	4	06252	13.50 MM	.5315	9/16	3-1/4	5	06295
7.50 MM	.2953	5/16	2-3/8	4	06253	35/64	.5469	9/16	3-1/4	5	06296
19/64	.2969	5/16	2-3/8	4	06254	14.00 MM	.5512	9/16	3-1/4	5	06297
N	.3020	5/16	2-3/8	4	06255	9/16	.5625	9/16	3-1/4	5	06298
5/16	.3125	5/16	2-3/8	4	06256	14.50 MM	.5709	5/8	3-1/2	6	06299
8.00 MM	.3150	3/8	2-3/8	4	06257	37/64	.5781	5/8	3-1/2	6	06300
O	.3160	3/8	2-1/2	5	06258	15.00 MM	.5906	5/8	3-1/2	6	06301
P	.3230	3/8	2-1/2	5	06259	19/32	.5938	5/8	3-1/2	6	06302
21/64	.3281	3/8	2-1/2	5	06260	39/64	.6094	5/8	3-1/2	6	06303
Q	.3320	3/8	2-1/2	5	06261	15.50 MM	.6102	5/8	3-1/2	6	06304
8.50 MM	.3346	3/8	2-1/2	5	06262	5/8	.6250	5/8	3-1/2	6	06305
R	.3390	3/8	2-1/2	5	06263	16.00 MM	.6299	3/4	3-1/2	6	06306



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& FEEDS  
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# High Performance Carbide Drills for Aluminum

## High Performance Carbide Drills for Aluminum

List No. 5605 3xD Coolant-Through

**3xD - WITH  
COOLANT HOLES**

SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.
3.00 MM	.1181	6 MM	20 MM	62 MM	<b>06307</b>
3.10 MM	.1220	6 MM	20 MM	62 MM	<b>06308</b>
1/8	.1250	6 MM	20 MM	62 MM	<b>06309</b>
3.20 MM	.1260	6 MM	20 MM	62 MM	<b>06310</b>
3.30 MM	.1299	6 MM	20 MM	62 MM	<b>06311</b>
3.40 MM	.1339	6 MM	20 MM	62 MM	<b>06312</b>
3.50 MM	.1378	6 MM	20 MM	62 MM	<b>06313</b>
9/64	.1406	6 MM	20 MM	62 MM	<b>06314</b>
3.60 MM	.1417	6 MM	20 MM	62 MM	<b>06315</b>
3.70 MM	.1457	6 MM	20 MM	62 MM	<b>06316</b>
3.80 MM	.1496	6 MM	24 MM	66 MM	<b>06317</b>
3.90 MM	.1535	6 MM	24 MM	66 MM	<b>06318</b>
5/32	.1562	6 MM	24 MM	66 MM	<b>06319</b>
4.00 MM	.1575	6 MM	24 MM	66 MM	<b>06320</b>
4.10 MM	.1614	6 MM	24 MM	66 MM	<b>06321</b>
4.20 MM	.1654	6 MM	24 MM	66 MM	<b>06322</b>
4.30 MM	.1693	6 MM	24 MM	66 MM	<b>06323</b>
11/64	.1719	6 MM	24 MM	66 MM	<b>06324</b>
4.40 MM	.1732	6 MM	24 MM	66 MM	<b>06325</b>
4.50 MM	.1772	6 MM	24 MM	66 MM	<b>06326</b>
4.60 MM	.1811	6 MM	24 MM	66 MM	<b>06327</b>
4.65 MM	.1831	6 MM	24 MM	66 MM	<b>06328</b>
#13	.1850	6 MM	24 MM	66 MM	<b>06329</b>
3/16	.1875	6 MM	28 MM	66 MM	<b>06330</b>
#12	.1890	6 MM	28 MM	66 MM	<b>06331</b>
4.90 MM	.1929	6 MM	28 MM	66 MM	<b>06332</b>
5.00 MM	.1969	6 MM	28 MM	66 MM	<b>06333</b>
5.10 MM	.2008	6 MM	28 MM	66 MM	<b>06334</b>
13/64	.2031	6 MM	28 MM	66 MM	<b>06335</b>
#6	.2040	6 MM	28 MM	66 MM	<b>06336</b>
5.20 MM	.2047	6 MM	28 MM	66 MM	<b>06337</b>
5.30 MM	.2087	6 MM	28 MM	66 MM	<b>06338</b>
5.40 MM	.2126	6 MM	28 MM	66 MM	<b>06339</b>
5.50 MM	.2165	6 MM	28 MM	66 MM	<b>06340</b>
5.55 MM	.2185	6 MM	28 MM	66 MM	<b>06341</b>

SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.
7/32	.2188	6 MM	28 MM	66 MM	<b>06342</b>
5.60 MM	.2205	6 MM	28 MM	66 MM	<b>06343</b>
5.70 MM	.2244	6 MM	28 MM	66 MM	<b>06344</b>
5.80 MM	.2283	6 MM	28 MM	66 MM	<b>06345</b>
5.90 MM	.2323	6 MM	28 MM	66 MM	<b>06346</b>
15/64	.2344	6 MM	28 MM	66 MM	<b>06347</b>
6.00 MM	.2362	6 MM	28 MM	66 MM	<b>06348</b>
6.10 MM	.2402	8 MM	34 MM	79 MM	<b>06349</b>
6.20 MM	.2441	8 MM	34 MM	79 MM	<b>06350</b>
6.30 MM	.2480	8 MM	34 MM	79 MM	<b>06351</b>
1/4 (E)	.2500	8 MM	34 MM	79 MM	<b>06352</b>
6.40 MM	.2520	8 MM	34 MM	79 MM	<b>06353</b>
6.50 MM	.2559	8 MM	34 MM	79 MM	<b>06354</b>
6.60 MM	.2598	8 MM	34 MM	79 MM	<b>06355</b>
6.70 MM	.2638	8 MM	34 MM	79 MM	<b>06356</b>
17/64	.2656	8 MM	34 MM	79 MM	<b>06357</b>
6.80 MM	.2677	8 MM	34 MM	79 MM	<b>06358</b>
6.90 MM	.2717	8 MM	41 MM	79 MM	<b>06359</b>
7.00 MM	.2756	8 MM	41 MM	79 MM	<b>06360</b>
7.10 MM	.2795	8 MM	41 MM	79 MM	<b>06361</b>
9/32	.2812	8 MM	41 MM	79 MM	<b>06362</b>
7.20 MM	.2835	8 MM	41 MM	79 MM	<b>06363</b>
7.30 MM	.2874	8 MM	41 MM	79 MM	<b>06364</b>
7.40 MM	.2913	8 MM	41 MM	79 MM	<b>06365</b>
7.50 MM	.2953	8 MM	41 MM	79 MM	<b>06366</b>
19/64	.2969	8 MM	41 MM	79 MM	<b>06367</b>
7.70 MM	.3031	8 MM	41 MM	79 MM	<b>06368</b>
7.80 MM	.3071	8 MM	41 MM	79 MM	<b>06369</b>
7.90 MM	.3110	8 MM	41 MM	79 MM	<b>06370</b>
5/16	.3125	8 MM	41 MM	79 MM	<b>06371</b>
8.00 MM	.3150	8 MM	41 MM	79 MM	<b>06372</b>
8.10 MM	.3189	10 MM	47 MM	89 MM	<b>06373</b>
8.20 MM	.3228	10 MM	47 MM	89 MM	<b>06374</b>
8.30 MM	.3268	10 MM	47 MM	89 MM	<b>06375</b>
21/64	.3281	10 MM	47 MM	89 MM	<b>06376</b>

(continued)

# High Performance Carbide Drills for Aluminum

List No. 5605 3xD Coolant-Through (continued)

3xD - WITH  
COOLANT HOLES

SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.	SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.
8.40 MM	.3307	10 MM	47 MM	89 MM	<b>06377</b>	29/64	.4531	12 MM	55 MM	102 MM	<b>06407</b>
8.50 MM	.3346	10 MM	47 MM	89 MM	<b>06378</b>	11.70 MM	.4606	12 MM	55 MM	102 MM	<b>06408</b>
8.60 MM	.3386	10 MM	47 MM	89 MM	<b>06379</b>	11.80 MM	.4646	12 MM	55 MM	102 MM	<b>06409</b>
8.70 MM	.3425	10 MM	47 MM	89 MM	<b>06380</b>	15/32	.4688	12 MM	55 MM	102 MM	<b>06410</b>
11/32	.3438	10 MM	47 MM	89 MM	<b>06381</b>	12.00 MM	.4724	12 MM	55 MM	102 MM	<b>06411</b>
8.80 MM	.3465	10 MM	47 MM	89 MM	<b>06382</b>	12.10 MM	.4764	14 MM	60 MM	107 MM	<b>06412</b>
9.00 MM	.3543	10 MM	47 MM	89 MM	<b>06383</b>	12.20 MM	.4803	14 MM	60 MM	107 MM	<b>06413</b>
23/64	.3594	10 MM	47 MM	89 MM	<b>06384</b>	12.30 MM	.4843	14 MM	60 MM	107 MM	<b>06414</b>
9.20 MM	.3622	10 MM	47 MM	89 MM	<b>06385</b>	31/64	.4844	14 MM	60 MM	107 MM	<b>06415</b>
9.30 MM	.3661	10 MM	47 MM	89 MM	<b>06386</b>	12.50 MM	.4921	14 MM	60 MM	107 MM	<b>06416</b>
9.50 MM	.3740	10 MM	47 MM	89 MM	<b>06387</b>	12.60 MM	.4961	14 MM	60 MM	107 MM	<b>06417</b>
3/8	.3750	10 MM	47 MM	89 MM	<b>06388</b>	1/2	.5000	14 MM	60 MM	107 MM	<b>06418</b>
9.60 MM	.3780	10 MM	47 MM	89 MM	<b>06389</b>	13.00 MM	.5118	14 MM	60 MM	107 MM	<b>06419</b>
9.80 MM	.3858	10 MM	47 MM	89 MM	<b>06390</b>	13.30 MM	.5236	14 MM	60 MM	107 MM	<b>06420</b>
9.90 MM	.3898	10 MM	47 MM	89 MM	<b>06391</b>	17/32	.5312	14 MM	60 MM	107 MM	<b>06421</b>
25/64	.3906	10 MM	47 MM	89 MM	<b>06392</b>	13.50 MM	.5315	14 MM	60 MM	107 MM	<b>06422</b>
10.00 MM	.3937	10 MM	47 MM	89 MM	<b>06393</b>	14.00 MM	.5512	14 MM	60 MM	107 MM	<b>06423</b>
10.10 MM	.3976	12 MM	55 MM	102 MM	<b>06394</b>	9/16	.5625	16 MM	65 MM	115 MM	<b>06424</b>
10.20 MM	.4016	12 MM	55 MM	102 MM	<b>06395</b>	14.50 MM	.5709	16 MM	65 MM	115 MM	<b>06425</b>
10.30 MM	.4055	12 MM	55 MM	102 MM	<b>06396</b>	15.00 MM	.5906	16 MM	65 MM	115 MM	<b>06426</b>
13/32	.4062	12 MM	55 MM	102 MM	<b>06397</b>	15.50 MM	.6102	16 MM	65 MM	115 MM	<b>06427</b>
10.40 MM	.4094	12 MM	55 MM	102 MM	<b>06398</b>	5/8	.6250	16 MM	65 MM	115 MM	<b>06428</b>
10.50 MM	.4134	12 MM	55 MM	102 MM	<b>06399</b>	16.00 MM	.6299	16 MM	65 MM	115 MM	<b>06429</b>
27/64	.4219	12 MM	55 MM	102 MM	<b>06400</b>	16.50 MM	.6496	18 MM	73 MM	123 MM	<b>06430</b>
10.80 MM	.4252	12 MM	55 MM	102 MM	<b>06401</b>	17.00 MM	.6693	18 MM	73 MM	123 MM	<b>06431</b>
11.00 MM	.4331	12 MM	55 MM	102 MM	<b>06402</b>	17.50 MM	.6890	18 MM	73 MM	123 MM	<b>06432</b>
11.10 MM	.4370	12 MM	55 MM	102 MM	<b>06403</b>	18.00 MM	.7087	18 MM	73 MM	123 MM	<b>06433</b>
7/16	.4375	12 MM	55 MM	102 MM	<b>06404</b>	18.50 MM	.7283	20 MM	79 MM	131 MM	<b>06434</b>
11.20 MM	.4409	12 MM	55 MM	102 MM	<b>06405</b>	3/4	.7500	20 MM	79 MM	131 MM	<b>06435</b>
11.50 MM	.4528	12 MM	55 MM	102 MM	<b>06406</b>	19.50 MM	.7677	20 MM	79 MM	131 MM	<b>06436</b>
						20.00 MM	.7874	20 MM	79 MM	131 MM	<b>06437</b>

# High Performance Carbide Drills for Aluminum

List No. 5605 5xD Coolant-Through

5xD - WITH  
COOLANT HOLES

SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.	SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.
3.00 MM	.1181	6 MM	28 MM	66 MM	<b>06438</b>	3.40 MM	.1339	6 MM	28 MM	66 MM	<b>06443</b>
3.10 MM	.1220	6 MM	28 MM	66 MM	<b>06439</b>	3.50 MM	.1378	6 MM	28 MM	66 MM	<b>06444</b>
1/8	.1250	6 MM	28 MM	66 MM	<b>06440</b>	9/64	.1406	6 MM	28 MM	66 MM	<b>06445</b>
3.20 MM	.1260	6 MM	28 MM	66 MM	<b>06441</b>	3.60 MM	.1417	6 MM	28 MM	66 MM	<b>06446</b>
3.30 MM	.1299	6 MM	28 MM	66 MM	<b>06442</b>	3.70 MM	.1457	6 MM	28 MM	66 MM	<b>06447</b>

(continued)



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& FEEDS  
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# High Performance Carbide Drills for Aluminum

List No. 5605 5xD Coolant-Through (continued)

**5xD - WITH  
COOLANT HOLES**

SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.	SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.
3.80 MM	.1496	6 MM	36 MM	74 MM	<b>06448</b>	9/32	.2812	8 MM	53 MM	91 MM	<b>06493</b>
3.90 MM	.1535	6 MM	36 MM	74 MM	<b>06449</b>	7.20 MM	.2835	8 MM	53 MM	91 MM	<b>06494</b>
5/32	.1562	6 MM	36 MM	74 MM	<b>06450</b>	7.30 MM	.2874	8 MM	53 MM	91 MM	<b>06495</b>
4.00 MM	.1575	6 MM	36 MM	74 MM	<b>06451</b>	7.40 MM	.2913	8 MM	53 MM	91 MM	<b>06496</b>
4.10 MM	.1614	6 MM	36 MM	74 MM	<b>06452</b>	7.50 MM	.2953	8 MM	53 MM	91 MM	<b>06497</b>
4.20 MM	.1654	6 MM	36 MM	74 MM	<b>06453</b>	19/64	.2969	8 MM	53 MM	91 MM	<b>06498</b>
4.30 MM	.1693	6 MM	36 MM	74 MM	<b>06454</b>	7.70 MM	.3031	8 MM	53 MM	91 MM	<b>06499</b>
11/64	.1719	6 MM	36 MM	74 MM	<b>06455</b>	7.80 MM	.3071	8 MM	53 MM	91 MM	<b>06500</b>
4.40 MM	.1732	6 MM	36 MM	74 MM	<b>06456</b>	7.90 MM	.3110	8 MM	53 MM	91 MM	<b>06501</b>
4.50 MM	.1772	6 MM	36 MM	74 MM	<b>06457</b>	5/16	.3125	8 MM	53 MM	91 MM	<b>06502</b>
4.60 MM	.1811	6 MM	36 MM	74 MM	<b>06458</b>	8.00 MM	.3150	8 MM	53 MM	91 MM	<b>06503</b>
4.65 MM	.1831	6 MM	36 MM	74 MM	<b>06459</b>	8.10 MM	.3189	10 MM	61 MM	103 MM	<b>06504</b>
#13	.1850	6 MM	36 MM	74 MM	<b>06460</b>	8.20 MM	.3228	10 MM	61 MM	103 MM	<b>06505</b>
3/16	.1875	6 MM	44 MM	82 MM	<b>06461</b>	8.30 MM	.3268	10 MM	61 MM	103 MM	<b>06506</b>
#12	.1890	6 MM	44 MM	82 MM	<b>06462</b>	21/64	.3281	10 MM	61 MM	103 MM	<b>06507</b>
4.90 MM	.1929	6 MM	44 MM	82 MM	<b>06463</b>	8.40 MM	.3307	10 MM	61 MM	103 MM	<b>06508</b>
5.00 MM	.1969	6 MM	44 MM	82 MM	<b>06464</b>	8.50 MM	.3346	10 MM	61 MM	103 MM	<b>06509</b>
5.10 MM	.2008	6 MM	44 MM	82 MM	<b>06465</b>	8.60 MM	.3386	10 MM	61 MM	103 MM	<b>06510</b>
13/64	.2031	6 MM	44 MM	82 MM	<b>06466</b>	8.70 MM	.3425	10 MM	61 MM	103 MM	<b>06511</b>
#6	.2040	6 MM	44 MM	82 MM	<b>06467</b>	11/32	.3438	10 MM	61 MM	103 MM	<b>06512</b>
5.20 MM	.2047	6 MM	44 MM	82 MM	<b>06468</b>	8.80 MM	.3465	10 MM	61 MM	103 MM	<b>06513</b>
5.30 MM	.2087	6 MM	44 MM	82 MM	<b>06469</b>	9.00 MM	.3543	10 MM	61 MM	103 MM	<b>06514</b>
5.40 MM	.2126	6 MM	44 MM	82 MM	<b>06470</b>	23/64	.3594	10 MM	61 MM	103 MM	<b>06515</b>
5.50 MM	.2165	6 MM	44 MM	82 MM	<b>06471</b>	9.20 MM	.3622	10 MM	61 MM	103 MM	<b>06516</b>
5.55 MM	.2185	6 MM	44 MM	82 MM	<b>06472</b>	9.30 MM	.3661	10 MM	61 MM	103 MM	<b>06517</b>
7/32	.2188	6 MM	44 MM	82 MM	<b>06473</b>	9.50 MM	.3740	10 MM	61 MM	103 MM	<b>06518</b>
5.60 MM	.2205	6 MM	44 MM	82 MM	<b>06474</b>	3/8	.3750	10 MM	61 MM	103 MM	<b>06519</b>
5.70 MM	.2244	6 MM	44 MM	82 MM	<b>06475</b>	9.60 MM	.3780	10 MM	61 MM	103 MM	<b>06520</b>
5.80 MM	.2283	6 MM	44 MM	82 MM	<b>06476</b>	9.80 MM	.3858	10 MM	61 MM	103 MM	<b>06521</b>
5.90 MM	.2323	6 MM	44 MM	82 MM	<b>06477</b>	9.90 MM	.3898	10 MM	61 MM	103 MM	<b>06522</b>
15/64	.2344	6 MM	44 MM	82 MM	<b>06478</b>	25/64	.3906	10 MM	61 MM	103 MM	<b>06523</b>
6.00 MM	.2362	6 MM	44 MM	82 MM	<b>06479</b>	10.00 MM	.3937	10 MM	61 MM	103 MM	<b>06524</b>
6.10 MM	.2402	8 MM	53 MM	91 MM	<b>06480</b>	10.10 MM	.3976	12 MM	71 MM	118 MM	<b>06525</b>
6.20 MM	.2441	8 MM	53 MM	91 MM	<b>06481</b>	10.20 MM	.4016	12 MM	71 MM	118 MM	<b>06526</b>
6.30 MM	.2480	8 MM	53 MM	91 MM	<b>06482</b>	10.30 MM	.4055	12 MM	71 MM	118 MM	<b>06527</b>
1/4 (E)	.2500	8 MM	53 MM	91 MM	<b>06483</b>	13/32	.4062	12 MM	71 MM	118 MM	<b>06528</b>
6.40 MM	.2520	8 MM	53 MM	91 MM	<b>06484</b>	10.40 MM	.4094	12 MM	71 MM	118 MM	<b>06529</b>
6.50 MM	.2559	8 MM	53 MM	91 MM	<b>06485</b>	10.50 MM	.4134	12 MM	71 MM	118 MM	<b>06530</b>
6.60 MM	.2598	8 MM	53 MM	91 MM	<b>06486</b>	27/64	.4219	12 MM	71 MM	118 MM	<b>06531</b>
6.70 MM	.2638	8 MM	53 MM	91 MM	<b>06487</b>	10.80 MM	.4252	12 MM	71 MM	118 MM	<b>06532</b>
17/64	.2656	8 MM	53 MM	91 MM	<b>06488</b>	11.00 MM	.4331	12 MM	71 MM	118 MM	<b>06533</b>
6.80 MM	.2677	8 MM	53 MM	91 MM	<b>06489</b>	11.10 MM	.4370	12 MM	71 MM	118 MM	<b>06534</b>
6.90 MM	.2717	8 MM	53 MM	91 MM	<b>06490</b>	7/16	.4375	12 MM	71 MM	118 MM	<b>06535</b>
7.00 MM	.2756	8 MM	53 MM	91 MM	<b>06491</b>	11.20 MM	.4409	12 MM	71 MM	118 MM	<b>06536</b>
7.10 MM	.2795	8 MM	53 MM	91 MM	<b>06492</b>	11.50 MM	.4528	12 MM	71 MM	118 MM	<b>06537</b>

(continued)



# High Performance Carbide Drills for Aluminum

List No. 5605 5xD Coolant-Through (continued)

5xD - WITH  
COOLANT HOLES

SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.	SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.
29/64	.4531	12 MM	71 MM	118 MM	06538	13.50 MM	.5315	14 MM	77 MM	124 MM	06553
11.70 MM	.4606	12 MM	71 MM	118 MM	06539	14.00 MM	.5512	14 MM	77 MM	124 MM	06554
11.80 MM	.4646	12 MM	71 MM	118 MM	06540	9/16	.5625	16 MM	83 MM	133 MM	06555
15/32	.4688	12 MM	71 MM	118 MM	06541	14.50 MM	.5709	16 MM	83 MM	133 MM	06556
12.00 MM	.4724	12 MM	71 MM	118 MM	06542	15.00 MM	.5906	16 MM	83 MM	133 MM	06557
12.10 MM	.4764	14 MM	77 MM	124 MM	06543	15.50 MM	.6102	16 MM	83 MM	133 MM	06558
12.20 MM	.4803	14 MM	77 MM	124 MM	06544	5/8	.6250	16 MM	83 MM	133 MM	06559
12.30 MM	.4843	14 MM	77 MM	124 MM	06545	16.00 MM	.6299	16 MM	83 MM	133 MM	06560
31/64	.4844	14 MM	77 MM	124 MM	06546	16.50 MM	.6496	18 MM	93 MM	143 MM	06561
12.50 MM	.4921	14 MM	77 MM	124 MM	06547	17.00 MM	.6693	18 MM	93 MM	143 MM	06562
12.60 MM	.4961	14 MM	77 MM	124 MM	06548	17.50 MM	.6890	18 MM	93 MM	143 MM	06563
1/2	.5000	14 MM	77 MM	124 MM	06549	18.00 MM	.7087	18 MM	93 MM	143 MM	06564
13.00 MM	.5118	14 MM	77 MM	124 MM	06550	18.50 MM	.7283	20 MM	101 MM	153 MM	06565
13.30 MM	.5236	14 MM	77 MM	124 MM	06551	3/4	.7500	20 MM	101 MM	153 MM	06566
17/32	.5312	14 MM	77 MM	124 MM	06552	19.50 MM	.7677	20 MM	101 MM	153 MM	06567
						20.00 MM	.7874	20 MM	101 MM	153 MM	06568

# High Performance Carbide Drills for Aluminum

List No. 5605 12xD Coolant-Through

12xD - WITH  
COOLANT HOLES

SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.	SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.
3.00 MM	.1181	6 MM	54 MM	92 MM	06569	4.60 MM	.1811	6 MM	64 MM	102 MM	06589
3.10 MM	.1220	6 MM	54 MM	92 MM	06570	4.65 MM	.1831	6 MM	64 MM	102 MM	06590
1/8	.1250	6 MM	54 MM	92 MM	06571	#13	.1850	6 MM	64 MM	102 MM	06591
3.20 MM	.1260	6 MM	54 MM	92 MM	06572	3/16	.1875	6 MM	78 MM	116 MM	06592
3.30 MM	.1299	6 MM	54 MM	92 MM	06573	#12	.1890	6 MM	78 MM	116 MM	06593
3.40 MM	.1339	6 MM	54 MM	92 MM	06574	4.90 MM	.1929	6 MM	78 MM	116 MM	06594
3.50 MM	.1378	6 MM	54 MM	92 MM	06575	5.00 MM	.1969	6 MM	78 MM	116 MM	06595
9/64	.1406	6 MM	54 MM	92 MM	06576	5.10 MM	.2008	6 MM	78 MM	116 MM	06596
3.60 MM	.1417	6 MM	54 MM	92 MM	06577	13/64	.2031	6 MM	78 MM	116 MM	06597
3.70 MM	.1457	6 MM	54 MM	92 MM	06578	#6	.2040	6 MM	78 MM	116 MM	06598
3.80 MM	.1496	6 MM	64 MM	102 MM	06579	5.20 MM	.2047	6 MM	78 MM	116 MM	06599
3.90 MM	.1535	6 MM	64 MM	102 MM	06580	5.30 MM	.2087	6 MM	78 MM	116 MM	06600
5/32	.1562	6 MM	64 MM	102 MM	06581	5.40 MM	.2126	6 MM	78 MM	116 MM	06601
4.00 MM	.1575	6 MM	64 MM	102 MM	06582	5.50 MM	.2165	6 MM	78 MM	116 MM	06602
4.10 MM	.1614	6 MM	64 MM	102 MM	06583	5.55 MM	.2185	6 MM	78 MM	116 MM	06603
4.20 MM	.1654	6 MM	64 MM	102 MM	06584	7/32	.2188	6 MM	78 MM	116 MM	06604
4.30 MM	.1693	6 MM	64 MM	102 MM	06585	5.60 MM	.2205	6 MM	78 MM	116 MM	06605
11/64	.1719	6 MM	64 MM	102 MM	06586	5.70 MM	.2244	6 MM	78 MM	116 MM	06606
4.40 MM	.1732	6 MM	64 MM	102 MM	06587	5.80 MM	.2283	6 MM	78 MM	116 MM	06607
4.50 MM	.1772	6 MM	64 MM	102 MM	06588	5.90 MM	.2323	6 MM	78 MM	116 MM	06608

(continued)



SPEEDS  
& FEEDS  
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# High Performance Carbide Drills for Aluminum

List No. 5605 12xD Coolant-Through (continued)

12xD - WITH  
COOLANT HOLES

SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.	SIZE	DEC EQUIV.	SHANK DIA.	FLUTE LENGTH	OAL	EDP NO.
15/64	.2344	6 MM	78 MM	116 MM	06609	25/64	.3906	10 MM	120 MM	162 MM	06654
6.00 MM	.2362	6 MM	78 MM	116 MM	06610	10.00 MM	.3937	10 MM	120 MM	162 MM	06655
6.10 MM	.2402	8 MM	108 MM	146 MM	06611	10.10 MM	.3976	12 MM	156 MM	204 MM	06656
6.20 MM	.2441	8 MM	108 MM	146 MM	06612	10.20 MM	.4016	12 MM	156 MM	204 MM	06657
6.30 MM	.2480	8 MM	108 MM	146 MM	06613	10.30 MM	.4055	12 MM	156 MM	204 MM	06658
1/4 (E)	.2500	8 MM	108 MM	146 MM	06614	13/32	.4062	12 MM	156 MM	204 MM	06659
6.40 MM	.2520	8 MM	108 MM	146 MM	06615	10.40 MM	.4094	12 MM	156 MM	204 MM	06660
6.50 MM	.2559	8 MM	108 MM	146 MM	06616	10.50 MM	.4134	12 MM	156 MM	204 MM	06661
6.60 MM	.2598	8 MM	108 MM	146 MM	06617	27/64	.4219	12 MM	156 MM	204 MM	06662
6.70 MM	.2638	8 MM	108 MM	146 MM	06618	10.80 MM	.4252	12 MM	156 MM	204 MM	06663
17/64	.2656	8 MM	108 MM	146 MM	06619	11.00 MM	.4331	12 MM	156 MM	204 MM	06664
6.80 MM	.2677	8 MM	108 MM	146 MM	06620	11.10 MM	.4370	12 MM	156 MM	204 MM	06665
6.90 MM	.2717	8 MM	108 MM	146 MM	06621	7/16	.4375	12 MM	156 MM	204 MM	06666
7.00 MM	.2756	8 MM	108 MM	146 MM	06622	11.20 MM	.4409	12 MM	156 MM	204 MM	06667
7.10 MM	.2795	8 MM	108 MM	146 MM	06623	11.50 MM	.4528	12 MM	156 MM	204 MM	06668
9/32	.2812	8 MM	108 MM	146 MM	06624	29/64	.4531	12 MM	156 MM	204 MM	06669
7.20 MM	.2835	8 MM	108 MM	146 MM	06625	11.70 MM	.4606	12 MM	156 MM	204 MM	06670
7.30 MM	.2874	8 MM	108 MM	146 MM	06626	11.80 MM	.4646	12 MM	156 MM	204 MM	06671
7.40 MM	.2913	8 MM	108 MM	146 MM	06627	15/32	.4688	12 MM	156 MM	204 MM	06672
7.50 MM	.2953	8 MM	108 MM	146 MM	06628	12.00 MM	.4724	12 MM	156 MM	204 MM	06673
19/64	.2969	8 MM	108 MM	146 MM	06629	12.10 MM	.4764	14 MM	182 MM	230 MM	06674
7.70 MM	.3031	8 MM	108 MM	146 MM	06630	12.20 MM	.4803	14 MM	182 MM	230 MM	06675
7.80 MM	.3071	8 MM	108 MM	146 MM	06631	12.30 MM	.4843	14 MM	182 MM	230 MM	06676
7.90 MM	.3110	8 MM	108 MM	146 MM	06632	31/64	.4844	14 MM	182 MM	230 MM	06677
5/16	.3125	8 MM	108 MM	146 MM	06633	12.50 MM	.4921	14 MM	182 MM	230 MM	06678
8.00 MM	.3150	8 MM	108 MM	146 MM	06634	12.60 MM	.4961	14 MM	182 MM	230 MM	06679
8.10 MM	.3189	10 MM	120 MM	162 MM	06635	1/2	.5000	14 MM	182 MM	230 MM	06680
8.20 MM	.3228	10 MM	120 MM	162 MM	06636	13.00 MM	.5118	14 MM	182 MM	230 MM	06681
8.30 MM	.3268	10 MM	120 MM	162 MM	06637	13.30 MM	.5236	14 MM	182 MM	230 MM	06682
21/64	.3281	10 MM	120 MM	162 MM	06638	17/32	.5312	14 MM	182 MM	230 MM	06683
8.40 MM	.3307	10 MM	120 MM	162 MM	06639	13.50 MM	.5315	14 MM	182 MM	230 MM	06684
8.50 MM	.3346	10 MM	120 MM	162 MM	06640	14.00 MM	.5512	14 MM	182 MM	230 MM	06685
8.60 MM	.3386	10 MM	120 MM	162 MM	06641	9/16	.5625	16 MM	208 MM	260 MM	06686
8.70 MM	.3425	10 MM	120 MM	162 MM	06642	14.50 MM	.5709	16 MM	208 MM	260 MM	06687
11/32	.3438	10 MM	120 MM	162 MM	06643	15.00 MM	.5906	16 MM	208 MM	260 MM	06688
8.80 MM	.3465	10 MM	120 MM	162 MM	06644	15.50 MM	.6102	16 MM	208 MM	260 MM	06689
9.00 MM	.3543	10 MM	120 MM	162 MM	06645	5/8	.6250	16 MM	208 MM	260 MM	06690
23/64	.3594	10 MM	120 MM	162 MM	06646	16.00 MM	.6299	16 MM	208 MM	260 MM	06691
9.20 MM	.3622	10 MM	120 MM	162 MM	06647	16.50 MM	.6496	18 MM	234 MM	285 MM	06692
9.30 MM	.3661	10 MM	120 MM	162 MM	06648	17.00 MM	.6693	18 MM	234 MM	285 MM	06693
9.50 MM	.3740	10 MM	120 MM	162 MM	06649	17.50 MM	.6890	18 MM	234 MM	285 MM	06694
3/8	.3750	10 MM	120 MM	162 MM	06650	18.00 MM	.7087	18 MM	234 MM	285 MM	06695
9.60 MM	.3780	10 MM	120 MM	162 MM	06651	18.50 MM	.7283	20 MM	258 MM	310 MM	06696
9.80 MM	.3858	10 MM	120 MM	162 MM	06652	3/4	.7500	20 MM	258 MM	310 MM	06697
9.90 MM	.3898	10 MM	120 MM	162 MM	06653	19.50 MM	.7677	20 MM	258 MM	310 MM	06698
						20.00 MM	.7874	20 MM	258 MM	310 MM	06699





# High Performance Carbide Drills for Aluminum

## Speed and Feed Recommendations

### List No. 5604 Non-Coolant-Through Drills

Material	Drilling Depth	Surface Speed (SFM)*	Feed in Inches Per Revolution by Drill Diameter (IPR)					
			Inch Micro		Inch Sizes			
			< .1181	.1181 - .1969	.1970 - .3150	.3151 - .4724	.4725 - .6299	.6300 - .7874
			Metric Micro		Metric Sizes			
< 3.0	≥ 3.0 ≤ 5.0	> 5.0 ≤ 8.0	> 8.0 ≤ 12.0	> 12.0 ≤ 16.0	> 16.0 ≤ 20.0			
Wrought Aluminum Alloys	3xD	1070	200-250 SFM 1.5mm at .005 IPR 2.0mm at .007 IPR 2.5mm at .009 IPR	.012	.015	.019	.023	.025
	5xD	1005						
Low Silicon Aluminum Alloys < 12%	3xD	1070	390-500 SFM 1.5mm at .002 IPR 2.0mm at .003 IPR 2.5mm at .004 IPR	.013	.017	.022	.025	.027
	5xD	1005						
High Silicon Aluminum Alloys > 12%	3xD	1040	390-500 SFM 1.5mm at .002 IPR 2.0mm at .003 IPR 2.5mm at .004 IPR	.011	.015	.019	.023	.025
	5xD	975						
Copper & Copper Alloys	3xD	510	Not Recommended	.009	.011	.015	.015	.021
	5xD	445						

\* Except Micro Sizes

### List No. 5605 Coolant-Through Drills

Material	Drilling Depth	Surface Speed (SFM)	Feed in Inches Per Revolution by Drill Diameter (IPR)				
			Inch Sizes				
			.1181 - .1969	.1970 - .3150	.3151 - .4724	.4725 - .6299	.6300 - .7874
			Metric Sizes				
≥ 3.0 ≤ 5.0	> 5.0 ≤ 8.0	> 8.0 ≤ 12.0	> 12.0 ≤ 16.0	> 16.0 ≤ 20.0			
Wrought Aluminum Alloys	3xD	1115	.012	.015	.019	.023	.025
	5xD	1180					
	12xD	820					
Low Silicon Aluminum Alloys < 12%	3xD	1115	.013	.017	.022	.025	.027
	5xD	1180					
	12xD	820					
High Silicon Aluminum Alloys > 12%	3xD	1065	.011	.015	.019	.023	.025
	5xD	1145					
	12xD	800					
Copper & Copper Alloys	3xD	515	.009	.011	.015	.015	.021
	5xD	525					
	12xD	390					

Speeds and Feeds are suggested starting points and may be increased or decreased depending on actual material and machining conditions.

NOTE: Information in this chart is for reference only. We will not be held liable for any consequential damages or economic loss due to the use of information contained within this chart.