

## Drilling Feed & Speed Chart for **Lexan / Acrylic PCB Material**

Recommended Tycom Drill Series: **Series 100, 150, 500**

(Note: Chart is based on 160K RPM Spindle Capability. Please use maximum spindle speed if listed RPM is unattainable)

Size	Diameter	Feed	Speed	Retract	Z-Axis Offset	Max Hits	Chipload	SFM
	<i>(inch)</i>	<i>(Inches/min)</i>	<i>(k-rpm)</i>	<i>(inches/min)</i>	<i>(inches)</i>		<i>(mils/rev)</i>	
#80	0.0135	168	42	1000	-0.013	2000	4.00	150
0.35mm	0.0138	168	42	1000	-0.013	2000	4.00	150
#79	0.0145	168	40	1000	-0.013	2000	4.20	150
1/64	0.0156	163	37	1000	-0.014	2000	4.40	150
0.40mm	0.0158	162	36	1000	-0.014	2000	4.50	150
#78	0.0160	166	36	1000	-0.014	2000	4.60	150
0.45mm	0.0177	154	32	1000	-0.014	2000	4.80	150
#77	0.0180	160	32	1000	-0.014	2000	5.00	150
0.50mm	0.0197	151	29	1000	-0.015	2000	5.20	150
#76	0.0200	157	29	1000	-0.015	2000	5.40	150
#75	0.0210	151	27	1000	-0.015	2000	5.60	150
0.55mm	0.0217	151	26	1000	-0.015	2000	5.80	150
#74	0.0225	150	25	1000	-0.015	2000	6.00	150
0.60mm	0.0236	149	24	1000	-0.016	2000	6.20	150
#73	0.0240	154	24	1000	-0.016	2000	6.40	150
#72	0.0250	152	23	1000	-0.016	2000	6.60	150
0.65mm	0.0256	150	22	1000	-0.016	2000	6.80	150
#71	0.0260	154	22	1000	-0.016	2000	7.00	150
0.70mm	0.0276	155	21	1000	-0.016	2000	7.40	150
#70	0.0280	152	20	1000	-0.017	2000	7.60	150
#69	0.0292	156	20	1000	-0.017	2000	7.80	150
0.75mm	0.0295	152	19	1000	-0.017	2000	8.00	150
#68	0.0310	148	18	1000	-0.017	2000	8.20	150
1/32	0.0312	151	18	1000	-0.017	2000	8.40	150
0.80mm	0.0315	155	18	1000	-0.017	2000	8.60	150
#67	0.0320	158	18	1000	-0.017	2000	8.80	150
#66	0.0330	153	17	1000	-0.018	2000	9.00	150
0.85mm	0.0335	156	17	1000	-0.018	2000	9.20	150
#65	0.0350	154	16	1000	-0.018	2000	9.60	150
0.90mm	0.0354	157	16	1000	-0.018	2000	9.80	150
#64	0.0360	160	16	1000	-0.018	2000	10.00	150
#63	0.0370	153	15	1000	-0.019	2000	10.20	150
0.95mm	0.0374	156	15	1000	-0.019	2000	10.40	150
#62	0.0380	159	15	1000	-0.019	2000	10.60	150
#61	0.0390	162	15	1000	-0.019	2000	10.80	150
1.00mm	0.0394	165	15	1000	-0.019	2000	11.00	155

Size	Diameter	Feed	Speed	Retract	Z-Axis Offset	Hits	Chipload	SFM
	(inch)	(Inches/min)	(k-rpm)	(inches/min)	(inches)		(mils/rev)	
#60	0.0400	168	15	1000	-0.019	2000	11.20	157
#59	0.0410	171	15	1000	-0.020	2000	11.40	161
1.05mm	0.0413	174	15	1000	-0.020	2000	11.60	162
#58	0.0420	177	15	1000	-0.020	2000	11.80	165
#57	0.0430	180	15	1000	-0.020	2000	12.00	169
1.10mm	0.0433	183	15	1000	-0.020	2000	12.20	170
1.15mm	0.0453	189	15	1000	-0.021	2000	12.60	178
#56	0.0465	192	15	1000	-0.021	2000	12.80	183
3/64	0.0469	195	15	1000	-0.021	2000	13.00	184
1.20mm	0.0472	198	15	1000	-0.021	2000	13.20	185
1.25mm	0.0492	201	15	1000	-0.021	2000	13.40	193
1.30mm	0.0512	207	15	1000	-0.022	2000	13.80	201
#55	0.0520	210	15	1000	-0.022	2000	14.00	204
1.35mm	0.0531	213	15	1000	-0.022	2000	14.20	208
#54	0.0550	219	15	1000	-0.023	2000	14.60	216
1.40mm	0.0551	222	15	1000	-0.023	2000	14.80	216
1.45mm	0.0571	228	15	1000	-0.023	2000	15.20	224
1.50mm	0.0591	234	15	1000	-0.024	2000	15.60	232
#53	0.0595	237	15	1000	-0.024	2000	15.80	234
1.55mm	0.0610	240	15	1000	-0.024	2000	16.00	239
1/16	0.0625	240	15	1000	-0.025	2000	16.00	245
1.60mm	0.0630	240	15	1000	-0.025	2000	16.00	247
#52	0.0635	240	15	1000	-0.025	2000	16.00	249
1.65mm	0.0650	240	15	1000	-0.025	2000	16.00	255
1.70mm	0.0669	240	15	1000	-0.026	2000	16.00	263
#51	0.0670	240	15	1000	-0.026	2000	16.00	263
1.75mm	0.0689	240	15	1000	-0.026	2000	16.00	270
#50	0.0700	240	15	1000	-0.026	2000	16.00	275
1.80mm	0.0709	240	15	1000	-0.027	2000	16.00	278
1.85mm	0.0728	240	15	1000	-0.027	2000	16.00	286
#49	0.0730	240	15	1000	-0.027	2000	16.00	287
1.90mm	0.0748	240	15	1000	-0.027	2000	16.00	294
#48	0.0760	240	15	1000	-0.028	2000	16.00	298
1.95mm	0.0768	240	15	1000	-0.028	2000	16.00	301
5/64	0.0781	240	15	1000	-0.028	2000	16.00	307
#47	0.0785	240	15	1000	-0.028	2000	16.00	308
2.00mm	0.0787	240	15	1000	-0.028	2000	16.00	309
2.05mm	0.0807	237	15	1000	-0.029	2000	15.80	317
#46	0.0810	234	15	1000	-0.029	2000	15.60	318
#45	0.0820	231	15	1000	-0.029	2000	15.40	322
2.10mm	0.0827	228	15	1000	-0.029	2000	15.20	325
2.15mm	0.0846	222	15	1000	-0.030	2000	14.80	332
#44	0.0860	216	15	1000	-0.030	2000	14.40	338
2.20mm	0.0866	213	15	1000	-0.030	2000	14.20	340
2.25mm	0.0886	207	15	1000	-0.031	2000	13.80	348
#43	0.0890	204	15	1000	-0.031	2000	13.60	349
2.30mm	0.0906	198	15	1000	-0.031	2000	13.20	356
2.35mm	0.0925	192	15	1000	-0.032	2000	12.80	363

Size	Diameter	Feed	Speed	Retract	Z-Axis Offset	Hits	Chipload	SFM
	(inch)	(Inches/min)	(k-rpm)	(inches/min)	(inches)		(mils/rev)	
#42	0.0935	189	15	1000	-0.032	2000	12.60	367
3/32	0.0938	183	15	1000	-0.032	2000	12.20	368
2.40mm	0.0945	180	15	1000	-0.032	2000	12.00	371
#41	0.0960	174	15	1000	-0.032	2000	11.60	377
2.45mm	0.0965	171	15	1000	-0.033	2000	11.40	379
#40	0.0980	165	15	1000	-0.033	2000	11.00	385
2.50mm	0.0984	162	15	1000	-0.033	2000	10.80	386
#39	0.0995	159	15	1000	-0.033	2000	10.60	391
2.55mm	0.1004	156	15	1000	-0.033	2000	10.40	394
#38	0.1015	153	15	1000	-0.034	2000	10.20	398
2.60mm	0.1024	150	15	1000	-0.034	2000	10.00	402
#37	0.1040	150	15	1000	-0.034	2000	10.00	408
2.65mm	0.1043	150	15	1000	-0.034	2000	10.00	409
2.70mm	0.1063	150	15	1000	-0.035	2000	10.00	417
#36	0.1065	150	15	1000	-0.035	2000	10.00	418
2.75mm	0.1083	150	15	1000	-0.035	2000	10.00	425
7/64	0.1094	150	15	1000	-0.036	2000	10.00	429
#35	0.1100	150	15	1000	-0.036	2000	10.00	432
2.80mm	0.1102	150	15	1000	-0.036	2000	10.00	433
#34	0.1110	150	15	1000	-0.036	2000	10.00	436
2.85mm	0.1122	150	15	1000	-0.036	2000	10.00	440
#33	0.1130	150	15	1000	-0.036	2000	10.00	444
2.90mm	0.1142	150	15	1000	-0.037	2000	10.00	448
#32	0.1160	150	15	1000	-0.037	2000	10.00	455
2.95mm	0.1161	150	15	1000	-0.037	2000	10.00	456
3.00mm	0.1181	150	15	1000	-0.038	2000	10.00	464
#31	0.1200	150	15	1000	-0.038	2000	10.00	471
3.05mm	0.1201	150	15	1000	-0.038	2000	10.00	471
3.10mm	0.1220	150	15	1000	-0.038	2000	10.00	479
3.15mm	0.1240	150	15	1000	-0.039	2000	10.00	487
1/8	0.1250	150	15	1000	-0.039	2000	10.00	491
3.20mm	0.1260	160	16	1000	-0.018	1500	10.00	528
3.25mm	0.1280	160	16	1000	-0.018	1500	10.00	536
#30	0.1285	160	16	1000	-0.019	1500	10.00	538
3.30mm	0.1299	160	16	1000	-0.019	1500	10.00	544
3.35mm	0.1319	160	16	1000	-0.019	1500	10.00	552
3.40mm	0.1339	160	16	1000	-0.019	1500	10.00	561
3.45mm	0.1358	160	16	1000	-0.019	1500	10.00	569
#29	0.1360	160	16	1000	-0.019	1500	10.00	569
3.50mm	0.1378	160	16	1000	-0.019	1500	10.00	577
3.55mm	0.1398	160	16	1000	-0.019	1500	10.00	585
#28	0.1405	170	17	1000	-0.019	1500	10.00	625
9/64	0.1406	170	17	1000	-0.019	1500	10.00	625
3.60mm	0.1417	170	17	1000	-0.019	1500	10.00	630
3.65mm	0.1437	170	17	1000	-0.020	1500	10.00	639
#27	0.1440	170	17	1000	-0.020	1500	10.00	641
3.70mm	0.1457	170	17	1000	-0.020	1500	10.00	648
#26	0.1470	170	17	1000	-0.020	1500	10.00	654

Size	Diameter	Feed	Speed	Retract	Z-Axis Offset	Hits	Chipload	SFM
	<i>(inch)</i>	<i>(Inches/min)</i>	<i>(k-rpm)</i>	<i>(inches/min)</i>	<i>(inches)</i>		<i>(mils/rev)</i>	
3.75mm	0.1476	170	17	1000	-0.020	1500	10.00	657
#25	0.1495	170	17	1000	-0.020	1500	10.00	665
3.80mm	0.1496	170	17	1000	-0.020	1500	10.00	665
3.85mm	0.1516	170	17	1000	-0.020	1500	10.00	674
#24	0.1520	170	17	1000	-0.020	1500	10.00	676
3.90mm	0.1535	170	17	1000	-0.020	1500	10.00	683
#23	0.1540	170	17	1000	-0.020	1500	10.00	685
3.95	0.1555	170	17	1000	-0.020	1500	10.00	692
5/32	0.1562	170	17	1000	-0.020	1500	10.00	695
#22	0.1570	170	17	1000	-0.020	1500	10.00	698
4.00mm	0.1575	170	17	1000	-0.020	1500	10.00	701
#21	0.1590	180	18	1000	-0.021	1500	10.00	749
4.05mm	0.1594	180	18	1000	-0.021	1500	10.00	751
#20	0.1610	180	18	1000	-0.021	1500	10.00	758
4.10mm	0.1614	180	18	1000	-0.021	1500	10.00	760
4.15mm	0.1634	180	18	1000	-0.021	1500	10.00	770
4.20mm	0.1654	180	18	1000	-0.021	1500	10.00	779
#19	0.1660	180	18	1000	-0.021	1500	10.00	782
4.25mm	0.1673	180	18	1000	-0.021	1500	10.00	788
4.30mm	0.1693	180	18	1000	-0.021	1500	10.00	797
#18	0.1695	180	18	1000	-0.021	1500	10.00	798
4.35mm	0.1713	180	18	1000	-0.021	1500	10.00	807
11/64	0.1719	180	18	1000	-0.021	1500	10.00	810
#17	0.1730	180	18	1000	-0.021	1500	10.00	815
4.40mm	0.1732	180	18	1000	-0.021	1500	10.00	816
4.45mm	0.1752	180	18	1000	-0.022	1500	10.00	825
#16	0.1770	180	18	1000	-0.022	1500	10.00	834
4.50mm	0.1772	180	18	1000	-0.022	1500	10.00	835
4.55mm	0.1792	180	18	1000	-0.022	1500	10.00	844
#15	0.1800	180	18	1000	-0.022	1500	10.00	848
4.60mm	0.1811	180	18	1000	-0.022	1500	10.00	853
#14	0.1820	180	18	1000	-0.022	1500	10.00	857
4.65mm	0.1831	180	18	1000	-0.022	1500	10.00	862
#13	0.1850	180	18	1000	-0.022	1500	10.00	871
4.70mm	0.1850	180	18	1000	-0.022	1500	10.00	871
4.75mm	0.1870	180	18	1000	-0.022	1500	10.00	881
3/16	0.1875	180	18	1000	-0.022	1500	10.00	883
4.80mm	0.1890	190	19	1000	-0.023	1000	10.00	940
#12	0.1890	190	19	1000	-0.023	1000	10.00	940
4.85mm	0.1909	190	19	1000	-0.023	1000	10.00	949
#11	0.1910	190	19	1000	-0.023	1000	10.00	950
4.90mm	0.1929	190	19	1000	-0.023	1000	10.00	959
#10	0.1935	190	19	1000	-0.023	1000	10.00	962
4.95mm	0.1949	190	19	1000	-0.023	1000	10.00	969
#9	0.1960	190	19	1000	-0.023	1000	10.00	974
5.00mm	0.1968	190	19	1000	-0.023	1000	10.00	978
5.05mm	0.1988	190	19	1000	-0.023	1000	10.00	988
#8	0.1990	190	19	1000	-0.023	1000	10.00	989

Size	Diameter	Feed	Speed	Retract	Z-Axis Offset	Hits	Chipload	SFM
5.10mm	0.2008	190	19	1000	-0.023	1000	10.00	998
#7	0.2010	190	19	1000	-0.023	1000	10.00	999
5.15mm	0.2028	190	19	1000	-0.023	1000	10.00	1008
13/64	0.2031	190	19	1000	-0.023	1000	10.00	1010
#6	0.2040	190	19	1000	-0.024	1000	10.00	1014
5.20mm	0.2047	190	19	1000	-0.024	1000	10.00	1018
#5	0.2055	190	19	1000	-0.024	1000	10.00	1022
5.25mm	0.2067	190	19	1000	-0.024	1000	10.00	1028
5.30mm	0.2087	190	19	1000	-0.024	1000	10.00	1038
#4	0.2090	190	19	1000	-0.024	1000	10.00	1039
5.35mm	0.2106	190	19	1000	-0.024	1000	10.00	1047
5.40mm	0.2126	190	19	1000	-0.024	1000	10.00	1057
#3	0.2130	190	19	1000	-0.024	1000	10.00	1059
5.45mm	0.2146	190	19	1000	-0.024	1000	10.00	1067
5.50mm	0.2165	190	19	1000	-0.024	1000	10.00	1076
5.55mm	0.2185	190	19	1000	-0.024	1000	10.00	1086
7/32	0.2188	190	19	1000	-0.024	1000	10.00	1088
5.60mm	0.2205	190	19	1000	-0.025	1000	10.00	1096
#2	0.2210	190	19	1000	-0.025	1000	10.00	1099
5.65mm	0.2224	190	19	1000	-0.025	1000	10.00	1106
5.70mm	0.2244	190	19	1000	-0.025	1000	10.00	1116
5.75mm	0.2264	190	19	1000	-0.025	1000	10.00	1126
#1	0.2280	190	19	1000	-0.025	1000	10.00	1134
5.80mm	0.2283	190	19	1000	-0.025	1000	10.00	1135
5.85mm	0.2302	190	19	1000	-0.025	1000	10.00	1144
5.90mm	0.2323	190	19	1000	-0.025	1000	10.00	1155
A	0.2340	190	19	1000	-0.025	1000	10.00	1163
5.95mm	0.2343	190	19	1000	-0.026	1000	10.00	1165
15/64	0.2344	190	19	1000	-0.026	1000	10.00	1165
6.00mm	0.2362	190	19	1000	-0.026	1000	10.00	1174
B	0.2380	200	20	1000	-0.026	1000	10.00	1246
6.05mm	0.2382	200	20	1000	-0.026	1000	10.00	1247
6.10mm	0.2402	200	20	1000	-0.026	1000	10.00	1257
C	0.2420	200	20	1000	-0.026	1000	10.00	1266
6.15mm	0.2421	200	20	1000	-0.026	1000	10.00	1267
6.20mm	0.2441	200	20	1000	-0.026	1000	10.00	1277
D	0.2460	200	20	1000	-0.026	1000	10.00	1287
6.25mm	0.2461	200	20	1000	-0.026	1000	10.00	1288
6.30mm	0.2480	200	20	1000	-0.026	1000	10.00	1298
6.35mm	0.2500	200	20	1000	-0.027	1000	10.00	1308
6.40mm	0.2520	200	20	1000	-0.027	1000	10.00	1319
6.50mm	0.2559	200	20	1000	-0.027	1000	10.00	1339
F	0.2570	200	20	1000	-0.027	1000	10.00	1345
6.60mm	0.2598	200	20	1000	-0.027	1000	10.00	1360

In some cases, there may be an opportunity to increase the chipload based on the application's robustness. Variables such as machine technology and condition, stack support materials, and Tycom design selection may allow the increased throughput with

higher chiploads. Multiply the recommended chipload by 1.15 to reach the higher chipload.

If the application is not as robust due to heavy glass, high copper content, tight annular ring requirements, or similar, multiply the recommended chipload by 0.85.

