



Drilling Feed & Speed Chart for

PTFE - DUROID® PCB Material Back Panel Format

(Panel Thickness > 0.200-inch) DUROID® is a registered trademark of Rogers Corporation

Recommended Kyocera Tycom Drill Series: Series 100, 150, 480, 490

(Note: Chart is based on 110K 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
	(inch)	(Inches/min)	(k-rpm)	(inches/min)	(inches)		(mils/rev)	
0.25mm	0.0098	77	110	250	-0.012	150	0.70	282
#87	0.0100	77	110	350	-0.012	150	0.70	288
#86	0.0105	83	110	400	-0.012	150	0.75	302
#85	0.0110	89	110	400	-0.013	150	0.81	317
#84	0.0115	96	110	400	-0.013	150	0.87	331
0.30mm	0.0118	99	110	500	-0.013	150	0.90	340
#83	0.0120	102	110	500	-0.013	150	0.93	345
#82	0.0125	109	107	500	-0.013	150	1.02	350
#81	0.0130	115	103	500	-0.013	150	1.12	350
#80	0.0135	121	99	500	-0.013	200	1.22	350
0.35mm	0.0138	124	97	600	-0.013	200	1.28	350
#79	0.0145	128	92	600	-0.013	200	1.39	350
1/64	0.0156	128	86	600	-0.014	200	1.49	350
0.40mm	0.0158	128	85	600	-0.014	200	1.51	350
#78	0.0160	128	84	700	-0.014	200	1.52	350
0.45mm	0.0177	130	76	700	-0.014	200	1.71	350
#77	0.0180	132	74	700	-0.014	200	1.78	350
0.50mm	0.0197	132	68	700	-0.015	200	1.94	350
#76	0.0200	132	67	800	-0.015	200	1.97	350
#75	0.0210	132	64	800	-0.015	250	2.06	350
0.55mm	0.0217	132	62	800	-0.015	250	2.13	350
#74	0.0225	132	59	800	-0.015	250	2.24	350
0.60mm	0.0236	133	57	800	-0.016	250	2.33	350
#73	0.0240	133	56	900	-0.016	250	2.38	350
#72	0.0250	133	54	900	-0.016	250	2.46	350
0.65mm	0.0256	133	52	900	-0.016	250	2.56	350
#71	0.0260	133	51	1000	-0.016	250	2.61	350
0.70mm	0.0276	132	48	1000	-0.016	250	2.75	350
#70	0.0280	132	48	1000	-0.017	250	2.75	350
#69	0.0292	130	46	1000	-0.017	300	2.83	350
0.75mm	0.0295	130	45	1000	-0.017	300	2.89	350
#68	0.0310	130	43	1000	-0.017	300	3.02	350
1/32	0.0312	129	43	1000	-0.017	300	3.00	350
0.80mm	0.0315	129	42	1000	-0.017	300	3.07	350
#67	0.0320	128	42	1000	-0.017	300	3.05	350
#66	0.0330	128	41	1000	-0.018	300	3.12	350

Size	Diameter	Feed	Speed	Retract	Z-Axis Offset	Hits	Chipload	SFM
	(inch)	(Inches/min)	(k-rpm)	(inches/min)	(inches)		(mils/rev)	
0.85mm	0.0335	126	40	1000	-0.018	300	3.15	350
#65	0.0350	125	38	1000	-0.018	300	3.29	350
0.90mm	0.0354	125	38	1000	-0.018	300	3.29	350
#64	0.0360	124	37	1000	-0.018	300	3.35	350
#63	0.0370	123	36	1000	-0.019	300	3.42	350
0.95mm	0.0374	121	36	1000	-0.019	300	3.36	350
#62	0.0380	121	35	1000	-0.019	300	3.46	350
#61	0.0390	120	34	1000	-0.019	300	3.53	350
1.00mm	0.0394	120	34	1000	-0.019	300	3.53	350
#60	0.0400	120	33	1000	-0.019	300	3.64	350
#59	0.0410	119	33	1000	-0.020	300	3.61	350
1.05mm	0.0413	119	32	1000	-0.020	300	3.72	350
#58	0.0420	117	32	1000	-0.020	300	3.66	350
#57	0.0430	117	31	1000	-0.020	300	3.77	350
1.10mm	0.0433	117	31	1000	-0.020	300	3.77	350
1.15mm	0.0453	116	30	1000	-0.021	300	3.87	350
#56	0.0465	115	29	1000	-0.021	300	3.97	350
3/64	0.0469	115	29	1000	-0.021	300	3.97	350
1.20mm	0.0472	115	28	1000	-0.021	300	4.11	350
1.25mm	0.0492	114	27	1000	-0.021	300	4.22	350
1.30mm	0.0512	109	26	1000	-0.022	300	2.50	350
#55	0.0520	109	26	1000	-0.022	300	2.50	350
1.35mm	0.0531	106	25	1000	-0.022	300	2.50	350
#54	0.0550	102	24	1000	-0.023	300	2.50	350
1.40mm	0.0551	102	24	1000	-0.023	300	2.50	350
1.45mm	0.0571	100	23	1000	-0.023	300	4.35	350
1.50mm	0.0591	96	23	1000	-0.024	300	4.17	350
#53	0.0595	93	22	1000	-0.024	300	4.23	350
1.55mm	0.0610	93	22	1000	-0.024	300	4.23	350
1/16	0.0625	89	21	1000	-0.025	300	4.24	350
1.60mm	0.0630	89	21	1000	-0.025	300	4.24	350
#52	0.0635	89	21	1000	-0.025	300	4.24	350
1.65mm	0.0650	87	21	1000	-0.025	300	4.14	350
1.70mm	0.0669	83	20	1000	-0.026	300	4.15	350
#51	0.0670	83	20	1000	-0.026	300	4.15	350
1.75mm	0.0689	80	20	1000	-0.026	300	4.00	361
#50	0.0700	80	20	1000	-0.026	250	4.00	366
1.80mm	0.0709	80	20	1000	-0.027	250	4.00	371
1.85mm	0.0728	77	20	1000	-0.027	250	3.85	381
#49	0.0730	77	20	1000	-0.027	250	3.85	382
1.90mm	0.0748	74	20	1000	-0.027	250	3.70	391
#48	0.0760	74	20	1000	-0.028	250	3.70	398
1.95mm	0.0768	74	20	1000	-0.028	250	3.70	402
5/64	0.0781	70	20	1000	-0.028	250	3.50	409
#47	0.0785	70	20	1000	-0.028	250	3.50	411
2.00mm	0.0787	70	20	1000	-0.028	250	3.50	412
2.05mm	0.0807	70	20	1000	-0.029	250	3.50	422
#46	0.0810	68	20	1000	-0.029	250	3.40	424

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	(inch)	(Inches/min)	(k-rpm)	(inches/min)	(inches)		(mils/rev)	
#45	0.0820	68	20	1000	-0.029	250	3.40	429
2.10mm	0.0827	68	20	1000	-0.029	250	3.40	433
2.15mm	0.0846	68	20	1000	-0.030	250	3.40	443
#44	0.0860	64	20	1000	-0.030	250	3.20	450
2.20mm	0.0866	64	20	1000	-0.030	250	3.20	453
2.25mm	0.0886	64	20	1000	-0.031	250	3.20	464
#43	0.0890	64	20	1000	-0.031	250	3.20	466
2.30mm	0.0906	64	20	1000	-0.031	250	3.20	474
2.35mm	0.0925	64	20	1000	-0.032	250	3.20	484
#42	0.0935	64	20	1000	-0.032	250	3.20	489
3/32	0.0938	64	20	1000	-0.032	250	3.20	491
2.40mm	0.0945	64	20	1000	-0.032	250	3.20	495
#41	0.0960	64	20	1000	-0.032	250	3.20	502
2.45mm	0.0965	64	20	1000	-0.033	250	3.20	505
#40	0.0980	64	20	1000	-0.033	250	3.20	513
2.50mm	0.0984	64	20	1000	-0.033	250	3.20	515
#39	0.0995	64	20	1000	-0.033	250	3.20	521
2.55mm	0.1004	64	20	1000	-0.033	200	3.20	525
#38	0.1015	64	20	1000	-0.034	200	3.20	531
2.60mm	0.1024	64	20	1000	-0.034	200	3.20	536
#37	0.1040	64	20	1000	-0.034	200	3.20	544
2.65mm	0.1043	64	20	1000	-0.034	200	3.20	546
2.70mm	0.1063	64	20	1000	-0.035	200	3.20	556
#36	0.1065	64	20	1000	-0.035	200	3.20	557
2.75mm	0.1083	64	20	1000	-0.035	200	3.20	567
7/64	0.1094	64	20	1000	-0.036	200	3.20	573
#35	0.1100	64	20	1000	-0.036	200	3.20	576
2.80mm	0.1102	64	20	1000	-0.036	200	3.20	577
#34	0.1110	64	20	1000	-0.036	200	3.20	581
2.85mm	0.1122	64	20	1000	-0.036	200	3.20	587
#33	0.1130	64	20	1000	-0.036	200	3.20	591
2.90mm	0.1142	64	20	1000	-0.037	200	3.20	598
#32	0.1160	64	20	1000	-0.037	200	3.20	607
2.95mm	0.1161	64	20	1000	-0.037	200	3.20	608
3.00mm	0.1181	64	20	1000	-0.038	200	3.20	618
#31	0.1200	64	20	1000	-0.038	200	3.20	628
3.05mm	0.1201	64	20	1000	-0.038	200	3.20	629
3.10mm	0.1220	64	20	1000	-0.038	200	3.20	638
3.15mm	0.1240	64	20	1000	-0.039	200	3.20	649
1/8	0.1250	64	20	1000	-0.039	200	3.20	654
3.20mm	0.1260	61	20	1000	-0.018	150	3.05	659
3.25mm	0.1280	61	20	1000	-0.018	150	3.05	670
#30	0.1285	61	20	1000	-0.019	150	3.05	672
3.30mm	0.1299	61	20	1000	-0.019	150	3.05	680
3.35mm	0.1319	61	20	1000	-0.019	150	3.05	690
3.40mm	0.1339	61	20	1000	-0.019	150	3.05	701
3.45mm	0.1358	61	20	1000	-0.019	150	3.05	711
#29	0.1360	61	20	1000	-0.019	150	3.05	712

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>	
3.50mm	0.1378	61	20	1000	-0.019	150	3.05	721
3.55mm	0.1398	61	20	1000	-0.019	150	3.05	732
#28	0.1405	57	20	1000	-0.019	150	2.85	735
9/64	0.1406	57	20	1000	-0.019	150	2.85	736
3.60mm	0.1417	57	20	1000	-0.019	150	2.85	742
3.65mm	0.1437	57	20	1000	-0.020	150	2.85	752
#27	0.1440	57	20	1000	-0.020	150	2.85	754
3.70mm	0.1457	57	20	1000	-0.020	150	2.85	762
#26	0.1470	51	20	1000	-0.020	150	2.55	769
3.75mm	0.1476	51	20	1000	-0.020	150	2.55	772
#25	0.1495	51	20	1000	-0.020	150	2.55	782
3.80mm	0.1496	51	20	1000	-0.020	150	2.55	783
3.85mm	0.1516	51	20	1000	-0.020	150	2.55	793
#24	0.1520	51	20	1000	-0.020	150	2.55	795
3.90mm	0.1535	51	20	1000	-0.020	150	2.55	803
#23	0.1540	51	20	1000	-0.020	150	2.55	806
3.95	0.1555	51	20	1000	-0.020	150	2.55	814
5/32	0.1562	51	20	1000	-0.020	150	2.55	817
#22	0.1570	51	20	1000	-0.020	150	2.55	822
4.00mm	0.1575	51	20	1000	-0.020	150	2.55	824
#21	0.1590	45	20	1000	-0.021	125	2.25	832
4.05mm	0.1594	45	20	1000	-0.021	125	2.25	834
#20	0.1610	45	20	1000	-0.021	125	2.25	843
4.10mm	0.1614	45	20	1000	-0.021	125	2.25	845
4.15mm	0.1634	45	20	1000	-0.021	125	2.25	855
4.20mm	0.1654	45	20	1000	-0.021	125	2.25	866
#19	0.1660	45	20	1000	-0.021	125	2.25	869
4.25mm	0.1673	45	20	1000	-0.021	125	2.25	876
4.30mm	0.1693	45	20	1000	-0.021	125	2.25	886
#18	0.1695	45	20	1000	-0.021	125	2.25	887
4.35mm	0.1713	38	20	1000	-0.021	125	1.90	896
11/64	0.1719	38	20	1000	-0.021	125	1.90	900
#17	0.1730	38	20	1000	-0.021	125	1.90	905
4.40mm	0.1732	38	20	1000	-0.021	125	1.90	906
4.45mm	0.1752	38	20	1000	-0.022	125	1.90	917
#16	0.1770	38	20	1000	-0.022	125	1.90	926
4.50mm	0.1772	38	20	1000	-0.022	125	1.90	927
4.55mm	0.1792	38	20	1000	-0.022	125	1.90	938
#15	0.1800	38	20	1000	-0.022	125	1.90	942
4.60mm	0.1811	38	20	1000	-0.022	125	1.90	948
#14	0.1820	38	20	1000	-0.022	125	1.90	952
4.65mm	0.1831	38	20	1000	-0.022	125	1.90	958
#13	0.1850	38	20	1000	-0.022	125	1.90	968
4.70mm	0.1850	38	20	1000	-0.022	125	1.90	968
4.75mm	0.1870	38	20	1000	-0.022	100	1.90	979
3/16	0.1875	38	20	1000	-0.022	100	1.90	981
4.80mm	0.1890	38	20	1000	-0.023	100	1.90	989
#12	0.1890	32	20	1000	-0.023	100	1.60	989

Size	Diameter	Feed	Speed	Retract	Z-Axis Offset	Hits	Chipload	SFM
4.85mm	0.1909	32	20	1000	-0.023	100	1.60	999
#11	0.1910	32	20	1000	-0.023	100	1.60	1000
4.90mm	0.1929	32	20	1000	-0.023	100	1.60	1010
#10	0.1935	32	20	1000	-0.023	100	1.60	1013
4.95mm	0.1949	32	20	1000	-0.023	100	1.60	1020
#9	0.1960	32	20	1000	-0.023	100	1.60	1026
5.00mm	0.1968	32	20	1000	-0.023	100	1.60	1030
5.05mm	0.1988	32	20	1000	-0.023	100	1.60	1040
#8	0.1990	32	20	1000	-0.023	100	1.60	1041
5.10mm	0.2008	32	20	1000	-0.023	100	1.60	1051
#7	0.2010	32	20	1000	-0.023	100	1.60	1052
5.15mm	0.2028	32	20	1000	-0.023	100	1.60	1061
13/64	0.2031	32	20	1000	-0.023	100	1.60	1063
#6	0.2040	32	20	1000	-0.024	100	1.60	1068
5.20mm	0.2047	32	20	1000	-0.024	100	1.60	1071
#5	0.2055	32	20	1000	-0.024	100	1.60	1075
5.25mm	0.2067	32	20	1000	-0.024	100	1.60	1082
5.30mm	0.2087	32	20	1000	-0.024	100	1.60	1092
#4	0.2090	32	20	1000	-0.024	100	1.60	1094
5.35mm	0.2106	32	20	1000	-0.024	100	1.60	1102
5.40mm	0.2126	26	20	1000	-0.024	100	1.30	1113
#3	0.2130	26	20	1000	-0.024	100	1.30	1115
5.45mm	0.2146	26	20	1000	-0.024	100	1.30	1123
5.50mm	0.2165	26	20	1000	-0.024	100	1.30	1133
5.55mm	0.2185	26	20	1000	-0.024	100	1.30	1143
7/32	0.2188	26	20	1000	-0.024	100	1.30	1145
5.60mm	0.2205	26	20	1000	-0.025	100	1.30	1154
#2	0.2210	26	20	1000	-0.025	100	1.30	1157
5.65mm	0.2224	26	20	1000	-0.025	100	1.30	1164
5.70mm	0.2244	26	20	1000	-0.025	100	1.30	1174
5.75mm	0.2264	26	20	1000	-0.025	100	1.30	1185
#1	0.2280	26	20	1000	-0.025	100	1.30	1193
5.80mm	0.2283	26	20	1000	-0.025	100	1.30	1195
5.85mm	0.2302	26	20	1000	-0.025	50	1.30	1205
5.90mm	0.2323	26	20	1000	-0.025	50	1.30	1216
A	0.2340	26	20	1000	-0.025	50	1.30	1225
5.95mm	0.2343	26	20	1000	-0.026	50	1.30	1226
15/64	0.2344	26	20	1000	-0.026	50	1.30	1227
6.00mm	0.2362	26	20	1000	-0.026	50	1.30	1236
B	0.2380	26	20	1000	-0.026	50	1.30	1246
6.05mm	0.2382	26	20	1000	-0.026	50	1.30	1247
6.10mm	0.2402	26	20	1000	-0.026	50	1.30	1257
C	0.2420	26	20	1000	-0.026	50	1.30	1266
6.15mm	0.2421	26	20	1000	-0.026	50	1.30	1267
6.20mm	0.2441	26	20	1000	-0.026	50	1.30	1277
D	0.2460	26	20	1000	-0.026	50	1.30	1287
6.25mm	0.2461	26	20	1000	-0.026	50	1.30	1288
6.30mm	0.2480	26	20	1000	-0.026	50	1.30	1298
6.35mm	0.2500	26	20	1000	-0.027	50	1.30	1308
6.40mm	0.2520	26	20	1000	-0.027	50	1.30	1319

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6.50mm	0.2559	26	20	1000	-0.027	50	1.30	1339
F	0.2570	26	20	1000	-0.027	50	1.30	1345
6.60mm	0.2598	26	20	1000	-0.027	50	1.30	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 Kyocera 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.

