



Drilling Feed & Speed Chart for

DUROID® / PTFE PCB Material

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Recommended Kyocera Tycom Drill Series:

Series 100, 150, 460, 480, 580

(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
	(inch)	(Inches/min)	(k-rpm)	(inches/min)	(inches)		(mils/rev)	
0.10mm	0.0040	60	160	250	-0.011	250	0.38	167
0.13mm	0.0050	66	160	350	-0.011	250	0.41	209
0.15mm	0.0059	70	160	400	-0.011	250	0.44	247
#96	0.0063	74	160	400	-0.011	250	0.46	264
#95	0.0067	78	160	400	-0.012	250	0.49	281
#94	0.0071	82	160	500	-0.012	250	0.51	297
#93	0.0075	86	160	500	-0.012	250	0.54	314
#92	0.0079	90	160	500	-0.012	300	0.56	331
#91	0.0083	94	160	500	-0.012	300	0.59	347
#90	0.0087	98	154	500	-0.012	300	0.64	351
#89	0.0091	102	147	600	-0.012	300	0.69	350
#88	0.0095	106	141	600	-0.012	300	0.75	351
0.25mm	0.0098	110	136	600	-0.012	400	0.81	349
#87	0.0100	112	134	600	-0.012	400	0.84	351
#86	0.0105	112	127	700	-0.012	400	0.88	349
#85	0.0110	113	122	700	-0.013	400	0.93	351
#84	0.0115	113	116	700	-0.013	400	0.97	350
0.30mm	0.0118	113	113	700	-0.013	400	1.00	350
#83	0.0120	115	111	800	-0.013	400	1.04	350
#82	0.0125	116	107	800	-0.013	400	1.08	350
#81	0.0130	117	103	800	-0.013	400	1.14	350
#80	0.0135	119	99	800	-0.013	500	1.20	350
0.35mm	0.0138	119	97	800	-0.013	500	1.23	350
#79	0.0145	120	92	900	-0.013	500	1.30	350
1/64	0.0156	120	86	900	-0.014	500	1.40	350
0.40mm	0.0158	121	85	900	-0.014	500	1.42	350
#78	0.0160	124	84	1000	-0.014	500	1.48	350
0.45mm	0.0177	126	76	1000	-0.014	500	1.66	350
#77	0.0180	128	74	1000	-0.014	500	1.73	350
0.50mm	0.0197	132	68	1000	-0.015	500	1.94	350
#76	0.0200	134	67	1000	-0.015	500	2.00	350
#75	0.0210	136	64	1000	-0.015	600	2.13	350
0.55mm	0.0217	138	62	1000	-0.015	600	2.23	350
#74	0.0225	140	59	1000	-0.015	600	2.37	350
0.60mm	0.0236	144	57	1000	-0.016	600	2.53	350
#73	0.0240	146	56	1000	-0.016	600	2.61	350

Size	Diameter	Feed	Speed	Retract	Z-Axis Offset	Hits	Chipload	SFM
	(inch)	(Inches/min)	(k-rpm)	(inches/min)	(inches)		(mils/rev)	
#72	0.0250	148	54	1000	-0.016	600	2.74	350
0.65mm	0.0256	150	52	1000	-0.016	600	2.88	350
#71	0.0260	150	51	1000	-0.016	600	2.94	350
0.70mm	0.0276	150	48	1000	-0.016	600	3.13	350
#70	0.0280	150	48	1000	-0.017	600	3.13	350
#69	0.0292	148	46	1000	-0.017	700	3.22	350
0.75mm	0.0295	146	45	1000	-0.017	700	3.25	350
#68	0.0310	140	43	1000	-0.017	700	3.25	350
1/32	0.0312	140	43	1000	-0.017	700	3.25	350
0.80mm	0.0315	137	42	1000	-0.017	700	3.25	350
#67	0.0320	137	42	1000	-0.017	700	3.25	350
#66	0.0330	133	41	1000	-0.018	700	3.25	350
0.85mm	0.0335	130	40	1000	-0.018	700	3.25	350
#65	0.0350	124	38	1000	-0.018	700	3.25	350
0.90mm	0.0354	124	38	1000	-0.018	700	3.25	350
#64	0.0360	120	37	1000	-0.018	700	3.25	350
#63	0.0370	117	36	1000	-0.019	700	3.25	350
0.95mm	0.0374	117	36	1000	-0.019	700	3.25	350
#62	0.0380	114	35	1000	-0.019	700	3.25	350
#61	0.0390	111	34	1000	-0.019	700	3.25	350
1.00mm	0.0394	111	34	1000	-0.019	700	3.25	350
#60	0.0400	107	33	1000	-0.019	700	3.25	350
#59	0.0410	107	33	1000	-0.020	700	3.25	350
1.05mm	0.0413	104	32	1000	-0.020	700	3.25	350
#58	0.0420	104	32	1000	-0.020	700	3.25	350
#57	0.0430	101	31	1000	-0.020	700	3.25	350
1.10mm	0.0433	101	31	1000	-0.020	700	3.25	350
1.15mm	0.0453	98	30	1000	-0.021	700	3.25	350
#56	0.0465	94	29	1000	-0.021	700	3.25	350
3/64	0.0469	94	29	1000	-0.021	700	3.25	350
1.20mm	0.0472	91	28	1000	-0.021	700	3.25	350
1.25mm	0.0492	88	27	1000	-0.021	700	3.25	350
1.30mm	0.0512	85	26	1000	-0.022	700	3.25	350
#55	0.0520	85	26	1000	-0.022	700	3.25	350
1.35mm	0.0531	81	25	1000	-0.022	700	3.25	350
#54	0.0550	78	24	1000	-0.023	700	3.25	350
1.40mm	0.0551	78	24	1000	-0.023	700	3.25	350
1.45mm	0.0571	75	23	1000	-0.023	700	3.25	350
1.50mm	0.0591	75	23	1000	-0.024	700	3.25	350
#53	0.0595	72	22	1000	-0.024	700	3.25	350
1.55mm	0.0610	72	22	1000	-0.024	700	3.25	350
1/16	0.0625	68	21	1000	-0.025	700	3.25	350
1.60mm	0.0630	68	21	1000	-0.025	700	3.25	350
#52	0.0635	68	21	1000	-0.025	700	3.25	350
1.65mm	0.0650	68	21	1000	-0.025	700	3.25	350
1.70mm	0.0669	65	20	1000	-0.026	700	3.25	350
#51	0.0670	65	20	1000	-0.026	700	3.25	350
1.75mm	0.0689	65	20	1000	-0.026	700	3.25	361

Size	Diameter	Feed	Speed	Retract	Z-Axis Offset	Hits	Chipload	SFM
	(inch)	(Inches/min)	(k-rpm)	(inches/min)	(inches)		(mils/rev)	
#50	0.0700	65	20	1000	-0.026	600	3.25	366
1.80mm	0.0709	65	20	1000	-0.027	600	3.25	371
1.85mm	0.0728	65	20	1000	-0.027	600	3.25	381
#49	0.0730	65	20	1000	-0.027	600	3.25	382
1.90mm	0.0748	65	20	1000	-0.027	600	3.25	391
#48	0.0760	65	20	1000	-0.028	600	3.25	398
1.95mm	0.0768	65	20	1000	-0.028	600	3.25	402
5/64	0.0781	65	20	1000	-0.028	600	3.25	409
#47	0.0785	65	20	1000	-0.028	600	3.25	411
2.00mm	0.0787	65	20	1000	-0.028	600	3.25	412
2.05mm	0.0807	65	20	1000	-0.029	600	3.25	422
#46	0.0810	65	20	1000	-0.029	600	3.25	424
#45	0.0820	65	20	1000	-0.029	600	3.25	429
2.10mm	0.0827	65	20	1000	-0.029	600	3.25	433
2.15mm	0.0846	65	20	1000	-0.030	600	3.25	443
#44	0.0860	65	20	1000	-0.030	600	3.25	450
2.20mm	0.0866	65	20	1000	-0.030	600	3.25	453
2.25mm	0.0886	65	20	1000	-0.031	600	3.25	464
#43	0.0890	65	20	1000	-0.031	600	3.25	466
2.30mm	0.0906	65	20	1000	-0.031	600	3.25	474
2.35mm	0.0925	65	20	1000	-0.032	600	3.25	484
#42	0.0935	65	20	1000	-0.032	600	3.25	489
3/32	0.0938	65	20	1000	-0.032	600	3.25	491
2.40mm	0.0945	65	20	1000	-0.032	600	3.25	495
#41	0.0960	65	20	1000	-0.032	600	3.25	502
2.45mm	0.0965	65	20	1000	-0.033	600	3.25	505
#40	0.0980	65	20	1000	-0.033	600	3.25	513
2.50mm	0.0984	65	20	1000	-0.033	600	3.25	515
#39	0.0995	65	20	1000	-0.033	600	3.25	521
2.55mm	0.1004	65	20	1000	-0.033	500	3.25	525
#38	0.1015	65	20	1000	-0.034	500	3.25	531
2.60mm	0.1024	65	20	1000	-0.034	500	3.25	536
#37	0.1040	65	20	1000	-0.034	500	3.25	544
2.65mm	0.1043	65	20	1000	-0.034	500	3.25	546
2.70mm	0.1063	65	20	1000	-0.035	500	3.25	556
#36	0.1065	65	20	1000	-0.035	500	3.25	557
2.75mm	0.1083	65	20	1000	-0.035	500	3.25	567
7/64	0.1094	65	20	1000	-0.036	500	3.25	573
#35	0.1100	65	20	1000	-0.036	500	3.25	576
2.80mm	0.1102	65	20	1000	-0.036	500	3.25	577
#34	0.1110	65	20	1000	-0.036	500	3.25	581
2.85mm	0.1122	65	20	1000	-0.036	500	3.25	587
#33	0.1130	65	20	1000	-0.036	500	3.25	591
2.90mm	0.1142	65	20	1000	-0.037	500	3.25	598
#32	0.1160	65	20	1000	-0.037	500	3.25	607
2.95mm	0.1161	65	20	1000	-0.037	500	3.25	608
3.00mm	0.1181	65	20	1000	-0.038	500	3.25	618
#31	0.1200	65	20	1000	-0.038	500	3.25	628

Size	Diameter	Feed	Speed	Retract	Z-Axis Offset	Hits	Chipload	SFM
	(inch)	(Inches/min)	(k-rpm)	(inches/min)	(inches)		(mils/rev)	
3.05mm	0.1201	65	20	1000	-0.038	500	3.25	629
3.10mm	0.1220	65	20	1000	-0.038	500	3.25	638
3.15mm	0.1240	65	20	1000	-0.039	500	3.25	649
1/8	0.1250	65	20	1000	-0.039	500	3.25	654
3.20mm	0.1260	50	20	1000	-0.018	400	2.50	659
3.25mm	0.1280	50	20	1000	-0.018	400	2.50	670
#30	0.1285	50	20	1000	-0.019	400	2.50	672
3.30mm	0.1299	50	20	1000	-0.019	400	2.50	680
3.35mm	0.1319	50	20	1000	-0.019	400	2.50	690
3.40mm	0.1339	50	20	1000	-0.019	400	2.50	701
3.45mm	0.1358	50	20	1000	-0.019	400	2.50	711
#29	0.1360	50	20	1000	-0.019	400	2.50	712
3.50mm	0.1378	50	20	1000	-0.019	400	2.50	721
3.55mm	0.1398	50	20	1000	-0.019	400	2.50	732
#28	0.1405	50	20	1000	-0.019	400	2.50	735
9/64	0.1406	50	20	1000	-0.019	400	2.50	736
3.60mm	0.1417	50	20	1000	-0.019	400	2.50	742
3.65mm	0.1437	50	20	1000	-0.020	400	2.50	752
#27	0.1440	50	20	1000	-0.020	400	2.50	754
3.70mm	0.1457	50	20	1000	-0.020	400	2.50	762
#26	0.1470	50	20	1000	-0.020	400	2.50	769
3.75mm	0.1476	50	20	1000	-0.020	400	2.50	772
#25	0.1495	50	20	1000	-0.020	400	2.50	782
3.80mm	0.1496	50	20	1000	-0.020	400	2.50	783
3.85mm	0.1516	50	20	1000	-0.020	400	2.50	793
#24	0.1520	50	20	1000	-0.020	400	2.50	795
3.90mm	0.1535	50	20	1000	-0.020	400	2.50	803
#23	0.1540	50	20	1000	-0.020	400	2.50	806
3.95	0.1555	50	20	1000	-0.020	400	2.50	814
5/32	0.1562	50	20	1000	-0.020	400	2.50	817
#22	0.1570	50	20	1000	-0.020	400	2.50	822
4.00mm	0.1575	50	20	1000	-0.020	400	2.50	824
#21	0.1590	40	20	1000	-0.021	300	2.00	832
4.05mm	0.1594	40	20	1000	-0.021	300	2.00	834
#20	0.1610	40	20	1000	-0.021	300	2.00	843
4.10mm	0.1614	40	20	1000	-0.021	300	2.00	845
4.15mm	0.1634	40	20	1000	-0.021	300	2.00	855
4.20mm	0.1654	40	20	1000	-0.021	300	2.00	866
#19	0.1660	40	20	1000	-0.021	300	2.00	869
4.25mm	0.1673	40	20	1000	-0.021	300	2.00	876
4.30mm	0.1693	40	20	1000	-0.021	300	2.00	886
#18	0.1695	40	20	1000	-0.021	300	2.00	887
4.35mm	0.1713	40	20	1000	-0.021	300	2.00	896
11/64	0.1719	40	20	1000	-0.021	300	2.00	900
#17	0.1730	40	20	1000	-0.021	300	2.00	905
4.40mm	0.1732	40	20	1000	-0.021	300	2.00	906
4.45mm	0.1752	40	20	1000	-0.022	300	2.00	917
#16	0.1770	40	20	1000	-0.022	300	2.00	926

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>	
4.50mm	0.1772	40	20	1000	-0.022	300	2.00	927
4.55mm	0.1792	40	20	1000	-0.022	300	2.00	938
#15	0.1800	36	20	1000	-0.022	300	1.80	942
4.60mm	0.1811	36	20	1000	-0.022	300	1.80	948
#14	0.1820	36	20	1000	-0.022	300	1.80	952
4.65mm	0.1831	36	20	1000	-0.022	300	1.80	958
#13	0.1850	36	20	1000	-0.022	300	1.80	968
4.70mm	0.1850	36	20	1000	-0.022	300	1.80	968
4.75mm	0.1870	36	20	1000	-0.022	200	1.80	979
3/16	0.1875	36	20	1000	-0.022	200	1.80	981
4.80mm	0.1890	36	20	1000	-0.023	200	1.80	989
#12	0.1890	36	20	1000	-0.023	200	1.80	989
4.85mm	0.1909	36	20	1000	-0.023	200	1.80	999
#11	0.1910	36	20	1000	-0.023	200	1.80	1000
4.90mm	0.1929	36	20	1000	-0.023	200	1.80	1010
#10	0.1935	36	20	1000	-0.023	200	1.80	1013
4.95mm	0.1949	36	20	1000	-0.023	200	1.80	1020
#9	0.1960	36	20	1000	-0.023	200	1.80	1026
5.00mm	0.1968	36	20	1000	-0.023	200	1.80	1030
5.05mm	0.1988	36	20	1000	-0.023	200	1.80	1040
#8	0.1990	36	20	1000	-0.023	200	1.80	1041
5.10mm	0.2008	34	20	1000	-0.023	150	1.70	1051
#7	0.2010	34	20	1000	-0.023	150	1.70	1052
5.15mm	0.2028	34	20	1000	-0.023	150	1.70	1061
13/64	0.2031	34	20	1000	-0.023	150	1.70	1063
#6	0.2040	34	20	1000	-0.024	150	1.70	1068
5.20mm	0.2047	34	20	1000	-0.024	150	1.70	1071
#5	0.2055	34	20	1000	-0.024	150	1.70	1075
5.25mm	0.2067	34	20	1000	-0.024	150	1.70	1082
5.30mm	0.2087	34	20	1000	-0.024	150	1.70	1092
#4	0.2090	34	20	1000	-0.024	150	1.70	1094
5.35mm	0.2106	34	20	1000	-0.024	150	1.70	1102
5.40mm	0.2126	34	20	1000	-0.024	150	1.70	1113
#3	0.2130	34	20	1000	-0.024	150	1.70	1115
5.45mm	0.2146	34	20	1000	-0.024	150	1.70	1123
5.50mm	0.2165	34	20	1000	-0.024	150	1.70	1133
5.55mm	0.2185	34	20	1000	-0.024	150	1.70	1143
7/32	0.2188	34	20	1000	-0.024	150	1.70	1145
5.60mm	0.2205	32	20	1000	-0.025	150	1.60	1154
#2	0.2210	32	20	1000	-0.025	150	1.60	1157
5.65mm	0.2224	32	20	1000	-0.025	150	1.60	1164
5.70mm	0.2244	32	20	1000	-0.025	150	1.60	1174
5.75mm	0.2264	32	20	1000	-0.025	150	1.60	1185
#1	0.2280	32	20	1000	-0.025	150	1.60	1193
5.80mm	0.2283	32	20	1000	-0.025	150	1.60	1195
5.85mm	0.2302	32	20	1000	-0.025	100	1.60	1205
5.90mm	0.2323	32	20	1000	-0.025	100	1.60	1216
A	0.2340	32	20	1000	-0.025	100	1.60	1225

Size	Diameter	Feed	Speed	Retract	Z-Axis Offset	Hits	Chipload	SFM
	(inch)	(Inches/min)	(k-rpm)	(inches/min)	(inches)		(mils/rev)	
5.95mm	0.2343	32	20	1000	-0.026	100	1.60	1226
15/64	0.2344	32	20	1000	-0.026	100	1.60	1227
6.00mm	0.2362	30	20	1000	-0.026	100	1.50	1236
B	0.2380	30	20	1000	-0.026	100	1.50	1246
6.05mm	0.2382	30	20	1000	-0.026	100	1.50	1247
6.10mm	0.2402	30	20	1000	-0.026	100	1.50	1257
C	0.2420	30	20	1000	-0.026	100	1.50	1266
6.15mm	0.2421	30	20	1000	-0.026	100	1.50	1267
6.20mm	0.2441	30	20	1000	-0.026	100	1.50	1277
D	0.2460	30	20	1000	-0.026	100	1.50	1287
6.25mm	0.2461	30	20	1000	-0.026	100	1.50	1288
6.30mm	0.2480	30	20	1000	-0.026	100	1.50	1298
6.35mm	0.2500	30	20	1000	-0.027	100	1.50	1308
6.40mm	0.2520	30	20	1000	-0.027	100	1.50	1319
6.50mm	0.2559	30	20	1000	-0.027	100	1.50	1339
F	0.2570	30	20	1000	-0.027	100	1.50	1345
6.60mm	0.2598	30	20	1000	-0.027	100	1.50	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.

