

Series 1600

NEW
ITEM.0787" - .3750"
(2.000mm - 9.525mm)TECH
PAGES
320-323

TOLERANCES

d	+.0000" - .0005" (+.0000 - .0127mm)	
l_1	$\leq 1/8"$	$+ .125" - .062" (+3.175 - 1.588mm)$
	$> 1/8"$	$+ .125" - .125" (+3.175 - 3.175mm)$
l_2	$\leq 1/8"$	$+ .125" - .062" (+3.175 - 1.588mm)$
	$> 1/8"$	$+ .125" - .125" (+3.175 - 3.175mm)$

N/C Spotting

Solid submicron grain carbide drill

For spotting to stabilize long drills

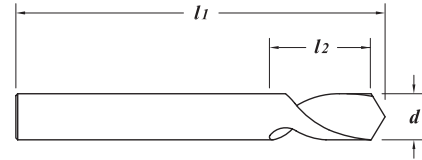
Can be used for chamfering

Rough, angled or spherical surfaces

No O.D. clearance

For locating on true position

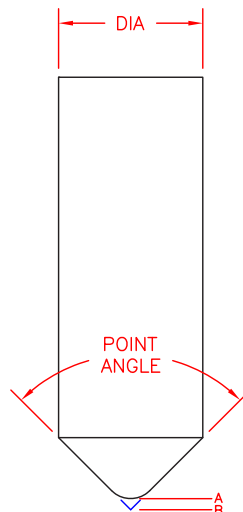
Live tooling recommended on lathe processes



82° EDP#	90° EDP#	120° EDP#	142° EDP#	$d^{\dagger}$ Diameter			l_1 Overall Length	l_2 Flute Length	1-11	12-24	25-49	50-100
				Decimal		Metric						
91650	91500	91572	91240	.0787		2.000	50	10	10.29	9.85	9.40	8.95
91652	91505	91575	91245	.0938	3/32"	2.383	2"	3/8"	11.66	11.15	10.65	10.14
-	91507	-	-	.1181		3.000	38	6	12.87	12.31	11.75	11.19
-	91510	91580	91250	.1181		3.000	50	10	13.74	13.15	12.55	11.95
-	91512	-	-	.1181		3.000	75	10	15.94	15.25	14.55	13.86
-	91514	-	-	.1250	1/8"	3.175	1-1/2"	1/4"	12.87	12.31	11.75	11.19
91656	91000	91100	91260	.1250	1/8"	3.175	2"	3/8"	13.74	13.15	12.55	11.95
-	91002	-	-	.1250	1/8"	3.175	3"	3/8"	15.94	15.25	14.55	13.86
91658	91520	91590	91270	.1575		4.000	50	12	15.87	15.18	14.49	13.80
-	91522	-	-	.1875	3/16"	4.763	2"	3/8"	15.87	15.18	14.49	13.80
-	91524	-	-	.1875	3/16"	4.763	2-1/2"	1/2"	16.43	15.72	15.00	14.29
91660	91010	91110	91280	.1875	3/16"	4.763	3"	3/4"	17.97	17.19	16.41	15.63
-	91012	-	-	.1875	3/16"	4.763	4"	3/4"	21.02	20.11	19.19	18.28
-	91014	-	-	.1969		5.000	50	10	17.26	16.51	15.76	15.01
-	91530	91600	91290	.1969		5.000	65	15	18.88	18.06	17.24	16.42
-	91532	-	-	.1969		5.000	75	15	20.34	19.46	18.57	17.69
-	91534	-	-	.2362		6.000	50	12	19.40	18.56	17.71	16.87
91664	91540	91610	91300	.2362		6.000	65	20	19.85	18.99	18.12	17.26
-	91542	-	-	.2362		6.000	75	20	21.33	20.41	19.48	18.55
-	91544	-	-	.2362		6.000	100	20	24.91	23.83	22.74	21.66
-	91546	-	-	.2500	1/4"	6.350	2"	1/2"	19.40	18.56	17.71	16.87
-	91547	-	-	.2500	1/4"	6.350	2-1/2"	5/8"	19.85	18.99	18.12	17.26
91666	91020	91120	91310	.2500	1/4"	6.350	3"	3/4"	21.33	20.41	19.48	18.55
-	91021	-	-	.2500	1/4"	6.350	4"	3/4"	24.91	23.83	22.74	21.66
-	91022	-	-	.2500	1/4"	6.350	6"	3/4"	36.86	35.26	33.65	32.05
-	91023	-	-	.3125	5/16"	7.938	2"	1/2"	23.51	22.48	21.46	20.44
-	91024	-	-	.3125	5/16"	7.938	2-1/2"	5/8"	24.08	23.03	21.99	20.94
91668	91025	91125	91315	.3125	5/16"	7.938	3"	1"	25.81	24.68	23.56	22.44
-	91026	-	-	.3125	5/16"	7.938	4"	1"	30.73	29.39	28.06	26.72
-	91548	-	-	.3150		8.000	50	12	23.51	22.48	21.46	20.44
-	91549	-	-	.3150		8.000	65	16	24.08	23.03	21.99	20.94
91670	91550	91620	91320	.3150		8.000	75	25	25.81	24.68	23.56	22.44
-	91551	-	-	.3150		8.000	100	25	30.73	29.39	28.06	26.72
-	91028	-	-	.3750	3/8"	9.525	2"	1/2"	25.15	24.06	22.96	21.87
-	91029	-	-	.3750	3/8"	9.525	2-1/2"	5/8"	26.07	24.94	23.80	22.67
91672	91030	91130	91330	.3750	3/8"	9.525	3"	1"	27.99	26.77	25.56	24.34
-	91031	-	-	.3750	3/8"	9.525	4"	1"	34.27	32.78	31.29	29.80
-	91032	-	-	.3750	3/8"	9.525	6"	1"	49.86	47.70	45.53	43.36

82° EDP#	90° EDP#	120° EDP#	142° EDP#	d^+ Diameter		l_1 Overall Length	l_2 Flute Length	1-11	12-24	25-49	50-100
				Decimal	Metric						
-	91558	-	-	.3937	10.000	65	16	33.32	31.87	30.42	28.97
-	91559	-	-	.3937	10.000	70	20	34.20	32.71	31.23	29.74
-	91560	91630	91340	.3937	10.000	88	25	38.62	36.94	35.26	33.58
-	91561	-	-	.3937	10.000	100	25	41.95	40.13	38.30	36.48
-	91564	-	-	.4375	7/16"	11.113	2-3/4"	36.96	35.35	33.75	32.14
91676	91565	91635	91345	.4375	7/16"	11.113	4"	43.11	41.24	39.36	37.49
-	91568	-	-	.4724	12.000	65	16	39.38	37.66	35.95	34.24
-	91569	-	-	.4724	12.000	75	20	40.08	38.34	36.59	34.85
-	91570	91640	91350	.4724	12.000	100	30	46.41	44.40	42.38	40.36
-	91038	-	-	.5000	1/2"	12.700	2-1/2"	40.63	38.86	37.10	35.33
-	91039	-	-	.5000	1/2"	12.700	3"	41.23	39.44	37.64	35.85
91680	91040	91140	91360	.5000	1/2"	12.700	4"	48.27	46.17	44.07	41.97
-	91041	-	-	.5000	1/2"	12.700	6"	72.94	69.77	66.60	63.43
-	91050	91170	91370	.5512	14.000	100	30	83.18	79.56	75.95	72.33
91684	91060	91180	-	.5625	9/16"	14.287	4"	90.70	86.76	82.81	78.87
-	91067	-	-	.6250	5/8"	15.875	3"	86.68	82.91	79.14	75.37
-	91068	-	-	.6250	5/8"	15.875	3-1/2"	87.27	83.48	79.68	75.89
-	91069	-	-	.6250	5/8"	15.875	4"	96.15	91.97	87.79	83.61
91686	91070	91190	91390	.6250	5/8"	15.875	5"	111.29	106.45	101.61	96.77
-	91077	-	-	.6299	16.000	75	20	89.48	85.59	81.70	77.81
-	91078	-	-	.6299	16.000	88	25	90.14	86.22	82.30	78.38
NEW	91079	-	-	.6299	16.000	100	25	98.24	93.97	89.70	85.43
91688	91080	91200	91400	.6299	16.000	125	30	114.26	109.30	104.33	99.36
91690	91090	91210	-	.7087	18.000	125	30	156.75	149.93	143.12	136.30
-	91148	-	-	.7500	3/4"	19.050	3"	131.42	125.71	119.99	114.28
-	91149	-	-	.7500	3/4"	19.050	4"	136.06	130.14	124.23	118.31
91692	91150	91220	91420	.7500	3/4"	19.050	5"	161.00	154.00	147.00	140.00
-	91159	-	-	.7874	20.000	100	25	152.02	145.41	138.80	132.19
-	91160	91230	91430	.7874	20.000	125	30	174.32	166.74	159.16	151.58
-	91161	-	-	.7874	20.000	150	30	192.49	184.12	175.75	167.38

DIAMETER	DRILL POINT ANGLE			
	82°	90°	120°	142°
2mm	.0787	.003	.002	.001
3/32"	.0938	.003	.003	.002
3mm	.1181	.004	.004	.002
1/8"	.1250	.004	.004	.002
4mm	.1575	.005	.005	.002
3/16"	.1875	.006	.006	.003
5mm	.1969	.007	.006	.003
6mm	.2362	.008	.007	.004
1/4"	.2500	.009	.008	.004
5/16"	.3125	.011	.009	.005
8mm	.3150	.011	.009	.005
3/8"	.3750	.013	.011	.006
10mm	.3937	.014	.012	.007
7/16"	.4375	.015	.013	.008
12mm	.4724	.016	.014	.008
1/2"	.5000	.017	.015	.009
14mm	.5512	.019	.017	.010
9/16"	.5625	.019	.017	.010
5/8"	.6250	.022	.019	.011
16mm	.6299	.022	.019	.011
18mm	.7087	.024	.021	.012
3/4"	.7500	.026	.023	.013
20mm	.7874	.027	.024	.014



Garr Tool series 1600 spotting drills are not only useful for starting holes, but also for leaving the desired chamfer when programmed to the correct depth. Because spotting drills do not come to a true point, but have a small "flat" as shown in the figure to the left, the length deviation from the chart must be taken into account to leave the correct chamfer length. This chart gives the distance from the theoretical drill point 'B' to the actual drill point 'A'. These values can be used to compensate for the "flat" on our spotting drills in your calculations.

Series 1400



TOLERANCES

d_1	$+0.03" - .000" (+.0762 - .0000\text{mm})$
d_2	$h6$
l_1	$+0.125" - .125" (+3.175 - 3.175\text{mm})$
l_2	$+0.008" - .008" (+.203 - .203\text{mm})$

Combined Drill and Countersink

Solid submicron grain carbide drill

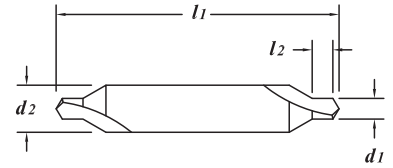
For center drilling applications

$60^\circ \pm 0^\circ 30'$ included countersink angle

Live tooling recommended on lathe processes

Drill length (l_2) is equal to drill diameter (d_1)

Not able to be altered



EDP #	Number	d_1 †		d_2 Shank Diameter	l_1 Overall Length	l_2 Drill Length	1-11	12-24	25-49	50-100
		Decimal	Diameter Metric							
58030	1	.0469	3/64"	1.191	1/8"	1-1/2"	.0469	15.42	14.75	14.08
58040	2	.0781	5/64"	1.984	3/16"	2"	.0781	24.28	23.22	22.17
58050	3	.1094	7/64"	2.779	1/4"	2"	.1094	27.65	26.44	25.24
58060	4	.1250	1/8"	3.175	5/16"	2-1/8"	.1250	38.70	37.02	35.33
58070	5	.1875	3/16"	4.763	7/16"	2-3/4"	.1875	55.28	52.88	50.47
58080	6	.2188	7/32"	5.558	1/2"	3"	.2188	73.59	70.39	67.19



TOLERANCES

d	+.0000" -.0005" (+.0000 -.0127mm)	
l₁	≤ 1/8"	+.125" -.062" (+3.175 -1.588mm)
	> 1/8"	+.125" -.125" (+3.175 -3.175mm)
l₂	≤ 1/8"	+.125" -.062" (+3.175 -1.588mm)
	> 1/8"	+.125" -.125" (+3.175 -3.175mm)


Series 1500

 .0625" - .1660"
(1.588mm - 4.216mm)

Recommended for high nickel, cobalt-based, and powdered metals

Hard Metal

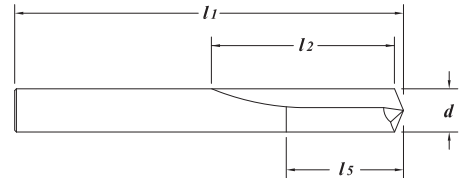
Solid submicron grain carbide drill

Straight flute design provides excellent rigidity

Materials 40 Rc and higher

Live tooling recommended on lathe processes

Durana Coating - page 61



EDP#	d †		l₁	l₂	l₅	1-11	12-24	25-49	50-100
	Decimal	Diameter Metric							
59165	.0625	1/16"	1.588	1-3/4"	5/8"	.200"	10.60	10.14	9.22
59180	.0700	#50	1.778	1-3/4"	3/4"	.224"	10.60	10.14	9.22
59185	.0730	#49	1.854	1-3/4"	3/4"	.234"	10.60	10.14	9.68
59190	.0760	#48	1.930	1-3/4"	3/4"	.244"	10.60	10.14	9.22
59195	.0781	5/64"	1.984	1-3/4"	3/4"	.250"	10.60	10.14	9.22
59200	.0785	#47	1.994	1-3/4"	7/8"	.252"	10.60	10.14	9.68
39000	.0787		2.000	50	22	6	10.60	10.14	9.68
59210	.0810	#46	2.057	2"	7/8"	.260"	10.60	10.14	9.68
59215	.0820	#45	2.083	2"	7/8"	.263"	10.60	10.14	9.68
59220	.0860	#44	2.184	2"	7/8"	.276"	10.60	10.14	9.68
59225	.0890	#43	2.261	2"	7/8"	.285"	10.60	10.14	9.68
59230	.0935	#42	2.375	2"	7/8"	.300"	10.60	10.14	9.68
59235	.0938	3/32"	2.383	2"	7/8"	.301"	10.60	10.14	9.68
59240	.0960	#41	2.438	2"	7/8"	.308"	12.09	11.56	11.04
59245	.0980	#40	2.489	2"	7/8"	.314"	12.09	11.56	11.04
39050	.0984		2.500	50	22	8	12.09	11.56	11.04
59255	.0995	#39	2.527	2"	7/8"	.319"	12.09	11.56	11.04
59260	.1015	#38	2.578	2"	7/8"	.326"	12.09	11.56	11.04
59265	.1040	#37	2.642	2"	7/8"	.334"	12.09	11.56	11.04
59270	.1065	#36	2.705	2"	7/8"	.342"	12.09	11.56	11.04
59275	.1094	7/64"	2.779	2"	1"	.351"	12.09	11.56	11.04
59280	.1100	#35	2.794	2"	1"	.353"	12.57	12.02	11.48
59285	.1110	#34	2.819	2"	1"	.356"	12.57	12.02	11.48
59290	.1130	#33	2.870	2"	1"	.362"	12.57	12.02	11.48
59295	.1160	#32	2.946	2"	1"	.372"	12.57	12.02	11.48
39100	.1181		3.000	50	25	10	12.57	12.02	11.48
59305	.1200	#31	3.048	2"	1"	.385"	12.57	12.02	11.48
59310	.1250	1/8"	3.175	2"	1"	.401"	11.59	11.09	10.58
59315	.1285	#30	3.264	2"	1"	.412"	13.67	13.08	12.48
59320	.1360	#29	3.454	2"	1"	.436"	13.67	13.08	12.48
39150	.1378		3.500	50	25	11	13.67	13.08	12.48
59330	.1405	#28	3.569	2"	1"	.451"	13.67	13.08	12.48
59335	.1406	9/64"	3.571	2"	1"	.451"	13.67	13.08	12.48
59340	.1440	#27	3.658	2"	1"	.462"	14.04	13.43	12.82
59345	.1470	#26	3.734	2"	1"	.471"	14.75	14.11	13.47
59350	.1495	#25	3.797	2"	1"	.479"	14.75	14.11	13.47
59355	.1520	#24	3.861	2"	1"	.487"	14.75	14.11	13.47
59360	.1540	#23	3.912	2"	1"	.494"	14.75	14.11	13.47
59365	.1562	5/32"	3.967	2-1/2"	1-1/8"	.501"	14.75	14.11	13.47
59370	.1570	#22	3.988	2-1/2"	1-1/8"	.504"	15.99	15.29	14.60
39200	.1575		4.000	63	28	13	15.99	15.29	14.60
59380	.1590	#21	4.039	2-1/2"	1-1/8"	.510"	16.36	15.65	14.94
59385	.1610	#20	4.089	2-1/2"	1-1/8"	.516"	16.36	15.65	14.94
59390	.1660	#19	4.216	2-1/2"	1-1/8"	.532"	16.97	16.24	15.50

continued →

Series 1500 (continued)

.1695" - .5000"
(4.305mm - 12.700mm)

EDP#	$d^{\dagger}$ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100
	Decimal	Metric							
59395	.1695	#18	4.305	2-1/2"	1-3/16"	.544"	16.97	16.24	15.50
59400	.1719	11/64"	4.366	2-1/2"	1-3/16"	.551"	16.97	16.24	15.50
59405	.1730	#17	4.394	2-1/2"	1-3/16"	.555"	17.34	16.59	15.83
59410	.1770	#16	4.496	2-1/2"	1-3/16"	.568"	17.34	16.59	15.83
39250	.1772		4.500	63	28	14	17.34	16.59	15.83
59420	.1800	#15	4.572	2-1/2"	1-3/16"	.577"	17.34	16.59	15.83
59425	.1820	#14	4.623	2-1/2"	1-3/16"	.584"	18.31	17.51	16.72
59430	.1850	#13	4.700	2-1/2"	1-3/16"	.593"	18.31	17.51	16.72
59435	.1875	3/16"	4.763	2-1/2"	1-3/16"	.601"	17.60	16.83	16.07
59440	.1890	#12	4.801	2-1/2"	1-3/16"	.606"	18.18	17.39	16.60
59445	.1910	#11	4.851	2-1/2"	1-3/16"	.613"	18.18	17.39	16.60
59450	.1935	#10	4.915	2-1/2"	1-1/4"	.621"	19.26	18.43	17.59
59455	.1960	#9	4.978	2-1/2"	1-1/4"	.629"	19.26	18.43	17.59
39300	.1969		5.000	63	32	16	19.26	18.43	17.59
59465	.1990	#8	5.055	2-1/2"	1-1/4"	.638"	19.91	19.04	18.18
59470	.2010	#7	5.105	2-1/2"	1-1/4"	.645"	19.91	19.04	18.18
59475	.2031	13/64"	5.159	2-1/2"	1-1/4"	.651"	19.91	19.04	18.18
59480	.2040	#6	5.182	2-1/2"	1-1/4"	.654"	21.00	20.09	19.17
59485	.2055	#5	5.220	2-1/2"	1-1/4"	.659"	21.00	20.09	19.17
59490	.2090	#4	5.309	2-1/2"	1-1/4"	.670"	21.00	20.09	19.17
59495	.2130	#3	5.410	2-1/2"	1-1/4"	.683"	21.00	20.09	19.17
39350	.2165		5.500	63	32	18	21.00	20.09	19.17
59505	.2188	7/32"	5.558	2-1/2"	1-1/2"	.702"	21.00	20.09	19.17
59510	.2210	#2	5.613	2-1/2"	1-1/2"	.709"	22.46	21.48	20.51
59515	.2280	#1	5.791	2-1/2"	1-1/2"	.731"	22.46	21.48	20.51
59525	.2344	15/64"	5.954	2-1/2"	1-1/2"	.752"	25.04	23.95	22.86
39400	.2362		6.000	63	38	19	25.04	23.95	22.86
59550	.2500	1/4"	6.350	2-1/2"	1-1/2"	.802"	23.58	22.55	21.53
59570	.2656	17/64"	6.746	2-1/2"	1-1/2"	.852"	28.58	27.34	26.09
39500	.2756		7.000	63	38	22	29.29	28.02	26.74
59600	.2812	9/32"	7.142	2-1/2"	1-1/2"	.902"	29.29	28.02	26.74
39520	.2953		7.500	63	41	24	30.77	29.44	28.10
59620	.2969	19/64"	7.541	2-1/2"	1-5/8"	.952"	30.77	29.44	28.10
59630	.3125	5/16"	7.938	2-1/2"	1-5/8"	1.002"	30.77	29.44	28.10
39540	.3150		8.000	63	41	26	32.36	30.95	29.55
59650	.3281	21/64"	8.334	3"	1-5/8"	1.052"	33.32	31.87	30.42
39560	.3346		8.500	76	41	27	37.21	35.60	33.98
59670	.3438	11/32"	8.733	3"	1-5/8"	1.103"	37.21	35.60	33.98
39580	.3543		9.000	76	41	29	40.41	38.65	36.90
59690	.3594	23/64"	9.129	3"	1-3/4"	1.153"	40.41	38.65	36.90
59705	.3750	3/8"	9.525	3"	1-3/4"	1.203"	44.06	42.14	40.23
59720	.3906	25/64"	9.921	3"	1-3/4"	1.253"	49.80	47.63	45.47
39620	.3937		10.000	76	44	32	49.80	47.63	45.47
59740	.4062	13/32"	10.317	3"	1-3/4"	1.303"	55.65	53.23	50.81
39640	.4134		10.500	76	44	34	58.24	55.70	53.17
59755	.4219	27/64"	10.716	3"	1-3/4"	1.353"	61.27	58.61	55.94
39660	.4331		11.000	76	44	35	62.38	59.66	56.95
59765	.4375	7/16"	11.113	3"	1-3/4"	1.403"	62.38	59.66	56.95
59775	.4531	29/64"	11.509	3"	1-3/4"	1.453"	65.40	62.56	59.71
59780	.4688	15/32"	11.908	3"	1-3/4"	1.503"	65.40	62.56	59.71
39700	.4724		12.000	76	44	38	65.40	62.56	59.71
59790	.4844	31/64"	12.304	3"	1-3/4"	1.554"	65.40	62.56	59.71
39720	.4921		12.500	76	44	40	66.88	63.98	61.07
59800	.5000	1/2"	12.700	3"	1-3/4"	1.604"	66.88	63.98	61.07

TOLERANCES

d	+.0000" -.0005" (+.0000 -.0127mm)	
l_1	$\leq 1/8"$	+.125" -.062" (+3.175 -1.588mm)
	$> 1/8"$	+.125" -.125" (+3.175 -3.175mm)
l_2	$\leq 1/8"$	+.125" -.062" (+3.175 -1.588mm)
	$> 1/8"$	+.125" -.125" (+3.175 -3.175mm)


Series 1500H

 .0625" - .1660"
(1.588mm - 4.216mm)

Recommended for high nickel, cobalt-based, and powdered metals

Hard Metal
BALINIT® Durana Coating

Solid submicron grain carbide drill

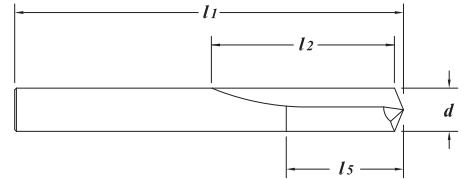
Straight flute design provides excellent rigidity

Materials 40 Rc and higher

Excellent heat resistance and lubricity

Live tooling recommended on lathe processes

Bright Finish - page 59



EDP#	d †		l_1	l_2	l_5	1-11	12-24	25-49	50-100
	Decimal	Diameter							
59166	.0625	1/16"	1.588	1-3/4"	5/8"	.200"	12.74	12.19	11.08
59181	.0700	#50	1.778	1-3/4"	3/4"	.224"	12.74	12.19	11.08
59186	.0730	#49	1.854	1-3/4"	3/4"	.234"	12.74	12.19	11.08
59191	.0760	#48	1.930	1-3/4"	3/4"	.244"	12.74	12.19	11.08
59196	.0781	5/64"	1.984	1-3/4"	3/4"	.250"	12.74	12.19	11.08
59201	.0785	#47	1.994	1-3/4"	7/8"	.252"	12.74	12.19	11.08
39001	.0787		2.000	50	22	6	12.74	12.19	11.08
59211	.0810	#46	2.057	2"	7/8"	.260"	12.74	12.19	11.08
59216	.0820	#45	2.083	2"	7/8"	.263"	12.74	12.19	11.08
59221	.0860	#44	2.184	2"	7/8"	.276"	12.74	12.19	11.08
59226	.0890	#43	2.261	2"	7/8"	.285"	12.74	12.19	11.08
59231	.0935	#42	2.375	2"	7/8"	.300"	12.74	12.19	11.08
59236	.0938	3/32"	2.383	2"	7/8"	.301"	12.74	12.19	11.08
59241	.0960	#41	2.438	2"	7/8"	.308"	14.17	13.55	12.32
59246	.0980	#40	2.489	2"	7/8"	.314"	14.17	13.55	12.32
39051	.0984		2.500	50	22	8	14.17	13.55	12.32
59256	.0995	#39	2.527	2"	7/8"	.319"	14.17	13.55	12.32
59261	.1015	#38	2.578	2"	7/8"	.326"	14.17	13.55	12.32
59266	.1040	#37	2.642	2"	7/8"	.334"	14.17	13.55	12.32
59271	.1065	#36	2.705	2"	7/8"	.342"	14.17	13.55	12.32
59276	.1094	7/64"	2.779	2"	1"	.351"	14.17	13.55	12.32
59281	.1100	#35	2.794	2"	1"	.353"	14.70	14.06	12.78
59286	.1110	#34	2.819	2"	1"	.356"	14.70	14.06	12.78
59291	.1130	#33	2.870	2"	1"	.362"	14.70	14.06	12.78
59296	.1160	#32	2.946	2"	1"	.372"	14.70	14.06	12.78
39101	.1181		3.000	50	25	10	14.70	14.06	12.78
59306	.1200	#31	3.048	2"	1"	.385"	14.70	14.06	12.78
59311	.1250	1/8"	3.175	2"	1"	.401"	13.70	13.10	12.51
59316	.1285	#30	3.264	2"	1"	.412"	15.78	15.09	13.72
59321	.1360	#29	3.454	2"	1"	.436"	15.78	15.09	13.72
39151	.1378		3.500	50	25	11	15.78	15.09	13.72
59331	.1405	#28	3.569	2"	1"	.451"	15.78	15.09	13.72
59336	.1406	9/64"	3.571	2"	1"	.451"	15.78	15.09	13.72
59341	.1440	#27	3.658	2"	1"	.462"	16.13	15.43	14.73
59346	.1470	#26	3.734	2"	1"	.471"	16.87	16.14	15.40
59351	.1495	#25	3.797	2"	1"	.479"	16.87	16.14	15.40
59356	.1520	#24	3.861	2"	1"	.487"	16.87	16.14	15.40
59361	.1540	#23	3.912	2"	1"	.494"	16.87	16.14	15.40
59366	.1562	5/32"	3.967	2-1/2"	1-1/8"	.501"	16.87	16.14	15.40
59371	.1570	#22	3.988	2-1/2"	1-1/8"	.504"	18.08	17.29	16.51
39201	.1575		4.000	63	28	13	18.08	17.29	16.51
59381	.1590	#21	4.039	2-1/2"	1-1/8"	.510"	18.47	17.67	16.86
59386	.1610	#20	4.089	2-1/2"	1-1/8"	.516"	18.47	17.67	16.86
59391	.1660	#19	4.216	2-1/2"	1-1/8"	.532"	19.08	18.25	17.42

continued →

Series 1500H (continued)

.1695" - .5000"
(4.305mm - 12.700mm)

EDP#	$d^{\dagger}$ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100
	Decimal	Metric							
59396	.1695	#18	4.305	2-1/2"	1-3/16"	.544"	19.08	18.25	17.42
59401	.1719	11/64"	4.366	2-1/2"	1-3/16"	.551"	19.08	18.25	17.42
59406	.1730	#17	4.394	2-1/2"	1-3/16"	.555"	19.45	18.60	17.76
59411	.1770	#16	4.496	2-1/2"	1-3/16"	.568"	19.45	18.60	17.76
39251	.1772		4.500	63	28	14	19.45	18.60	17.76
59421	.1800	#15	4.572	2-1/2"	1-3/16"	.577"	19.45	18.60	17.76
59426	.1820	#14	4.623	2-1/2"	1-3/16"	.584"	20.39	19.50	18.62
59431	.1850	#13	4.700	2-1/2"	1-3/16"	.593"	20.39	19.50	18.62
59436	.1875	3/16"	4.763	2-1/2"	1-3/16"	.601"	19.68	18.82	17.97
59441	.1890	#12	4.801	2-1/2"	1-3/16"	.606"	21.78	20.83	19.89
59446	.1910	#11	4.851	2-1/2"	1-3/16"	.613"	21.78	20.83	19.89
59451	.1935	#10	4.915	2-1/2"	1-1/4"	.621"	22.89	21.89	20.90
59456	.1960	#9	4.978	2-1/2"	1-1/4"	.629"	22.89	21.89	20.90
39301	.1969		5.000	63	32	16	22.89	21.89	20.90
59466	.1990	#8	5.055	2-1/2"	1-1/4"	.638"	23.51	22.48	21.46
59471	.2010	#7	5.105	2-1/2"	1-1/4"	.645"	23.51	22.48	21.46
59476	.2031	13/64"	5.159	2-1/2"	1-1/4"	.651"	23.51	22.48	21.46
59481	.2040	#6	5.182	2-1/2"	1-1/4"	.654"	24.61	23.54	22.47
59486	.2055	#5	5.220	2-1/2"	1-1/4"	.659"	24.61	23.54	22.47
59491	.2090	#4	5.309	2-1/2"	1-1/4"	.670"	24.61	23.54	22.47
59496	.2130	#3	5.410	2-1/2"	1-1/4"	.683"	24.61	23.54	22.47
39351	.2165		5.500	63	32	18	24.61	23.54	22.47
59506	.2188	7/32"	5.558	2-1/2"	1-1/2"	.702"	24.61	23.54	22.47
59511	.2210	#2	5.613	2-1/2"	1-1/2"	.709"	26.08	24.95	23.81
59516	.2280	#1	5.791	2-1/2"	1-1/2"	.731"	26.08	24.95	23.81
59526	.2344	15/64"	5.954	2-1/2"	1-1/2"	.752"	28.62	27.38	26.13
39401	.2362		6.000	63	38	19	28.62	27.38	26.13
59551	.2500	1/4"	6.350	2-1/2"	1-1/2"	.802"	27.16	25.98	24.80
39451	.2559		6.500	63	38	21	34.98	33.46	31.94
59571	.2656	17/64"	6.746	2-1/2"	1-1/2"	.852"	34.98	33.46	31.94
39501	.2756		7.000	63	38	22	35.70	34.14	32.59
59601	.2812	9/32"	7.142	2-1/2"	1-1/2"	.902"	35.70	34.14	32.59
39521	.2953		7.500	63	41	24	37.18	35.56	33.95
59621	.2969	19/64"	7.541	2-1/2"	1-5/8"	.952"	37.18	35.56	33.95
59631	.3125	5/16"	7.938	2-1/2"	1-5/8"	1.002"	37.18	35.56	33.95
39541	.3150		8.000	63	41	26	38.79	37.10	35.42
59651	.3281	21/64"	8.334	3"	1-5/8"	1.052"	39.73	38.01	36.28
39561	.3346		8.500	76	41	27	43.64	41.75	39.85
59671	.3438	11/32"	8.733	3"	1-5/8"	1.103"	43.64	41.75	39.85
39581	.3543		9.000	76	41	29	47.23	45.18	43.12
59691	.3594	23/64"	9.129	3"	1-3/4"	1.153"	47.23	45.18	43.12
39601	.3740		9.500	76	41	30	50.91	48.70	46.48
59706	.3750	3/8"	9.525	3"	1-3/4"	1.203"	50.91	48.70	46.48
59721	.3906	25/64"	9.921	3"	1-3/4"	1.253"	57.19	54.70	52.22
39621	.3937		10.000	76	44	32	57.19	54.70	52.22
59741	.4062	13/32"	10.317	3"	1-3/4"	1.303"	63.05	60.31	57.57
59756	.4219	27/64"	10.716	3"	1-3/4"	1.353"	68.71	65.73	62.74
39661	.4331		11.000	76	44	35	69.78	66.75	63.71
59766	.4375	7/16"	11.113	3"	1-3/4"	1.403"	69.78	66.75	63.71
39681	.4528		11.500	76	44	37	71.59	68.48	65.36
59776	.4531	29/64"	11.509	3"	1-3/4"	1.453"	72.82	69.65	66.49
59781	.4688	15/32"	11.908	3"	1-3/4"	1.503"	72.82	69.65	66.49
39701	.4724		12.000	76	44	38	72.82	69.65	66.49
59791	.4844	31/64"	12.304	3"	1-3/4"	1.554"	72.82	69.65	66.49
39721	.4921		12.500	76	44	40	74.27	71.04	67.81
59801	.5000	1/2"	12.700	3"	1-3/4"	1.604"	74.27	71.04	67.81

TOLERANCES

d	+.0000" - .0005" (+.0000 - .0127mm)	
l_1	$\leq 1/8"$	+.125" - .062" (+3.175 - 1.588mm)
	$> 1/8"$	+.125" - .125" (+3.175 - 3.175mm)
l_2	$\leq 1/8"$	+.125" - .062" (+3.175 - 1.588mm)
	$> 1/8"$	+.125" - .125" (+3.175 - 3.175mm)


Series 1510

 .0625" - .1575"
(1.588mm - 4.000mm)

Recommended for titanium, inconel, hastelloy, waspalo, and stainless steel

Slow Helix

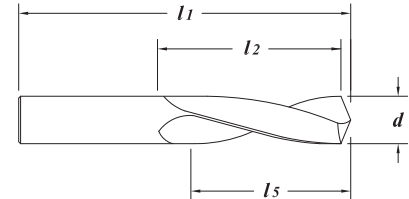
Solid submicron grain carbide drill

Heavy web for extra rigidity and added strength

Thinned point

Live tooling recommended on lathe processes

Durana Coating - page 66



EDP#	d †		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100
	Decimal	Diameter Metric							
19070	.0625	1/16"	1.588	1-3/4"	5/8"	.200"	7.81	7.47	7.13
19075	.0635	#52	1.613	1-3/4"	11/16"	.204"	7.94	7.59	7.25
19080	.0670	#51	1.702	1-3/4"	11/16"	.215"	8.05	7.70	7.35
19085	.0700	#50	1.778	1-3/4"	11/16"	.224"	8.26	7.90	7.54
19090	.0730	#49	1.854	1-3/4"	11/16"	.234"	8.44	8.07	7.71
19095	.0760	#48	1.930	1-3/4"	11/16"	.244"	8.73	8.35	7.97
19100	.0781	5/64"	1.984	1-3/4"	11/16"	.250"	9.05	8.66	8.26
19105	.0785	#47	1.994	1-3/4"	3/4"	.252"	9.35	8.94	8.54
19115	.0787		2.000	45	19	6	9.51	9.10	8.68
19120	.0810	#46	2.057	1-3/4"	3/4"	.260"	9.65	9.23	8.81
19125	.0820	#45	2.083	1-3/4"	3/4"	.263"	9.94	9.50	9.07
19130	.0860	#44	2.184	1-3/4"	3/4"	.276"	10.27	9.82	9.38
19135	.0890	#43	2.261	1-3/4"	3/4"	.285"	10.57	10.11	9.65
19140	.0935	#42	2.375	1-3/4"	3/4"	.300"	10.72	10.25	9.79
19145	.0938	3/32"	2.383	1-3/4"	3/4"	.301"	10.97	10.49	10.02
19150	.0960	#41	2.438	1-13/16"	13/16"	.308"	11.05	10.57	10.09
19155	.0980	#40	2.489	1-13/16"	13/16"	.314"	11.20	10.71	10.23
19160	.0984		2.500	46	21	8	11.28	10.79	10.30
19165	.0995	#39	2.527	1-13/16"	13/16"	.319"	11.33	10.84	10.34
19170	.1015	#38	2.578	1-13/16"	13/16"	.326"	11.43	10.93	10.44
19175	.1040	#37	2.642	1-13/16"	13/16"	.334"	11.53	11.03	10.53
19180	.1065	#36	2.705	1-13/16"	13/16"	.342"	11.62	11.11	10.61
19185	.1094	7/64"	2.779	1-13/16"	13/16"	.351"	11.66	11.15	10.65
19190	.1100	#35	2.794	1-7/8"	7/8"	.353"	11.74	11.23	10.72
19195	.1110	#34	2.819	1-7/8"	7/8"	.356"	11.88	11.36	10.85
19200	.1130	#33	2.870	1-7/8"	7/8"	.362"	11.97	11.45	10.93
19205	.1160	#32	2.946	1-7/8"	7/8"	.372"	12.05	11.53	11.00
19210	.1181		3.000	48	22	10	12.17	11.64	11.11
19215	.1200	#31	3.048	1-7/8"	7/8"	.385"	12.29	11.76	11.22
19220	.1250	1/8"	3.175	1-7/8"	7/8"	.401"	12.42	11.88	11.34
19225	.1285	#30	3.264	1-15/16"	15/16"	.412"	12.75	12.20	11.64
19230	.1360	#29	3.454	1-15/16"	15/16"	.436"	13.09	12.52	11.95
19235	.1378		3.500	49	24	11	13.50	12.91	12.33
19240	.1405	#28	3.569	1-15/16"	15/16"	.451"	13.67	13.08	12.48
19245	.1406	9/64"	3.571	1-15/16"	15/16"	.451"	13.82	13.22	12.62
19250	.1440	#27	3.658	2-1/16"	1"	.462"	15.04	14.39	13.73
19255	.1470	#26	3.734	2-1/16"	1"	.471"	15.20	14.54	13.88
19260	.1495	#25	3.797	2-1/16"	1"	.479"	15.39	14.72	14.05
19265	.1520	#24	3.861	2-1/16"	1"	.487"	15.42	14.75	14.08
19270	.1540	#23	3.912	2-1/16"	1"	.494"	15.53	14.85	14.18
19275	.1562	5/32"	3.967	2-1/16"	1"	.501"	15.62	14.94	14.26
19280	.1570	#22	3.988	2-1/8"	1-1/16"	.504"	16.58	15.86	15.14
19285	.1575		4.000	54	27	13	16.81	16.08	15.35

continued →

Series 1510 (continued)

.1590" - .3346"
(4.039mm - 8.500mm)

EDP#	$d^{\dagger}$ Diameter			l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100
	Decimal		Metric							
19290	.1590	#21	4.039	2-1/8"	1-1/16"	.510"	17.02	16.28	15.54	14.80
19295	.1610	#20	4.089	2-1/8"	1-1/16"	.516"	17.15	16.40	15.66	14.91
19300	.1660	#19	4.216	2-1/8"	1-1/16"	.532"	17.85	17.07	16.30	15.52
19305	.1695	#18	4.305	2-1/8"	1-1/16"	.544"	18.06	17.27	16.49	15.70
19310	.1719	11/64"	4.366	2-1/8"	1-1/16"	.551"	18.41	17.61	16.81	16.01
19315	.1730	#17	4.394	2-3/16"	1-1/8"	.555"	18.68	17.86	17.05	16.24
19320	.1770	#16	4.496	2-3/16"	1-1/8"	.568"	18.88	18.06	17.24	16.42
19325	.1772		4.500	56	29	14	19.00	18.17	17.35	16.52
19330	.1800	#15	4.572	2-3/16"	1-1/8"	.577"	19.08	18.25	17.42	16.59
19335	.1820	#14	4.623	2-3/16"	1-1/8"	.584"	19.50	18.66	17.81	16.96
19340	.1850	#13	4.700	2-3/16"	1-1/8"	.593"	19.65	18.80	17.94	17.09
19345	.1875	3/16"	4.763	2-3/16"	1-1/8"	.601"	19.73	18.88	18.02	17.16
19350	.1890	#12	4.801	2-1/4"	1-3/16"	.606"	20.38	19.49	18.61	17.72
19355	.1910	#11	4.851	2-1/4"	1-3/16"	.613"	20.62	19.72	18.83	17.93
19360	.1935	#10	4.915	2-1/4"	1-3/16"	.621"	21.56	20.63	19.69	18.75
19365	.1960	#9	4.978	2-1/4"	1-3/16"	.629"	22.13	21.16	20.20	19.24
19370	.1969		5.000	57	30	16	22.24	21.27	20.31	19.34
19375	.1990	#8	5.055	2-1/4"	1-3/16"	.638"	22.41	21.44	20.46	19.49
19380	.2010	#7	5.105	2-1/4"	1-3/16"	.645"	23.07	22.07	21.06	20.06
19385	.2031	13/64"	5.159	2-1/4"	1-3/16"	.651"	23.24	22.23	21.22	20.21
19390	.2040	#6	5.182	2-3/8"	1-1/4"	.654"	23.70	22.67	21.64	20.61
19395	.2055	#5	5.220	2-3/8"	1-1/4"	.659"	24.18	23.13	22.08	21.03
19400	.2090	#4	5.309	2-3/8"	1-1/4"	.670"	24.63	23.56	22.49	21.42
19405	.2130	#3	5.410	2-3/8"	1-1/4"	.683"	25.07	23.98	22.89	21.80
19410	.2165		5.500	60	32	18	25.24	24.15	23.05	21.95
19415	.2188	7/32"	5.558	2-3/8"	1-1/4"	.702"	25.44	24.33	23.23	22.12
19420	.2210	#2	5.613	2-7/16"	1-5/16"	.709"	26.04	24.90	23.77	22.64
19425	.2280	#1	5.791	2-7/16"	1-5/16"	.731"	26.22	25.08	23.94	22.80
19430	.2340	A	5.944	2-7/16"	1-5/16"	.750"	26.28	25.14	23.99	22.85
19435	.2344	15/64"	5.954	2-7/16"	1-5/16"	.752"	26.32	25.18	24.03	22.89
19440	.2362		6.000	64	35	19	26.39	25.25	24.10	22.95
19445	.2380	B	6.045	2-1/2"	1-3/8"	.763"	26.52	25.37	24.21	23.06
19450	.2420	C	6.147	2-1/2"	1-3/8"	.776"	26.69	25.53	24.37	23.21
19455	.2460	D	6.248	2-1/2"	1-3/8"	.789"	26.92	25.75	24.58	23.41
19460	.2500	1/4" / E	6.350	2-1/2"	1-3/8"	.802"	27.08	25.91	24.73	23.55
19465	.2559		6.500	67	37	21	27.74	26.53	25.33	24.12
19470	.2570	F	6.528	2-5/8"	1-7/16"	.824"	28.32	27.09	25.86	24.63
19475	.2610	G	6.629	2-5/8"	1-7/16"	.837"	28.90	27.64	26.39	25.13
19480	.2656	17/64"	6.746	2-5/8"	1-7/16"	.852"	29.49	28.20	26.92	25.64
19485	.2660	H	6.756	2-11/16"	1-1/2"	.853"	30.33	29.01	27.69	26.37
19490	.2720	I	6.909	2-11/16"	1-1/2"	.872"	30.68	29.35	28.01	26.68
19495	.2756		7.000	68	38	22	30.92	29.58	28.23	26.89
19500	.2770	J	7.036	2-11/16"	1-1/2"	.888"	31.20	29.84	28.49	27.13
19505	.2810	K	7.137	2-11/16"	1-1/2"	.901"	31.48	30.11	28.74	27.37
19510	.2812	9/32"	7.142	2-11/16"	1-1/2"	.902"	31.65	30.27	28.90	27.52
19515	.2900	L	7.366	2-3/4"	1-9/16"	.930"	32.82	31.39	29.97	28.54
19520	.2950	M	7.493	2-3/4"	1-9/16"	.946"	35.12	33.59	32.07	30.54
19525	.2953		7.500	70	40	24	35.12	33.59	32.07	30.54
19530	.2969	19/64"	7.541	2-3/4"	1-9/16"	.952"	35.32	33.78	32.25	30.71
19535	.3020	N	7.671	2-15/16"	1-5/8"	.969"	37.19	35.57	33.96	32.34
19540	.3125	5/16"	7.938	2-15/16"	1-5/8"	1.002"	37.34	35.72	34.09	32.47
19545	.3150		8.000	75	43	26	40.07	38.32	36.58	34.84
19550	.3160	O	8.026	2-15/16"	1-11/16"	1.013"	40.07	38.32	36.58	34.84
19555	.3230	P	8.204	2-15/16"	1-11/16"	1.036"	40.41	38.65	36.90	35.14
19560	.3281	21/64"	8.334	2-15/16"	1-11/16"	1.052"	40.65	38.89	37.12	35.35
19565	.3320	Q	8.433	3"	1-11/16"	1.065"	41.60	39.79	37.98	36.17
19570	.3346		8.500	76	43	27	41.99	40.16	38.34	36.51

EDP#	$d^{\dagger}$ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100
	Decimal	Metric							
19575	.3390	R	8.611	3"	1-11/16"	1.087"	43.30	41.42	39.53
19580	.3438	11/32"	8.733	3"	1-11/16"	1.103"	45.06	43.10	41.14
19585	.3480	S	8.839	3-1/16"	1-3/4"	1.116"	45.68	43.69	41.71
19590	.3543		9.000	78	44	29	45.95	43.96	41.96
19595	.3580	T	9.093	3-1/16"	1-3/4"	1.148"	46.13	44.12	42.12
19600	.3594	23/64"	9.129	3-1/16"	1-3/4"	1.153"	46.44	44.42	42.40
19605	.3680	U	9.347	3-1/8"	1-13/16"	1.180"	50.86	48.65	46.44
19615	.3750	3/8"	9.525	3-1/8"	1-13/16"	1.203"	51.74	49.49	47.24
19620	.3770	V	9.576	3-1/4"	1-7/8"	1.209"	52.74	50.45	48.15
19625	.3860	W	9.804	3-1/4"	1-7/8"	1.238"	53.84	51.50	49.16
19630	.3906	25/64"	9.921	3-1/4"	1-7/8"	1.253"	54.67	52.29	49.92
19635	.3937		10.000	84	49	32	56.61	54.15	51.69
19640	.3970	X	10.084	3-5/16"	1-15/16"	1.273"	58.27	55.74	53.20
19645	.4040	Y	10.262	3-5/16"	1-15/16"	1.296"	58.73	56.18	53.62
19650	.4062	13/32"	10.317	3-5/16"	1-15/16"	1.303"	60.87	58.22	55.58
19655	.4130	Z	10.490	3-3/8"	2"	1.325"	61.53	58.85	56.18
19660	.4134		10.500	86	51	34	61.53	58.85	56.18
19665	.4219	27/64"	10.716	3-3/8"	2"	1.353"	62.20	59.50	56.79
19670	.4331		11.000	87	52	35	67.56	64.63	61.69
19675	.4375	7/16"	11.113	3-7/16"	2-1/16"	1.403"	67.56	64.63	61.69
19685	.4531	29/64"	11.509	3-9/16"	2-1/8"	1.453"	73.27	70.08	66.90
19690	.4688	15/32"	11.908	3-5/8"	2-1/8"	1.503"	77.50	74.13	70.76
19695	.4724		12.000	94	56	38	77.77	74.39	71.01
19700	.4844	31/64"	12.304	3-11/16"	2-3/16"	1.554"	78.38	74.98	71.57
19705	.4921		12.500	95	56	40	79.26	75.81	72.37
19710	.5000	1/2"	12.700	3-3/4"	2-1/4"	1.604"	79.83	76.36	72.89
19720	.5156	33/64"	13.096	4-1/4"	2-3/8"	1.654"	107.28	102.62	97.95
19725	.5312	17/32"	13.492	4-1/4"	2-3/8"	1.704"	110.07	105.28	100.50
19730	.5315		13.500	107	60	43	112.91	108.00	103.09
19735	.5469	35/64"	13.891	4-1/4"	2-3/8"	1.754"	115.69	110.66	105.63
19740	.5512		14.000	107	60	45	118.51	113.36	108.20
19745	.5625	9/16"	14.287	4-1/2"	2-1/2"	1.804"	129.23	123.61	117.99
19755	.5781	37/64"	14.683	4-1/2"	2-1/2"	1.854"	134.62	128.77	122.91
19760	.5906		15.000	115	65	48	137.36	131.38	125.41
19765	.5938	19/32"	15.082	4-1/2"	2-1/2"	1.904"	138.15	132.14	126.14
19770	.6094	39/64"	15.478	4-1/2"	2-1/2"	1.954"	138.92	132.88	126.84
19780	.6250	5/8"	15.875	4-1/2"	2-1/2"	2.004"	140.48	134.38	128.27
19785	.6299		16.000	115	65	51	144.22	137.95	131.68

Series 1510H

**NEW
ITEM**.0625" - .1575"
(1.588mm - 4.000mm)**TECH
PAGES
324-327****TOLERANCES**

d	+.0000" - .0005" (+.0000 - .0127mm)	
l ₁	≤ 1/8"	+.125" - .062" (+3.175 - 1.588mm)
	> 1/8"	+.125" - .125" (+3.175 - 3.175mm)
l ₂	≤ 1/8"	+.125" - .062" (+3.175 - 1.588mm)
	> 1/8"	+.125" - .125" (+3.175 - 3.175mm)

Recommended for titanium, inconel, hastelloy, waspaloy, and stainless steel

Slow Helix**BALINIT® Durana Coating**

Solid submicron grain carbide drill

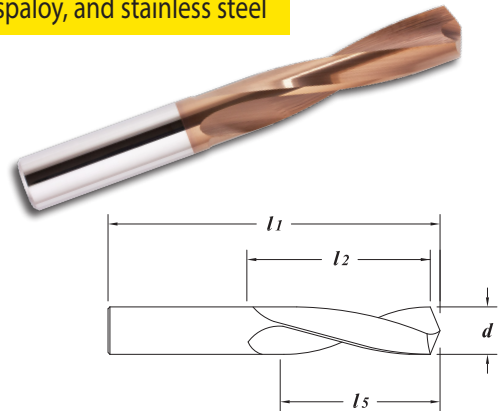
Excellent heat resistance and lubricity

Heavy web for extra rigidity and added strength

Thinned point

Live tooling recommended on lathe processes

Bright Finish - page 63



EDP#	d †		l ₁	l ₂	l ₅	1-11	12-24	25-49	50-100
	Decimal	Metric							
19071	.0625	1/16"	1.588	1-3/4"	5/8"	.200"	9.89	9.46	9.03
19076	.0635	#52	1.613	1-3/4"	11/16"	.204"	10.03	9.59	9.16
19081	.0670	#51	1.702	1-3/4"	11/16"	.215"	10.13	9.69	9.25
19086	.0700	#50	1.778	1-3/4"	11/16"	.224"	10.34	9.89	9.44
19091	.0730	#49	1.854	1-3/4"	11/16"	.234"	10.55	10.09	9.63
19096	.0760	#48	1.930	1-3/4"	11/16"	.244"	10.81	10.34	9.87
19101	.0781	5/64"	1.984	1-3/4"	11/16"	.250"	11.14	10.66	10.17
19106	.0785	#47	1.994	1-3/4"	3/4"	.252"	11.44	10.95	10.45
19116	.0787		2.000	45	19	6	11.59	11.09	10.58
19121	.0810	#46	2.057	1-3/4"	3/4"	.260"	11.74	11.23	10.72
19126	.0820	#45	2.083	1-3/4"	3/4"	.263"	12.04	11.52	10.99
NEW 19128	.0827		2.100	45	19	7	12.13	11.61	11.08
19131	.0860	#44	2.184	1-3/4"	3/4"	.276"	12.35	11.81	11.28
19136	.0890	#43	2.261	1-3/4"	3/4"	.285"	12.66	12.11	11.56
19138	.0906		2.300	45	19	7	12.70	12.14	11.59
19141	.0935	#42	2.375	1-3/4"	3/4"	.300"	12.80	12.24	11.69
19146	.0938	3/32"	2.383	1-3/4"	3/4"	.301"	13.06	12.50	11.93
19148	.0945		2.400	46	21	8	13.11	12.54	11.97
19151	.0960	#41	2.438	1-13/16"	13/16"	.308"	13.14	12.57	12.00
19156	.0980	#40	2.489	1-13/16"	13/16"	.314"	13.29	12.72	12.14
19161	.0984		2.500	46	21	8	13.37	12.79	12.21
19166	.0995	#39	2.527	1-13/16"	13/16"	.319"	13.44	12.86	12.27
19171	.1015	#38	2.578	1-13/16"	13/16"	.326"	13.51	12.93	12.34
19176	.1040	#37	2.642	1-13/16"	13/16"	.334"	13.59	13.00	12.41
19181	.1065	#36	2.705	1-13/16"	13/16"	.342"	13.70	13.10	12.51
19186	.1094	7/64"	2.779	1-13/16"	13/16"	.351"	13.78	13.18	12.58
19191	.1100	#35	2.794	1-7/8"	7/8"	.353"	13.83	13.23	12.63
19196	.1110	#34	2.819	1-7/8"	7/8"	.356"	13.97	13.37	12.76
19201	.1130	#33	2.870	1-7/8"	7/8"	.362"	14.05	13.44	12.83
19206	.1160	#32	2.946	1-7/8"	7/8"	.372"	14.15	13.53	12.92
19211	.1181		3.000	48	22	10	14.27	13.65	13.03
19216	.1200	#31	3.048	1-7/8"	7/8"	.385"	14.36	13.74	13.11
19218	.1220		3.100	48	22	10	14.43	13.81	13.18
19221	.1250	1/8"	3.175	1-7/8"	7/8"	.401"	14.52	13.89	13.26
19226	.1285	#30	3.264	1-15/16"	15/16"	.412"	14.85	14.20	13.56
19231	.1360	#29	3.454	1-15/16"	15/16"	.436"	15.17	14.51	13.85
19236	.1378		3.500	49	24	11	15.59	14.92	14.24
19241	.1405	#28	3.569	1-15/16"	15/16"	.451"	15.78	15.09	14.41
19246	.1406	9/64"	3.571	1-15/16"	15/16"	.451"	15.89	15.20	14.51
19251	.1440	#27	3.658	2-1/16"	1"	.462"	17.14	16.39	15.65
19256	.1470	#26	3.734	2-1/16"	1"	.471"	17.30	16.54	15.79
19261	.1495	#25	3.797	2-1/16"	1"	.479"	17.50	16.74	15.98
19266	.1520	#24	3.861	2-1/16"	1"	.487"	17.53	16.76	16.00
19271	.1540	#23	3.912	2-1/16"	1"	.494"	17.62	16.85	16.09
19276	.1562	5/32"	3.967	2-1/16"	1"	.501"	17.71	16.94	16.17
19281	.1570	#22	3.988	2-1/8"	1-1/16"	.504"	18.68	17.86	17.05
19286	.1575		4.000	54	27	13	18.88	18.06	17.24

EDP#	d^+ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100
	Decimal	Metric							
19291	.1590	#21	4.039	2-1/8"	1-1/16"	.510"	19.10	18.27	17.44
19296	.1610	#20	4.089	2-1/8"	1-1/16"	.516"	19.24	18.40	17.57
19301	.1660	#19	4.216	2-1/8"	1-1/16"	.532"	19.93	19.06	18.20
19306	.1695	#18	4.305	2-1/8"	1-1/16"	.544"	20.14	19.26	18.39
19311	.1719	11/64"	4.366	2-1/8"	1-1/16"	.551"	20.52	19.62	18.73
19316	.1730	#17	4.394	2-3/16"	1-1/8"	.555"	20.77	19.87	18.96
19321	.1770	#16	4.496	2-3/16"	1-1/8"	.568"	20.99	20.08	19.16
19326	.1772		4.500	56	29	14	21.07	20.15	19.24
19331	.1800	#15	4.572	2-3/16"	1-1/8"	.577"	21.16	20.24	19.32
19336	.1820	#14	4.623	2-3/16"	1-1/8"	.584"	21.60	20.66	19.72
19341	.1850	#13	4.700	2-3/16"	1-1/8"	.593"	21.76	20.81	19.87
19346	.1875	3/16"	4.763	2-3/16"	1-1/8"	.601"	21.82	20.87	19.92
19351	.1890	#12	4.801	2-1/4"	1-3/16"	.606"	23.99	22.95	21.90
19356	.1910	#11	4.851	2-1/4"	1-3/16"	.613"	24.24	23.19	22.13
19361	.1935	#10	4.915	2-1/4"	1-3/16"	.621"	25.19	24.09	23.00
19366	.1960	#9	4.978	2-1/4"	1-3/16"	.629"	25.75	24.63	23.51
19371	.1969		5.000	57	30	16	25.88	24.75	23.63
19376	.1990	#8	5.055	2-1/4"	1-3/16"	.638"	26.01	24.88	23.75
19381	.2010	#7	5.105	2-1/4"	1-3/16"	.645"	26.68	25.52	24.36
19386	.2031	13/64"	5.159	2-1/4"	1-3/16"	.651"	26.84	25.67	24.51
19391	.2040	#6	5.182	2-3/8"	1-1/4"	.654"	27.32	26.14	24.95
19396	.2055	#5	5.220	2-3/8"	1-1/4"	.659"	27.82	26.61	25.40
19401	.2090	#4	5.309	2-3/8"	1-1/4"	.670"	28.22	26.99	25.77
19406	.2130	#3	5.410	2-3/8"	1-1/4"	.683"	28.67	27.42	26.18
19411	.2165		5.500	60	32	18	28.88	27.62	26.37
19416	.2188	7/32"	5.558	2-3/8"	1-1/4"	.702"	29.05	27.79	26.52
19421	.2210	#2	5.613	2-7/16"	1-5/16"	.709"	29.66	28.37	27.08
19426	.2280	#1	5.791	2-7/16"	1-5/16"	.731"	29.83	28.53	27.24
19431	.2340	A	5.944	2-7/16"	1-5/16"	.750"	29.90	28.60	27.30
19436	.2344	15/64"	5.954	2-7/16"	1-5/16"	.752"	29.93	28.63	27.33
19441	.2362		6.000	64	35	19	30.03	28.72	27.42
19446	.2380	B	6.045	2-1/2"	1-3/8"	.763"	30.13	28.82	27.51
19451	.2420	C	6.147	2-1/2"	1-3/8"	.776"	30.31	29.00	27.68
19456	.2460	D	6.248	2-1/2"	1-3/8"	.789"	30.52	29.19	27.87
19461	.2500	1/4" / E	6.350	2-1/2"	1-3/8"	.802"	30.71	29.37	28.04
19466	.2559		6.500	67	37	21	34.16	32.67	31.19
19471	.2570	F	6.528	2-5/8"	1-7/16"	.824"	34.74	33.23	31.72
19476	.2610	G	6.629	2-5/8"	1-7/16"	.837"	35.32	33.78	32.25
19481	.2656	17/64"	6.746	2-5/8"	1-7/16"	.852"	35.90	34.34	32.78
19486	.2660	H	6.756	2-11/16"	1-1/2"	.853"	36.74	35.15	33.55
19491	.2720	I	6.909	2-11/16"	1-1/2"	.872"	37.09	35.48	33.86
19496	.2756		7.000	68	38	22	37.34	35.72	34.09
19501	.2770	J	7.036	2-11/16"	1-1/2"	.888"	37.63	35.99	34.36
19506	.2810	K	7.137	2-11/16"	1-1/2"	.901"	37.90	36.26	34.61
19511	.2812	9/32"	7.142	2-11/16"	1-1/2"	.902"	38.03	36.38	34.72
19516	.2900	L	7.366	2-3/4"	1-9/16"	.930"	39.22	37.51	35.81
19521	.2950	M	7.493	2-3/4"	1-9/16"	.946"	41.53	39.72	37.92
19526	.2953		7.500	70	40	24	41.53	39.72	37.92
19531	.2969	19/64"	7.541	2-3/4"	1-9/16"	.952"	41.70	39.89	38.07
19536	.3020	N	7.671	2-15/16"	1-5/8"	.989"	43.62	41.72	39.83
19541	.3125	5/16"	7.938	2-15/16"	1-5/8"	1.002"	43.76	41.86	39.95
19546	.3150		8.000	75	43	26	46.47	44.45	42.43
19551	.3160	O	8.026	2-15/16"	1-11/16"	1.013"	46.47	44.45	42.43
19556	.3230	P	8.204	2-15/16"	1-11/16"	1.036"	46.82	44.78	42.75
19561	.3281	21/64"	8.334	2-15/16"	1-11/16"	1.052"	47.06	45.01	42.97
19566	.3320	Q	8.433	3"	1-11/16"	1.065"	48.01	45.93	43.84
19571	.3346		8.500	76	43	27	48.40	46.30	44.19

continued →

Series 1510H (continued)

.3390" - .6299"
(8.611mm - 16.000mm)

EDP#	$d^{\dagger}$ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100
	Decimal	Metric							
19576	.3390	R	8.611	3"	1-11/16"	1.087"	49.70	47.54	45.38
19581	.3438	11/32"	8.733	3"	1-11/16"	1.103"	51.47	49.24	47.00
19586	.3480	S	8.839	3-1/16"	1-3/4"	1.116"	54.36	52.00	49.63
19591	.3543		9.000	78	44	29	54.67	52.29	49.92
19596	.3580	T	9.093	3-1/16"	1-3/4"	1.148"	54.80	52.42	50.03
19601	.3594	23/64"	9.129	3-1/16"	1-3/4"	1.153"	55.14	52.75	50.35
19606	.3680	U	9.347	3-1/8"	1-13/16"	1.180"	59.56	56.97	54.38
19611	.3740		9.500	79	46	30	60.04	57.43	54.82
19616	.3750	3/8"	9.525	3-1/8"	1-13/16"	1.203"	60.44	57.82	55.19
19621	.3770	V	9.576	3-1/4"	1-7/8"	1.209"	62.71	59.98	57.26
19626	.3860	W	9.804	3-1/4"	1-7/8"	1.238"	63.80	61.03	58.25
19631	.3906	25/64"	9.921	3-1/4"	1-7/8"	1.253"	64.60	61.79	58.98
19636	.3937		10.000	84	49	32	66.56	63.67	60.77
19641	.3970	X	10.084	3-5/16"	1-15/16"	1.273"	68.24	65.27	62.31
19646	.4040	Y	10.262	3-5/16"	1-15/16"	1.296"	68.71	65.73	62.74
19651	.4062	13/32"	10.317	3-5/16"	1-15/16"	1.303"	70.81	67.73	64.65
19656	.4130	Z	10.490	3-3/8"	2"	1.325"	71.47	68.37	65.26
19661	.4134		10.500	86	51	34	71.47	68.37	65.26
19666	.4219	27/64"	10.716	3-3/8"	2"	1.353"	72.14	69.00	65.87
19671	.4331		11.000	87	52	35	77.50	74.13	70.76
19676	.4375	7/16"	11.113	3-7/16"	2-1/16"	1.403"	77.50	74.13	70.76
19681	.4528		11.500	91	54	37	83.21	79.60	75.98
19686	.4531	29/64"	11.509	3-9/16"	2-1/8"	1.453"	83.21	79.60	75.98
19691	.4688	15/32"	11.908	3-5/8"	2-1/8"	1.503"	87.43	83.63	79.83
19696	.4724		12.000	94	56	38	87.72	83.91	80.09
19701	.4844	31/64"	12.304	3-11/16"	2-3/16"	1.554"	88.32	84.48	80.64
19706	.4921		12.500	95	56	40	89.22	85.34	81.46
19711	.5000	1/2"	12.700	3-3/4"	2-1/4"	1.604"	89.79	85.89	81.98
19716	.5118		13.000	107	60	42	118.91	113.74	108.57
19721	.5156	33/64"	13.096	4-1/4"	2-3/8"	1.654"	121.70	116.41	111.12
19726	.5312	17/32"	13.492	4-1/4"	2-3/8"	1.704"	124.50	119.09	113.67
19731	.5315		13.500	107	60	43	127.31	121.77	116.24
19736	.5469	35/64"	13.891	4-1/4"	2-3/8"	1.754"	130.09	124.43	118.78
19741	.5512		14.000	107	60	45	132.93	127.15	121.37
19746	.5625	9/16"	14.287	4-1/2"	2-1/2"	1.804"	143.65	137.40	131.16
19751	.5709		14.500	115	65	47	146.34	139.98	133.61
19756	.5781	37/64"	14.683	4-1/2"	2-1/2"	1.854"	149.03	142.55	136.07
19761	.5906		15.000	115	65	48	151.77	145.17	138.57
19766	.5938	19/32"	15.082	4-1/2"	2-1/2"	1.904"	152.56	145.93	139.29
19771	.6094	39/64"	15.478	4-1/2"	2-1/2"	1.954"	153.34	146.67	140.01
19776	.6102		15.500	115	65	50	154.12	147.42	140.72
19781	.6250	5/8"	15.875	4-1/2"	2-1/2"	2.004"	154.92	148.18	141.45
19786	.6299		16.000	115	65	51	158.67	151.77	144.87

TOLERANCES

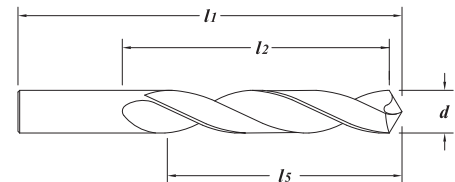
d	+.0000" - .0005" (+.0000 - .0127mm)	
l_1	$\leq 1/8"$	+.125" -.062" (+3.175 - 1.588mm)
	$> 1/8"$	+.125" -.125" (+3.175 - 3.175mm)
l_2	$\leq 1/8"$	+.125" -.062" (+3.175 - 1.588mm)
	$> 1/8"$	+.125" -.125" (+3.175 - 3.175mm)

**NEW
ITEMS**
Series 1520, 1205

 .0625" - .1015"
(1.588mm - 2.578mm)

General purpose for all material groups

Solid submicron grain carbide drill
 No spotting required in most applications
 4-facet self-centering point
 Live tooling recommended on lathe processes
 Durana Coating - page 75



3xD (1520) EDP#	5xD (1205) EDP#	d † Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100	
		Decimal		Metric							
77165		.0625	1/16"	1.588	1-3/4"	5/8"	.200"	7.42	7.10	6.77	6.45
	89165	.0625	1/16"	1.588	1-3/4"	3/4"	.325"	7.42	7.10	6.77	6.45
77170		.0635	#52	1.613	1-3/4"	11/16"	.204"	7.52	7.19	6.87	6.54
	89170	.0635	#52	1.613	1-3/4"	3/4"	.331"	7.52	7.19	6.87	6.54
77175		.0670	#51	1.702	1-3/4"	11/16"	.215"	7.64	7.30	6.97	6.64
	89175	.0670	#51	1.702	1-3/4"	3/4"	.349"	7.64	7.30	6.97	6.64
77180		.0700	#50	1.778	1-3/4"	11/16"	.224"	7.82	7.48	7.14	6.80
	89180	.0700	#50	1.778	1-3/4"	7/8"	.364"	7.82	7.48	7.14	6.80
77185		.0730	#49	1.854	1-3/4"	11/16"	.234"	8.03	7.68	7.33	6.98
	89185	.0730	#49	1.854	1-3/4"	7/8"	.380"	8.03	7.68	7.33	6.98
77190		.0760	#48	1.930	1-3/4"	11/16"	.244"	8.29	7.93	7.57	7.21
	89190	.0760	#48	1.930	1-3/4"	7/8"	.396"	8.29	7.93	7.57	7.21
77195		.0781	5/64"	1.984	1-3/4"	11/16"	.250"	8.60	8.23	7.85	7.48
	89195	.0781	5/64"	1.984	1-3/4"	7/8"	.407"	8.60	8.23	7.85	7.48
77200		.0785	#47	1.994	1-3/4"	3/4"	.252"	8.89	8.50	8.12	7.73
	89200	.0785	#47	1.994	1-3/4"	7/8"	.409"	8.89	8.50	8.12	7.73
77205		.0787		2.000	44	19	6	9.03	8.64	8.24	7.85
	89205	.0787		2.000	44	22	10	9.03	8.64	8.24	7.85
77210		.0810	#46	2.057	1-3/4"	3/4"	.260"	9.18	8.78	8.38	7.98
	89210	.0810	#46	2.057	1-3/4"	7/8"	.422"	9.18	8.78	8.38	7.98
77215		.0820	#45	2.083	1-3/4"	3/4"	.263"	9.45	9.04	8.63	8.22
	89215	.0820	#45	2.083	1-3/4"	7/8"	.427"	9.45	9.04	8.63	8.22
77220		.0860	#44	2.184	1-3/4"	3/4"	.276"	9.76	9.34	8.91	8.49
	89220	.0860	#44	2.184	2"	1"	.448"	9.76	9.34	8.91	8.49
77225		.0890	#43	2.261	1-3/4"	3/4"	.285"	10.04	9.60	9.17	8.73
	89225	.0890	#43	2.261	2"	1"	.463"	10.04	9.60	9.17	8.73
77230		.0935	#42	2.375	1-3/4"	3/4"	.300"	10.18	9.74	9.29	8.85
	89230	.0935	#42	2.375	2"	1"	.487"	10.18	9.74	9.29	8.85
77235		.0938	3/32"	2.383	1-3/4"	3/4"	.301"	10.41	9.96	9.50	9.05
	89235	.0938	3/32"	2.383	2"	1"	.488"	10.41	9.96	9.50	9.05
77240		.0960	#41	2.438	1-13/16"	13/16"	.308"	10.50	10.04	9.59	9.13
	89240	.0960	#41	2.438	2"	1"	.500"	10.50	10.04	9.59	9.13
77245		.0980	#40	2.489	1-13/16"	13/16"	.314"	10.66	10.20	9.73	9.27
	89245	.0980	#40	2.489	2"	1"	.510"	10.66	10.20	9.73	9.27
77250		.0984		2.500	46	21	8	10.72	10.25	9.79	9.32
	89250	.0984		2.500	57	32	13	10.72	10.25	9.79	9.32
77255		.0995	#39	2.527	1-13/16"	13/16"	.319"	10.76	10.30	9.83	9.36
	89255	.0995	#39	2.527	2-1/4"	1-1/4"	.518"	10.76	10.30	9.83	9.36
77260		.1015	#38	2.578	1-13/16"	13/16"	.326"	10.86	10.38	9.91	9.44
	89260	.1015	#38	2.578	2-1/4"	1-1/4"	.529"	10.89	10.42	9.94	9.47

continued →

Series 1520, 1205 (continued)

.1040" - .1719"
(2.642mm - 4.366mm)

3xD (1520) EDP#	5xD (1205) EDP#	$d^{\dagger}$ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100	
		Decimal		Metric							
77265		.1040	#37	2.642	1-13/16"	13/16"	.334"	10.95	10.47	10.00	9.52
	89265	.1040	#37	2.642	2-1/4"	1-1/4"	.542"	11.04	10.56	10.08	9.60
77270		.1065	#36	2.705	1-13/16"	13/16"	.342"	11.02	10.54	10.06	9.58
	89270	.1065	#36	2.705	2-1/4"	1-1/4"	.555"	11.18	10.69	10.21	9.72
77275		.1094	7/64"	2.779	1-13/16"	13/16"	.351"	11.09	10.60	10.12	9.64
	89275	.1094	7/64"	2.779	2-1/4"	1-1/4"	.570"	11.36	10.87	10.37	9.88
77280		.1100	#35	2.794	1-7/8"	7/8"	.353"	11.16	10.67	10.19	9.70
	89280	.1100	#35	2.794	2-1/4"	1-1/4"	.573"	11.49	10.99	10.49	9.99
77285		.1110	#34	2.819	1-7/8"	7/8"	.356"	11.29	10.80	10.31	9.82
	89285	.1110	#34	2.819	2-1/4"	1-1/4"	.578"	11.63	11.12	10.62	10.11
77290		.1130	#33	2.870	1-7/8"	7/8"	.362"	11.36	10.87	10.37	9.88
	89290	.1130	#33	2.870	2-1/4"	1-1/4"	.588"	11.85	11.33	10.82	10.30
77295		.1160	#32	2.946	1-7/8"	7/8"	.372"	11.44	10.95	10.45	9.95
	89295	.1160	#32	2.946	2-1/4"	1-1/4"	.604"	11.97	11.45	10.93	10.41
77300		.1181		3.000	48	22	10	11.58	11.08	10.57	10.07
	89300	.1181		3.000	57	32	16	12.09	11.56	11.04	10.51
77305		.1200	#31	3.048	1-7/8"	7/8"	.385"	11.65	11.14	10.64	10.13
	89305	.1200	#31	3.048	2-1/4"	1-1/4"	.625"	12.17	11.64	11.11	10.58
77310		.1250	1/8"	3.175	1-7/8"	7/8"	.401"	11.78	11.26	10.75	10.24
	89310	.1250	1/8"	3.175	2-1/4"	1-1/4"	.651"	12.32	11.78	11.25	10.71
77315		.1285	#30	3.264	1-15/16"	15/16"	.412"	12.10	11.57	11.05	10.52
	89315	.1285	#30	3.264	2-1/4"	1-1/4"	.669"	12.63	12.08	11.53	10.98
77320		.1360	#29	3.454	1-15/16"	15/16"	.436"	12.42	11.88	11.34	10.80
	89320	.1360	#29	3.454	2-1/2"	1-3/8"	.708"	13.03	12.46	11.90	11.33
77325		.1378		3.500	49	24	11	12.82	12.27	11.71	11.15
	89325	.1378		3.500	63	35	18	13.46	12.87	12.29	11.70
77330		.1405	#28	3.569	1-15/16"	15/16"	.451"	13.00	12.43	11.87	11.30
	89330	.1405	#28	3.569	2-1/2"	1-3/8"	.732"	13.58	12.99	12.40	11.81
77335		.1406	9/64"	3.571	1-15/16"	15/16"	.451"	13.12	12.55	11.98	11.41
	89335	.1406	9/64"	3.571	2-1/2"	1-3/8"	.732"	13.74	13.15	12.55	11.95
77340		.1440	#27	3.658	2-1/16"	1"	.462"	14.28	13.66	13.04	12.42
	89340	.1440	#27	3.658	2-1/2"	1-3/8"	.750"	14.28	13.66	13.04	12.42
77345		.1470	#26	3.734	2-1/16"	1"	.471"	14.42	13.79	13.17	12.54
	89345	.1470	#26	3.734	2-1/2"	1-3/8"	.765"	14.42	13.79	13.17	12.54
77350		.1495	#25	3.797	2-1/16"	1"	.479"	14.62	13.98	13.35	12.71
	89350	.1495	#25	3.797	2-1/2"	1-3/8"	.778"	14.62	13.98	13.35	12.71
77355		.1520	#24	3.861	2-1/16"	1"	.487"	14.64	14.00	13.37	12.73
	89355	.1520	#24	3.861	2-1/2"	1-3/8"	.791"	14.64	14.00	13.37	12.73
77360		.1540	#23	3.912	2-1/16"	1"	.494"	14.74	14.10	13.46	12.82
	89360	.1540	#23	3.912	2-1/2"	1-3/8"	.802"	14.74	14.10	13.46	12.82
77365		.1562	5/32"	3.967	2-1/16"	1"	.501"	14.85	14.20	13.56	12.91
	89365	.1562	5/32"	3.967	2-1/2"	1-3/8"	.813"	14.85	14.20	13.56	12.91
77370		.1570	#22	3.988	2-1/8"	1-1/16"	.504"	15.78	15.09	14.41	13.72
	89370	.1570	#22	3.988	2-1/2"	1-3/8"	.818"	15.78	15.09	14.41	13.72
77375		.1575		4.000	54	27	13	15.97	15.28	14.58	13.89
	89375	.1575		4.000	63	35	21	15.97	15.28	14.58	13.89
77380		.1590	#21	4.039	2-1/8"	1-1/16"	.510"	16.16	15.46	14.75	14.05
	89380	.1590	#21	4.039	2-1/2"	1-3/8"	.828"	16.16	15.46	14.75	14.05
77385		.1610	#20	4.089	2-1/8"	1-1/16"	.516"	16.27	15.57	14.86	14.15
	89385	.1610	#20	4.089	2-1/2"	1-3/8"	.838"	16.27	15.57	14.86	14.15
77390		.1660	#19	4.216	2-1/8"	1-1/16"	.532"	16.94	16.20	15.47	14.73
	89390	.1660	#19	4.216	2-3/4"	1-5/8"	.864"	16.94	16.20	15.47	14.73
77395		.1695	#18	4.305	2-1/8"	1-1/16"	.544"	17.15	16.40	15.66	14.91
	89395	.1695	#18	4.305	2-3/4"	1-5/8"	.883"	17.15	16.40	15.66	14.91
77400		.1719	11/64"	4.366	2-1/8"	1-1/16"	.551"	17.51	16.75	15.99	15.23
	89400	.1719	11/64"	4.366	2-3/4"	1-5/8"	.895"	17.51	16.75	15.99	15.23

3xD (1520) EDP#	5xD (1205) EDP#	$d^{\dagger}$ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100	
		Decimal	Metric								
77405		.1730	#17	4.394	2-3/16"	1-1/8"	.555"	17.74	16.97	16.20	15.43
	89405	.1730	#17	4.394	2-3/4"	1-5/8"	.901"	17.74	16.97	16.20	15.43
77410		.1770	#16	4.496	2-3/16"	1-1/8"	.568"	17.94	17.16	16.38	15.60
	89410	.1770	#16	4.496	2-3/4"	1-5/8"	.922"	17.94	17.16	16.38	15.60
77415		.1772		4.500	56	29	14	18.03	17.25	16.46	15.68
	89415	.1772		4.500	70	41	23	18.03	17.25	16.46	15.68
77420		.1800	#15	4.572	2-3/16"	1-1/8"	.577"	18.11	17.33	16.54	15.75
	89420	.1800	#15	4.572	2-3/4"	1-5/8"	.937"	18.11	17.33	16.54	15.75
77425		.1820	#14	4.623	2-3/16"	1-1/8"	.584"	18.53	17.72	16.92	16.11
	89425	.1820	#14	4.623	2-3/4"	1-5/8"	.948"	18.53	17.72	16.92	16.11
77430		.1850	#13	4.700	2-3/16"	1-1/8"	.593"	18.66	17.85	17.04	16.23
	89430	.1850	#13	4.700	2-3/4"	1-5/8"	.963"	18.66	17.85	17.04	16.23
77435		.1875	3/16"	4.763	2-3/16"	1-1/8"	.601"	18.76	17.94	17.13	16.31
	89435	.1875	3/16"	4.763	2-3/4"	1-5/8"	.976"	18.76	17.94	17.13	16.31
77440		.1890	#12	4.801	2-1/4"	1-3/16"	.606"	19.37	18.52	17.68	16.84
	89440	.1890	#12	4.801	2-3/4"	1-5/8"	.984"	19.37	18.52	17.68	16.84
77445		.1910	#11	4.851	2-1/4"	1-3/16"	.613"	19.57	18.72	17.87	17.02
	89445	.1910	#11	4.851	2-3/4"	1-5/8"	.995"	19.57	18.72	17.87	17.02
77450		.1935	#10	4.915	2-1/4"	1-3/16"	.621"	20.52	19.62	18.73	17.84
	89450	.1935	#10	4.915	2-3/4"	1-5/8"	1.008"	20.52	19.62	18.73	17.84
77455		.1960	#9	4.978	2-1/4"	1-3/16"	.629"	21.02	20.11	19.19	18.28
	89455	.1960	#9	4.978	3"	1-3/4"	1.021"	21.02	20.11	19.19	18.28
77460		.1969		5.000	57	30	16	21.15	20.23	19.31	18.39
	89460	.1969		5.000	76	44	26	21.15	20.23	19.31	18.39
77465		.1990	#8	5.055	2-1/4"	1-3/16"	.638"	21.29	20.36	19.44	18.51
	89465	.1990	#8	5.055	3"	1-3/4"	1.036"	21.29	20.36	19.44	18.51
77470		.2010	#7	5.105	2-1/4"	1-3/16"	.645"	21.91	20.96	20.00	19.05
	89470	.2010	#7	5.105	3"	1-3/4"	1.047"	21.91	20.96	20.00	19.05
77475		.2031	13/64"	5.159	2-1/4"	1-3/16"	.651"	22.08	21.12	20.16	19.20
	89475	.2031	13/64"	5.159	3"	1-3/4"	1.058"	22.08	21.12	20.16	19.20
77480		.2040	#6	5.182	2-3/8"	1-1/4"	.654"	22.53	21.55	20.57	19.59
	89480	.2040	#6	5.182	3"	1-3/4"	1.062"	22.53	21.55	20.57	19.59
77485		.2055	#5	5.220	2-3/8"	1-1/4"	.659"	23.00	22.00	21.00	20.00
	89485	.2055	#5	5.220	3"	1-3/4"	1.070"	23.00	22.00	21.00	20.00
77490		.2090	#4	5.309	2-3/8"	1-1/4"	.670"	23.39	22.37	21.36	20.34
	89490	.2090	#4	5.309	3"	1-3/4"	1.088"	23.39	22.37	21.36	20.34
77495		.2130	#3	5.410	2-3/8"	1-1/4"	.683"	23.81	22.77	21.74	20.70
	89495	.2130	#3	5.410	3"	1-3/4"	1.109"	23.81	22.77	21.74	20.70
77500		.2165		5.500	60	32	18	23.99	22.95	21.90	20.86
	89500	.2165		5.500	76	44	29	23.99	22.95	21.90	20.86
77505		.2188	7/32"	5.558	2-3/8"	1-1/4"	.702"	24.16	23.11	22.06	21.01
	89505	.2188	7/32"	5.558	3"	1-3/4"	1.139"	24.16	23.11	22.06	21.01
77510		.2210	#2	5.613	2-7/16"	1-5/16"	.709"	24.76	23.68	22.61	21.53
	89510	.2210	#2	5.613	3"	1-3/4"	1.151"	24.76	23.68	22.61	21.53
77515		.2280	#1	5.791	2-7/16"	1-5/16"	.731"	24.90	23.82	22.73	21.65
	89515	.2280	#1	5.791	3"	1-3/4"	1.187"	24.90	23.82	22.73	21.65
77520		.2340	A	5.944	2-7/16"	1-5/16"	.750"	24.94	23.86	22.77	21.69
	89520	.2340	A	5.944	3-1/4"	2"	1.218"	25.19	24.09	23.00	21.90
77525		.2344	15/64"	5.954	2-7/16"	1-5/16"	.752"	25.02	23.94	22.85	21.76
	89525	.2344	15/64"	5.954	3-1/4"	2"	1.221"	25.25	24.16	23.06	21.96
77530		.2362		6.000	64	35	19	25.10	24.01	22.92	21.83
	89530	.2362		6.000	82	50	31	25.36	24.26	23.15	22.05
77535		.2380	B	6.045	2-1/2"	1-3/8"	.763"	25.19	24.09	23.00	21.90
	89535	.2380	B	6.045	3-1/4"	2"	1.239"	25.44	24.33	23.23	22.12
77540		.2420	C	6.147	2-1/2"	1-3/8"	.776"	25.38	24.28	23.17	22.07
	89540	.2420	C	6.147	3-1/4"	2"	1.260"	25.63	24.52	23.40	22.29

continued →

Series 1520, 1205 (continued)

.2460" - .3543"
(6.248mm - 9.000mm)

3xD (1520) EDP#	5xD (1205) EDP#	$d^{\dagger}$ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100	
		Decimal		Metric							
77545		.2460	D	6.248	2-1/2"	1-3/8"	.789"	25.58	24.46	23.35	22.24
	89545	.2460	D	6.248	3-1/4"	2"	1.281"	25.82	24.70	23.57	22.45
77550		.2500	1/4" / E	6.350	2-1/2"	1-3/8"	.802"	25.75	24.63	23.51	22.39
	89550	.2500	1/4" / E	6.350	3-1/4"	2"	1.302"	26.00	24.87	23.74	22.61
77555		.2559		6.500	67	37	21	26.36	25.21	24.07	22.92
	89555	.2559		6.500	82	50	34	26.63	25.48	24.32	23.16
77560		.2570	F	6.528	2-5/8"	1-7/16"	.824"	26.92	25.75	24.58	23.41
	89560	.2570	F	6.528	3-1/4"	2"	1.338"	27.17	25.99	24.81	23.63
77565		.2610	G	6.629	2-5/8"	1-7/16"	.837"	27.44	26.25	25.05	23.86
	89565	.2610	G	6.629	3-1/2"	2-1/8"	1.359"	27.74	26.53	25.33	24.12
77570		.2656	17/64"	6.746	2-5/8"	1-7/16"	.852"	28.03	26.81	25.59	24.37
	89570	.2656	17/64"	6.746	3-1/2"	2-1/8"	1.383"	28.30	27.07	25.84	24.61
77575		.2660	H	6.756	2-11/16"	1-1/2"	.853"	28.81	27.56	26.30	25.05
	89575	.2660	H	6.756	3-1/2"	2-1/8"	1.385"	29.11	27.84	26.58	25.31
77580		.2720	I	6.909	2-11/16"	1-1/2"	.872"	29.14	27.87	26.61	25.34
	89580	.2720	I	6.909	3-1/2"	2-1/8"	1.416"	29.43	28.15	26.87	25.59
77585		.2756		7.000	68	38	22	29.37	28.09	26.82	25.54
	89585	.2756		7.000	88	54	36	29.67	28.38	27.09	25.80
77590		.2770	J	7.036	2-11/16"	1-1/2"	.888"	29.66	28.37	27.08	25.79
	89590	.2770	J	7.036	3-1/2"	2-1/8"	1.442"	29.93	28.63	27.33	26.03
77595		.2810	K	7.137	2-11/16"	1-1/2"	.901"	29.92	28.62	27.32	26.02
	89595	.2810	K	7.137	3-1/2"	2-1/8"	1.463"	30.20	28.89	27.57	26.26
77600		.2812	9/32"	7.142	2-11/16"	1-1/2"	.902"	30.07	28.77	27.46	26.15
	89600	.2812	9/32"	7.142	3-1/2"	2-1/8"	1.464"	30.39	29.07	27.75	26.43
77605		.2900	L	7.366	2-3/4"	1-9/16"	.930"	31.18	29.82	28.47	27.11
	89605	.2900	L	7.366	3-1/2"	2-1/8"	1.510"	31.48	30.11	28.74	27.37
77610		.2950	M	7.493	2-3/4"	1-9/16"	.946"	33.37	31.92	30.47	29.02
	89610	.2950	M	7.493	3-3/4"	2-3/8"	1.536"	33.70	32.23	30.77	29.30
77615		.2953		7.500	70	40	24	33.37	31.92	30.47	29.02
	89615	.2953		7.500	95	60	39	33.70	32.23	30.77	29.30
77620		.2969	19/64"	7.541	2-3/4"	1-9/16"	.952"	33.53	32.08	30.62	29.16
	89620	.2969	19/64"	7.541	3-3/4"	2-3/8"	1.546"	33.70	32.23	30.77	29.30
77625		.3020	N	7.671	2-15/16"	1-5/8"	.969"	35.34	33.80	32.27	30.73
	89625	.3020	N	7.671	3-3/4"	2-3/8"	1.573"	35.70	34.14	32.59	31.04
77630		.3125	5/16"	7.938	2-15/16"	1-5/8"	1.002"	35.47	33.92	32.38	30.84
	89630	.3125	5/16"	7.938	3-3/4"	2-3/8"	1.627"	35.83	34.28	32.72	31.16
77635		.3150		8.000	75	43	26	38.03	36.38	34.72	33.07
	89635	.3150		8.000	95	60	42	38.44	36.77	35.10	33.43
77640		.3160	O	8.026	2-15/16"	1-11/16"	1.013"	38.03	36.38	34.72	33.07
	89640	.3160	O	8.026	3-3/4"	2-3/8"	1.645"	38.44	36.77	35.10	33.43
77645		.3230	P	8.204	2-15/16"	1-11/16"	1.036"	38.38	36.71	35.04	33.37
	89645	.3230	P	8.204	3-3/4"	2-3/8"	1.682"	38.44	36.77	35.10	33.43
77650		.3281	21/64"	8.334	2-15/16"	1-11/16"	1.052"	38.62	36.94	35.26	33.58
	89650	.3281	21/64"	8.334	4"	2-1/2"	1.708"	39.01	37.31	35.62	33.92
77655		.3320	Q	8.433	3"	1-11/16"	1.065"	39.50	37.79	36.07	34.35
	89655	.3320	Q	8.433	4"	2-1/2"	1.729"	39.93	38.19	36.46	34.72
77660		.3346		8.500	76	43	27	39.87	38.14	36.40	34.67
	89660	.3346		8.500	101	63	44	40.27	38.52	36.77	35.02
77665		.3390	R	8.611	3"	1-11/16"	1.087"	41.15	39.36	37.57	35.78
	89665	.3390	R	8.611	4"	2-1/2"	1.765"	41.57	39.77	37.96	36.15
77670		.3438	11/32"	8.733	3"	1-11/16"	1.103"	42.83	40.96	39.10	37.24
	89670	.3438	11/32"	8.733	4"	2-1/2"	1.790"	43.25	41.37	39.49	37.61
77675		.3480	S	8.839	3-1/16"	1-3/4"	1.116"	43.40	41.51	39.63	37.74
	89675	.3480	S	8.839	4"	2-1/2"	1.812"	43.40	41.51	39.63	37.74
77680		.3543		9.000	78	44	29	43.65	41.76	39.86	37.96
	89680	.3543		9.000	101	63	47	43.65	41.76	39.86	37.96

3xD (1520) EDP#	5xD (1205) EDP#	$d^{\dagger}$ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100	
		Decimal	Metric								
77685		.3580	T	9.093	3-1/16"	1-3/4"	1.148"	43.84	41.93	40.03	38.12
	89685	.3580	T	9.093	4-1/4"	2-3/4"	1.864"	44.05	42.13	40.22	38.30
77690		.3594	23/64"	9.129	3-1/16"	1-3/4"	1.153"	44.14	42.22	40.30	38.38
	89690	.3594	23/64"	9.129	4-1/4"	2-3/4"	1.871"	44.36	42.43	40.50	38.57
77695		.3680	U	9.347	3-1/8"	1-13/16"	1.180"	48.33	46.23	44.13	42.03
	89695	.3680	U	9.347	4-1/4"	2-3/4"	1.916"	50.34	48.15	45.96	43.77
77700		.3740		9.500	79	46	30	48.78	46.66	44.54	42.42
	89700	.3740		9.500	107	70	49	50.81	48.60	46.39	44.18
77705		.3750	3/8"	9.525	3-1/8"	1-13/16"	1.203"	49.16	47.03	44.89	42.75
	89705	.3750	3/8"	9.525	4-1/4"	2-3/4"	1.953"	51.21	48.98	46.76	44.53
77710		.3770	V	9.576	3-1/4"	1-7/8"	1.209"	50.09	47.92	45.74	43.56
	89710	.3770	V	9.576	4-1/4"	2-3/4"	1.963"	52.19	49.92	47.65	45.38
77715		.3860	W	9.804	3-1/4"	1-7/8"	1.238"	51.15	48.93	46.70	44.48
	89715	.3860	W	9.804	4-1/2"	2-7/8"	2.010"	53.29	50.97	48.66	46.34
77720		.3906	25/64"	9.921	3-1/4"	1-7/8"	1.253"	51.92	49.67	47.41	45.15
	89720	.3906	25/64"	9.921	4-1/2"	2-7/8"	2.034"	54.08	51.73	49.38	47.03
77725		.3937		10.000	84	49	32	53.79	51.45	49.11	46.77
	89725	.3937		10.000	114	73	52	56.03	53.59	51.16	48.72
77730		.3970	X	10.084	3-5/16"	1-15/16"	1.273"	55.35	52.94	50.54	48.13
	89730	.3970	X	10.084	4-1/2"	2-7/8"	2.067"	57.68	55.18	52.67	50.16
	89735	.4040	Y	10.262	4-1/2"	2-7/8"	2.104"	58.14	55.62	53.09	50.56
77740		.4062	13/32"	10.317	3-5/16"	1-15/16"	1.303"	57.82	55.31	52.79	50.28
	89740	.4062	13/32"	10.317	4-1/2"	2-7/8"	2.115"	60.24	57.62	55.00	52.38
77745		.4130	Z	10.490	3-3/8"	2"	1.325"	58.47	55.92	53.38	50.84
	89745	.4130	Z	10.490	4-1/2"	2-7/8"	2.151"	60.88	58.23	55.59	52.94
77750		.4134		10.500	86	51	34	58.47	55.92	53.38	50.84
	89750	.4134		10.500	114	73	55	60.88	58.23	55.59	52.94
77755		.4219	27/64"	10.716	3-3/8"	2"	1.353"	59.09	56.52	53.95	51.38
	89755	.4219	27/64"	10.716	4-1/2"	2-7/8"	2.197"	61.56	58.88	56.21	53.53
77760		.4331		11.000	87	52	35	64.16	61.37	58.58	55.79
	89760	.4331		11.000	114	73	57	66.85	63.94	61.04	58.13
77765		.4375	7/16"	11.113	3-7/16"	2-1/16"	1.403"	64.16	61.37	58.58	55.79
	89765	.4375	7/16"	11.113	4-1/2"	2-7/8"	2.278"	66.85	63.94	61.04	58.13
77770		.4528		11.500	91	54	37	69.61	66.58	63.56	60.53
	89770	.4528		11.500	120	76	60	72.52	69.37	66.21	63.06
77775		.4531	29/64"	11.509	3-9/16"	2-1/8"	1.453"	69.61	66.58	63.56	60.53
	89775	.4531	29/64"	11.509	4-3/4"	3"	2.359"	72.52	69.37	66.21	63.06
77780		.4688	15/32"	11.908	3-5/8"	2-1/8"	1.503"	73.62	70.42	67.22	64.02
	89780	.4688	15/32"	11.908	4-3/4"	3"	2.441"	76.71	73.37	70.04	66.70
77785		.4724		12.000	94	56	38	73.90	70.69	67.47	64.26
	89785	.4724		12.000	120	76	62	76.95	73.60	70.26	66.91
77790		.4844	31/64"	12.304	3-11/16"	2-3/16"	1.554"	74.45	71.21	67.98	64.74
	89790	.4844	31/64"	12.304	4-3/4"	3"	2.522"	76.95	73.60	70.26	66.91
77795		.4921		12.500	95	56	40	75.31	72.04	68.76	65.49
	89795	.4921		12.500	120	76	65	79.01	75.57	72.14	68.70
77800		.5000	1/2"	12.700	3-3/4"	2-1/4"	1.604"	75.85	72.56	69.26	65.96
	89800	.5000	1/2"	12.700	4-3/4"	3"	2.604"	79.01	75.57	72.14	68.70
77805		.5118		13.000	107	60	42	95.29	91.15	87.00	82.86
	89805	.5118		13.000	127	83	68	99.26	94.94	90.63	86.31
77810		.5156	33/64"	13.096	4-1/4"	2-3/8"	1.654"	97.84	93.59	89.33	85.08
	89810	.5156	33/64"	13.096	5"	3-1/4"	2.685"	101.92	97.49	93.06	88.63
77815		.5312	17/32"	13.492	4-1/4"	2-3/8"	1.704"	100.40	96.03	91.67	87.30
	89815	.5312	17/32"	13.492	5"	3-1/4"	2.766"	104.58	100.03	95.49	90.94
77820		.5315		13.500	107	60	43	102.95	98.47	94.00	89.52
	89820	.5315		13.500	127	83	70	107.25	102.59	97.92	93.26

continued →

Series 1520, 1205 (continued)

.5469" - .6299"
(13.891mm - 16.000mm)

	3xD (1520) EDP#	5xD (1205) EDP#	$d^{\dagger}$ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100	
			Decimal	Metric								
NEW	77825		.5469	35/64"	13.891	4-1/4"	2-3/8"	1.754"	105.51	100.93	96.34	91.75
		89825	.5469	35/64"	13.891	5"	3-1/4"	2.848"	109.92	105.14	100.36	95.58
	77830		.5512		14.000	107	60	45	108.07	103.37	98.67	93.97
		89830	.5512		14.000	127	83	73	112.59	107.69	102.80	97.90
	77835		.5625	9/16"	14.287	4-1/2"	2-1/2"	1.804"	117.85	112.73	107.60	102.48
		89835	.5625	9/16"	14.287	5"	3-1/4"	2.929"	122.77	117.44	112.10	106.76
	77840		.5709		14.500	115	65	47	120.31	115.08	109.85	104.62
		89840	.5709		14.500	127	83	76	125.33	119.88	114.43	108.98
	77845		.5781	37/64"	14.683	4-1/2"	2-1/2"	1.854"	122.77	117.44	112.10	106.76
		89845	.5781	37/64"	14.683	5-1/4"	3-1/2"	3.010"	127.89	122.33	116.77	111.21
NEW	77850		.5906		15.000	115	65	48	125.28	119.83	114.39	108.94
		89850	.5906		15.000	133	89	78	130.49	124.82	119.14	113.47
	77855		.5938	19/32"	15.082	4-1/2"	2-1/2"	1.904"	125.99	120.52	115.04	109.56
		89855	.5938	19/32"	15.082	5-1/4"	3-1/2"	3.092"	131.25	125.54	119.84	114.13
	77860		.6094	39/64"	15.478	4-1/2"	2-1/2"	1.954"	126.70	121.19	115.68	110.17
		89860	.6094	39/64"	15.478	5-1/4"	3-1/2"	3.173"	131.96	126.23	120.49	114.75
	77865		.6102		15.500	115	65	50	127.41	121.87	116.33	110.79
		89865	.6102		15.500	133	89	81	132.72	126.95	121.18	115.41
	77870		.6250	5/8"	15.875	4-1/2"	2-1/2"	2.004"	128.11	122.54	116.97	111.40
		89870	.6250	5/8"	15.875	5-1/4"	3-1/2"	3.254"	133.45	127.64	121.84	116.04
NEW	77875		.6299		16.000	115	65	51	131.54	125.82	120.10	114.38
		89875	.6299		16.000	133	89	83	137.02	131.07	125.11	119.15

TOLERANCES

d	+.0000" -.0005" (+.0000 -.0127mm)	
l_1	$\leq 1/8"$	+.125" -.062" (+3.175 -1.588mm)
	$> 1/8"$	+.125" -.125" (+3.175 -3.175mm)
l_2	$\leq 1/8"$	+.125" -.062" (+3.175 -1.588mm)
	$> 1/8"$	+.125" -.125" (+3.175 -3.175mm)


**TECH
PAGES
324-327**
**NEW
ITEMS**
Series 1520H, 1205H

 .0625" - .1015"
(1.588mm - 2.578mm)

General purpose for all material groups

BALINIT® Durana Coating

Solid submicron grain carbide drill

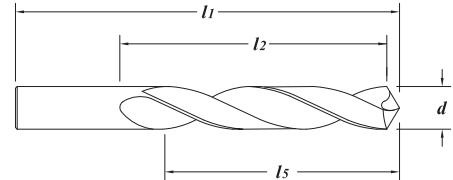
Excellent heat resistance and lubricity

No spotting required in most applications

4-flute self-centering point

Live tooling recommended on lathe processes

Bright Finish - page 69



3xD (1520H) EDP#	5xD (1205H) EDP#	d † Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100	
		Decimal	Metric								
77166		.0625	1/16"	1.588	1-3/4"	5/8"	.200"	9.51	9.10	8.68	8.27
	89166	.0625	1/16"	1.588	1-3/4"	3/4"	.325"	9.51	9.10	8.68	8.27
77171		.0635	#52	1.613	1-3/4"	11/16"	.204"	9.63	9.21	8.79	8.37
	89171	.0635	#52	1.613	1-3/4"	3/4"	.331"	9.63	9.21	8.79	8.37
77176		.0670	#51	1.702	1-3/4"	11/16"	.215"	9.75	9.33	8.90	8.48
	89176	.0670	#51	1.702	1-3/4"	3/4"	.349"	9.75	9.33	8.90	8.48
77181		.0700	#50	1.778	1-3/4"	11/16"	.224"	9.90	9.47	9.04	8.61
	89181	.0700	#50	1.778	1-3/4"	7/8"	.364"	9.90	9.47	9.04	8.61
77186		.0730	#49	1.854	1-3/4"	11/16"	.234"	10.12	9.68	9.24	8.80
	89186	.0730	#49	1.854	1-3/4"	7/8"	.380"	10.13	9.69	9.25	8.81
77191		.0760	#48	1.930	1-3/4"	11/16"	.244"	10.38	9.93	9.48	9.03
	89191	.0760	#48	1.930	1-3/4"	7/8"	.396"	10.38	9.93	9.48	9.03
77196		.0781	5/64"	1.984	1-3/4"	11/16"	.250"	10.70	10.23	9.77	9.30
	89196	.0781	5/64"	1.984	1-3/4"	7/8"	.407"	10.72	10.25	9.79	9.32
77201		.0785	#47	1.994	1-3/4"	3/4"	.252"	10.98	10.51	10.03	9.55
	89201	.0785	#47	1.994	1-3/4"	7/8"	.409"	11.01	10.53	10.05	9.57
77206		.0787		2.000	44	19	6	11.13	10.65	10.16	9.68
	89206	.0787		2.000	44	22	10	11.13	10.65	10.16	9.68
77211		.0810	#46	2.057	1-3/4"	3/4"	.260"	11.27	10.78	10.29	9.80
	89211	.0810	#46	2.057	1-3/4"	7/8"	.422"	11.28	10.79	10.30	9.81
77216		.0820	#45	2.083	1-3/4"	3/4"	.263"	11.55	11.04	10.54	10.04
	89216	.0820	#45	2.083	1-3/4"	7/8"	.427"	11.56	11.06	10.55	10.05
77221		.0860	#44	2.184	1-3/4"	3/4"	.276"	11.86	11.34	10.83	10.31
	89221	.0860	#44	2.184	2"	1"	.448"	11.87	11.35	10.84	10.32
77226		.0890	#43	2.261	1-3/4"	3/4"	.285"	12.12	11.59	11.07	10.54
	89226	.0890	#43	2.261	2"	1"	.463"	12.13	11.61	11.08	10.55
77231		.0935	#42	2.375	1-3/4"	3/4"	.300"	12.28	11.75	11.21	10.68
	89231	.0935	#42	2.375	2"	1"	.487"	12.28	11.75	11.21	10.68
77236		.0938	3/32"	2.383	1-3/4"	3/4"	.301"	12.51	11.97	11.42	10.88
	89236	.0938	3/32"	2.383	2"	1"	.488"	12.51	11.97	11.42	10.88
77241		.0960	#41	2.438	1-13/16"	13/16"	.308"	12.59	12.05	11.50	10.95
	89241	.0960	#41	2.438	2"	1"	.500"	12.62	12.07	11.52	10.97
77246		.0980	#40	2.489	1-13/16"	13/16"	.314"	12.75	12.20	11.64	11.09
	89246	.0980	#40	2.489	2"	1"	.510"	12.78	12.22	11.67	11.11
77251		.0984		2.500	46	21	8	12.80	12.24	11.69	11.13
	89251	.0984		2.500	57	32	13	12.80	12.24	11.69	11.13
77256		.0995	#39	2.527	1-13/16"	13/16"	.319"	12.86	12.30	11.74	11.18
	89256	.0995	#39	2.527	2-1/4"	1-1/4"	.518"	12.86	12.30	11.74	11.18
77261		.1015	#38	2.578	1-13/16"	13/16"	.326"	12.97	12.41	11.84	11.28
	89261	.1015	#38	2.578	2-1/4"	1-1/4"	.529"	13.02	12.45	11.89	11.32

Series 1520H, 1205H (continued)

.1040" - .1719"
(2.642mm - 4.366mm)

3xD (1520H) EDP#	5xD (1205H) EDP#	$d^{\dagger}$ Diameter			l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100
		Decimal		Metric							
77266		.1040	#37	2.642	1-13/16"	13/16"	.334"	13.03	12.46	11.90	11.33
	89266	.1040	#37	2.642	2-1/4"	1-1/4"	.542"	13.12	12.55	11.98	11.41
77271		.1065	#36	2.705	1-13/16"	13/16"	.342"	13.11	12.54	11.97	11.40
	89271	.1065	#36	2.705	2-1/4"	1-1/4"	.555"	13.27	12.69	12.12	11.54
77276		.1094	7/64"	2.779	1-13/16"	13/16"	.351"	13.17	12.60	12.02	11.45
	89276	.1094	7/64"	2.779	2-1/4"	1-1/4"	.570"	13.48	12.89	12.31	11.72
77281		.1100	#35	2.794	1-7/8"	7/8"	.353"	13.25	12.67	12.10	11.52
	89281	.1100	#35	2.794	2-1/4"	1-1/4"	.573"	13.58	12.99	12.40	11.81
77286		.1110	#34	2.819	1-7/8"	7/8"	.356"	13.39	12.80	12.22	11.64
	89286	.1110	#34	2.819	2-1/4"	1-1/4"	.578"	13.73	13.13	12.54	11.94
77291		.1130	#33	2.870	1-7/8"	7/8"	.362"	13.47	12.88	12.30	11.71
	89291	.1130	#33	2.870	2-1/4"	1-1/4"	.588"	13.95	13.34	12.74	12.13
77296		.1160	#32	2.946	1-7/8"	7/8"	.372"	13.55	12.96	12.37	11.78
	89296	.1160	#32	2.946	2-1/4"	1-1/4"	.604"	14.05	13.44	12.83	12.22
77301		.1181		3.000	48	22	10	13.66	13.07	12.47	11.88
	89301	.1181		3.000	57	32	16	14.17	13.55	12.94	12.32
77306		.1200	#31	3.048	1-7/8"	7/8"	.385"	13.75	13.16	12.56	11.96
	89306	.1200	#31	3.048	2-1/4"	1-1/4"	.625"	14.28	13.66	13.04	12.42
77311		.1250	1/8"	3.175	1-7/8"	7/8"	.401"	13.88	13.28	12.67	12.07
	89311	.1250	1/8"	3.175	2-1/4"	1-1/4"	.651"	14.40	13.77	13.15	12.52
77316		.1285	#30	3.264	1-15/16"	15/16"	.412"	14.19	13.57	12.96	12.34
	89316	.1285	#30	3.264	2-1/4"	1-1/4"	.669"	14.73	14.09	13.45	12.81
77321		.1360	#29	3.454	1-15/16"	15/16"	.436"	14.52	13.89	13.26	12.63
	89321	.1360	#29	3.454	2-1/2"	1-3/8"	.708"	15.12	14.47	13.81	13.15
77326		.1378		3.500	49	24	11	14.93	14.28	13.63	12.98
	89326	.1378		3.500	63	35	18	15.54	14.86	14.19	13.51
77331		.1405	#28	3.569	1-15/16"	15/16"	.451"	15.08	14.42	13.77	13.11
	89331	.1405	#28	3.569	2-1/2"	1-3/8"	.732"	15.71	15.03	14.34	13.66
77336		.1406	9/64"	3.571	1-15/16"	15/16"	.451"	15.23	14.56	13.90	13.24
	89336	.1406	9/64"	3.571	2-1/2"	1-3/8"	.732"	15.85	15.16	14.47	13.78
77341		.1440	#27	3.658	2-1/16"	1"	.462"	16.38	15.66	14.95	14.24
	89341	.1440	#27	3.658	2-1/2"	1-3/8"	.750"	16.39	15.68	14.96	14.25
77346		.1470	#26	3.734	2-1/16"	1"	.471"	16.54	15.82	15.10	14.38
	89346	.1470	#26	3.734	2-1/2"	1-3/8"	.765"	16.54	15.82	15.10	14.38
77351		.1495	#25	3.797	2-1/16"	1"	.479"	16.69	15.96	15.24	14.51
	89351	.1495	#25	3.797	2-1/2"	1-3/8"	.778"	16.69	15.96	15.24	14.51
77356		.1520	#24	3.861	2-1/16"	1"	.487"	16.74	16.02	15.29	14.56
	89356	.1520	#24	3.861	2-1/2"	1-3/8"	.791"	16.77	16.04	15.31	14.58
77361		.1540	#23	3.912	2-1/16"	1"	.494"	16.84	16.10	15.37	14.64
	89361	.1540	#23	3.912	2-1/2"	1-3/8"	.802"	16.85	16.12	15.38	14.65
77366		.1562	5/32"	3.967	2-1/16"	1"	.501"	16.93	16.19	15.46	14.72
	89366	.1562	5/32"	3.967	2-1/2"	1-3/8"	.813"	16.93	16.19	15.46	14.72
77371		.1570	#22	3.988	2-1/8"	1-1/16"	.504"	17.87	17.09	16.32	15.54
	89371	.1570	#22	3.988	2-1/2"	1-3/8"	.818"	17.87	17.09	16.32	15.54
77376		.1575		4.000	54	27	13	18.06	17.27	16.49	15.70
	89376	.1575		4.000	63	35	21	18.07	17.28	16.50	15.71
77381		.1590	#21	4.039	2-1/8"	1-1/16"	.510"	18.27	17.48	16.68	15.89
	89381	.1590	#21	4.039	2-1/2"	1-3/8"	.828"	18.27	17.48	16.68	15.89
77386		.1610	#20	4.089	2-1/8"	1-1/16"	.516"	18.38	17.58	16.78	15.98
	89386	.1610	#20	4.089	2-1/2"	1-3/8"	.838"	18.38	17.58	16.78	15.98
77391		.1660	#19	4.216	2-1/8"	1-1/16"	.532"	19.04	18.22	17.39	16.56
	89391	.1660	#19	4.216	2-3/4"	1-5/8"	.864"	19.06	18.23	17.40	16.57
77396		.1695	#18	4.305	2-1/8"	1-1/16"	.544"	19.24	18.40	17.57	16.73
	89396	.1695	#18	4.305	2-3/4"	1-5/8"	.883"	19.24	18.40	17.57	16.73
77401		.1719	11/64"	4.366	2-1/8"	1-1/16"	.551"	19.57	18.72	17.87	17.02
	89401	.1719	11/64"	4.366	2-3/4"	1-5/8"	.895"	19.57	18.72	17.87	17.02

3xD (1520H) EDP#	5xD (1205H) EDP#	$d^{\dagger}$ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100	
		Decimal	Metric								
77406		.1730	#17	4.394	2-3/16"	1-1/8"	.555"	19.84	18.98	18.11	17.25
	89406	.1730	#17	4.394	2-3/4"	1-5/8"	.901"	19.86	19.00	18.13	17.27
77411		.1770	#16	4.496	2-3/16"	1-1/8"	.568"	20.03	19.16	18.29	17.42
	89411	.1770	#16	4.496	2-3/4"	1-5/8"	.922"	20.03	19.16	18.29	17.42
77416		.1772		4.500	56	29	14	20.13	19.25	18.38	17.50
	89416	.1772		4.500	70	41	23	20.14	19.26	18.39	17.51
77421		.1800	#15	4.572	2-3/16"	1-1/8"	.577"	20.23	19.35	18.47	17.59
	89421	.1800	#15	4.572	2-3/4"	1-5/8"	.937"	20.23	19.35	18.47	17.59
77426		.1820	#14	4.623	2-3/16"	1-1/8"	.584"	20.62	19.72	18.83	17.93
	89426	.1820	#14	4.623	2-3/4"	1-5/8"	.948"	20.62	19.72	18.83	17.93
77431		.1850	#13	4.700	2-3/16"	1-1/8"	.593"	20.76	19.86	18.95	18.05
	89431	.1850	#13	4.700	2-3/4"	1-5/8"	.963"	20.77	19.87	18.96	18.06
77436		.1875	3/16"	4.763	2-3/16"	1-1/8"	.601"	20.83	19.92	19.02	18.11
	89436	.1875	3/16"	4.763	2-3/4"	1-5/8"	.976"	20.86	19.95	19.05	18.14
77441		.1890	#12	4.801	2-1/4"	1-3/16"	.606"	22.99	21.99	20.99	19.99
	89441	.1890	#12	4.801	2-3/4"	1-5/8"	.984"	22.99	21.99	20.99	19.99
77446		.1910	#11	4.851	2-1/4"	1-3/16"	.613"	23.20	22.19	21.18	20.17
	89446	.1910	#11	4.851	2-3/4"	1-5/8"	.995"	23.20	22.19	21.18	20.17
77451		.1935	#10	4.915	2-1/4"	1-3/16"	.621"	24.10	23.06	22.01	20.96
	89451	.1935	#10	4.915	2-3/4"	1-5/8"	1.008"	24.10	23.06	22.01	20.96
77456		.1960	#9	4.978	2-1/4"	1-3/16"	.629"	24.63	23.56	22.49	21.42
	89456	.1960	#9	4.978	3"	1-3/4"	1.021"	24.63	23.56	22.49	21.42
77461		.1969		5.000	57	30	16	24.76	23.68	22.61	21.53
	89461	.1969		5.000	76	44	26	24.76	23.68	22.61	21.53
77466		.1990	#8	5.055	2-1/4"	1-3/16"	.638"	24.87	23.79	22.71	21.63
	89466	.1990	#8	5.055	3"	1-3/4"	1.036"	24.86	23.78	22.70	21.62
77471		.2010	#7	5.105	2-1/4"	1-3/16"	.645"	25.53	24.42	23.31	22.20
	89471	.2010	#7	5.105	3"	1-3/4"	1.047"	25.52	24.41	23.30	22.19
77476		.2031	13/64"	5.159	2-1/4"	1-3/16"	.651"	25.68	24.56	23.45	22.33
	89476	.2031	13/64"	5.159	3"	1-3/4"	1.058"	25.68	24.56	23.45	22.33
77481		.2040	#6	5.182	2-3/8"	1-1/4"	.654"	26.14	25.00	23.87	22.73
	89481	.2040	#6	5.182	3"	1-3/4"	1.062"	26.14	25.00	23.87	22.73
77486		.2055	#5	5.220	2-3/8"	1-1/4"	.659"	26.60	25.44	24.29	23.13
	89486	.2055	#5	5.220	3"	1-3/4"	1.070"	26.60	25.44	24.29	23.13
77491		.2090	#4	5.309	2-3/8"	1-1/4"	.670"	27.03	25.85	24.68	23.50
	89491	.2090	#4	5.309	3"	1-3/4"	1.088"	27.03	25.85	24.68	23.50
77496		.2130	#3	5.410	2-3/8"	1-1/4"	.683"	27.42	26.22	25.03	23.84
	89496	.2130	#3	5.410	3"	1-3/4"	1.109"	27.42	26.22	25.03	23.84
77501		.2165		5.500	60	32	18	27.61	26.41	25.21	24.01
	89501	.2165		5.500	76	44	29	27.59	26.39	25.19	23.99
77506		.2188	7/32"	5.558	2-3/8"	1-1/4"	.702"	27.77	26.57	25.36	24.15
	89506	.2188	7/32"	5.558	3"	1-3/4"	1.139"	27.76	26.55	25.35	24.14
77511		.2210	#2	5.613	2-7/16"	1-5/16"	.709"	28.37	27.14	25.90	24.67
	89511	.2210	#2	5.613	3"	1-3/4"	1.151"	28.34	27.10	25.87	24.64
77516		.2280	#1	5.791	2-7/16"	1-5/16"	.731"	28.52	27.28	26.04	24.80
	89516	.2280	#1	5.791	3"	1-3/4"	1.187"	28.51	27.27	26.03	24.79
77521		.2340	A	5.944	2-7/16"	1-5/16"	.750"	28.58	27.34	26.09	24.85
	89521	.2340	A	5.944	3-1/4"	2"	1.218"	28.91	27.65	26.40	25.14
77526		.2344	15/64"	5.954	2-7/16"	1-5/16"	.752"	28.62	27.38	26.13	24.89
	89526	.2344	15/64"	5.954	3-1/4"	2"	1.221"	28.99	27.73	26.47	25.21
77531		.2362		6.000	64	35	19	28.69	27.45	26.20	24.95
	89531	.2362		6.000	82	50	31	29.08	27.82	26.55	25.29
77536		.2380	B	6.045	2-1/2"	1-3/8"	.763"	28.80	27.54	26.29	25.04
	89536	.2380	B	6.045	3-1/4"	2"	1.239"	29.18	27.91	26.64	25.37
77541		.2420	C	6.147	2-1/2"	1-3/8"	.776"	28.98	27.72	26.46	25.20
	89541	.2420	C	6.147	3-1/4"	2"	1.260"	29.36	28.08	26.81	25.53

continued →

Series 1520H, 1205H (continued)

.2460" - .3543"
(6.248mm - 9.000mm)

3xD (1520H) EDP#	5xD (1205H) EDP#	$d^{\dagger}$ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100	
		Decimal		Metric							
77546		.2460	D	6.248	2-1/2"	1-3/8"	.789"	29.18	27.91	26.64	25.37
	89546	.2460	D	6.248	3-1/4"	2"	1.281"	29.57	28.28	27.00	25.71
77551		.2500	1/4" / E	6.350	2-1/2"	1-3/8"	.802"	29.35	28.07	26.80	25.52
	89551	.2500	1/4" / E	6.350	3-1/4"	2"	1.302"	29.72	28.42	27.13	25.84
77556		.2559		6.500	67	37	21	32.76	31.34	29.91	28.49
	89556	.2559		6.500	82	50	34	33.47	32.01	30.56	29.10
77561		.2570	F	6.528	2-5/8"	1-7/16"	.824"	33.32	31.87	30.42	28.97
	89561	.2570	F	6.528	3-1/4"	2"	1.338"	34.05	32.57	31.09	29.61
77566		.2610	G	6.629	2-5/8"	1-7/16"	.837"	33.86	32.38	30.91	29.44
	89566	.2610	G	6.629	3-1/2"	2-1/8"	1.359"	34.57	33.07	31.56	30.06
77571		.2656	17/64"	6.746	2-5/8"	1-7/16"	.852"	34.43	32.93	31.44	29.94
	89571	.2656	17/64"	6.746	3-1/2"	2-1/8"	1.383"	35.14	33.62	32.09	30.56
77576		.2660	H	6.756	2-11/16"	1-1/2"	.853"	35.22	33.69	32.16	30.63
	89576	.2660	H	6.756	3-1/2"	2-1/8"	1.385"	35.94	34.38	32.81	31.25
77581		.2720	I	6.909	2-11/16"	1-1/2"	.872"	35.56	34.01	32.47	30.92
	89581	.2720	I	6.909	3-1/2"	2-1/8"	1.416"	36.27	34.69	33.12	31.54
77586		.2756		7.000	68	38	22	35.80	34.24	32.69	31.13
	89586	.2756		7.000	88	54	36	36.50	34.91	33.33	31.74
77591		.2770	J	7.036	2-11/16"	1-1/2"	.888"	36.08	34.51	32.94	31.37
	89591	.2770	J	7.036	3-1/2"	2-1/8"	1.442"	36.77	35.17	33.57	31.97
77596		.2810	K	7.137	2-11/16"	1-1/2"	.901"	36.32	34.74	33.16	31.58
	89596	.2810	K	7.137	3-1/2"	2-1/8"	1.463"	37.05	35.44	33.83	32.22
77601		.2812	9/32"	7.142	2-11/16"	1-1/2"	.902"	36.48	34.89	33.31	31.72
	89601	.2812	9/32"	7.142	3-1/2"	2-1/8"	1.464"	37.19	35.57	33.96	32.34
77606		.2900	L	7.366	2-3/4"	1-9/16"	.930"	37.58	35.95	34.31	32.68
	89606	.2900	L	7.366	3-1/2"	2-1/8"	1.510"	38.33	36.66	35.00	33.33
77611		.2950	M	7.493	2-3/4"	1-9/16"	.946"	39.76	38.03	36.30	34.57
	89611	.2950	M	7.493	3-3/4"	2-3/8"	1.536"	40.53	38.76	37.00	35.24
77616		.2953		7.500	70	40	24	39.76	38.03	36.30	34.57
	89616	.2953		7.500	95	60	39	40.53	38.76	37.00	35.24
77621		.2969	19/64"	7.541	2-3/4"	1-9/16"	.952"	39.95	38.21	36.48	34.74
	89621	.2969	19/64"	7.541	3-3/4"	2-3/8"	1.546"	40.53	38.76	37.00	35.24
77626		.3020	N	7.671	2-15/16"	1-5/8"	.969"	41.76	39.94	38.13	36.31
	89626	.3020	N	7.671	3-3/4"	2-3/8"	1.573"	42.53	40.68	38.83	36.98
77631		.3125	5/16"	7.938	2-15/16"	1-5/8"	1.002"	41.89	40.07	38.25	36.43
	89631	.3125	5/16"	7.938	3-3/4"	2-3/8"	1.627"	42.69	40.83	38.98	37.12
77636		.3150		8.000	75	43	26	44.46	42.53	40.59	38.66
	89636	.3150		8.000	95	60	42	45.26	43.30	41.33	39.36
77641		.3160	O	8.026	2-15/16"	1-11/16"	1.013"	44.46	42.53	40.59	38.66
	89641	.3160	O	8.026	3-3/4"	2-3/8"	1.645"	45.26	43.30	41.33	39.36
77646		.3230	P	8.204	2-15/16"	1-11/16"	1.036"	44.78	42.83	40.89	38.94
	89646	.3230	P	8.204	3-3/4"	2-3/8"	1.682"	45.26	43.30	41.33	39.36
77651		.3281	21/64"	8.334	2-15/16"	1-11/16"	1.052"	45.03	43.08	41.12	39.16
	89651	.3281	21/64"	8.334	4"	2-1/2"	1.708"	45.84	43.85	41.85	39.86
77656		.3320	Q	8.433	3"	1-11/16"	1.065"	45.93	43.93	41.94	39.94
	89656	.3320	Q	8.433	4"	2-1/2"	1.729"	46.76	44.73	42.69	40.66
77661		.3346		8.500	76	43	27	46.29	44.28	42.26	40.25
	89661	.3346		8.500	101	63	44	47.10	45.06	43.01	40.96
77666		.3390	R	8.611	3"	1-11/16"	1.087"	47.55	45.49	43.42	41.35
	89666	.3390	R	8.611	4"	2-1/2"	1.765"	48.39	46.29	44.18	42.08
77671		.3438	11/32"	8.733	3"	1-11/16"	1.103"	49.23	47.09	44.95	42.81
	89671	.3438	11/32"	8.733	4"	2-1/2"	1.790"	50.07	47.89	45.72	43.54
77676		.3480	S	8.839	3-1/16"	1-3/4"	1.116"	52.07	49.81	47.54	45.28
	89676	.3480	S	8.839	4"	2-1/2"	1.812"	52.06	49.80	47.53	45.27
77681		.3543		9.000	78	44	29	52.34	50.06	47.79	45.51
	89681	.3543		9.000	101	63	47	52.35	50.07	47.80	45.52

3xD (1520H) EDP#	5xD (1205H) EDP#	$d^{\dagger}$ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100	
		Decimal	Metric								
77686		.3580	T	9.093	3-1/16"	1-3/4"	1.148"	52.51	50.23	47.94	45.66
	89686	.3580	T	9.093	4-1/4"	2-3/4"	1.864"	54.43	52.06	49.70	47.33
77691		.3594	23/64"	9.129	3-1/16"	1-3/4"	1.153"	52.83	50.53	48.24	45.94
	89691	.3594	23/64"	9.129	4-1/4"	2-3/4"	1.871"	54.76	52.38	50.00	47.62
77696		.3680	U	9.347	3-1/8"	1-13/16"	1.180"	57.02	54.54	52.06	49.58
	89696	.3680	U	9.347	4-1/4"	2-3/4"	1.916"	60.75	58.11	55.47	52.83
77701		.3740		9.500	79	46	30	57.47	54.97	52.47	49.97
	89701	.3740		9.500	107	70	49	61.20	58.54	55.88	53.22
77706		.3750	3/8"	9.525	3-1/8"	1-13/16"	1.203"	57.83	55.32	52.80	50.29
	89706	.3750	3/8"	9.525	4-1/4"	2-3/4"	1.953"	61.61	58.93	56.25	53.57
77711		.3770	V	9.576	3-1/4"	1-7/8"	1.209"	60.06	57.45	54.84	52.23
	89711	.3770	V	9.576	4-1/4"	2-3/4"	1.963"	63.11	60.37	57.62	54.88
77716		.3860	W	9.804	3-1/4"	1-7/8"	1.238"	61.11	58.45	55.80	53.14
	89716	.3860	W	9.804	4-1/2"	2-7/8"	2.010"	64.24	61.45	58.65	55.86
77721		.3906	25/64"	9.921	3-1/4"	1-7/8"	1.253"	61.87	59.18	56.49	53.80
	89721	.3906	25/64"	9.921	4-1/2"	2-7/8"	2.034"	65.01	62.18	59.36	56.53
77726		.3937		10.000	84	49	32	63.74	60.97	58.20	55.43
	89726	.3937		10.000	114	73	52	66.98	64.06	61.15	58.24
77731		.3970	X	10.084	3-5/16"	1-15/16"	1.273"	65.30	62.46	59.62	56.78
	89731	.3970	X	10.084	4-1/2"	2-7/8"	2.067"	68.60	65.62	62.63	59.65
77736		.4040	Y	10.262	3-5/16"	1-15/16"	1.296"	65.76	62.90	60.04	57.18
	89736	.4040	Y	10.262	4-1/2"	2-7/8"	2.104"	69.07	66.07	63.06	60.06
77741		.4062	13/32"	10.317	3-5/16"	1-15/16"	1.303"	67.79	64.85	61.90	58.95
	89741	.4062	13/32"	10.317	4-1/2"	2-7/8"	2.115"	71.17	68.08	64.98	61.89
77746		.4130	Z	10.490	3-3/8"	2"	1.325"	68.39	65.42	62.44	59.47
	89746	.4130	Z	10.490	4-1/2"	2-7/8"	2.151"	71.83	68.71	65.58	62.46
77751		.4134		10.500	86	51	34	68.39	65.42	62.44	59.47
	89751	.4134		10.500	114	73	55	71.83	68.71	65.58	62.46
77756		.4219	27/64"	10.716	3-3/8"	2"	1.353"	69.05	66.04	63.04	60.04
	89756	.4219	27/64"	10.716	4-1/2"	2-7/8"	2.197"	72.50	69.34	66.19	63.04
77761		.4331		11.000	87	52	35	74.12	70.90	67.67	64.45
	89761	.4331		11.000	114	73	57	77.77	74.39	71.01	67.63
77766		.4375	7/16"	11.113	3-7/16"	2-1/16"	1.403"	74.12	70.90	67.67	64.45
	89766	.4375	7/16"	11.113	4-1/2"	2-7/8"	2.278"	77.77	74.39	71.01	67.63
77771		.4528		11.500	91	54	37	79.56	76.10	72.64	69.18
	89771	.4528		11.500	120	76	60	83.44	79.82	76.19	72.56
77776		.4531	29/64"	11.509	3-9/16"	2-1/8"	1.453"	79.56	76.10	72.64	69.18
	89776	.4531	29/64"	11.509	4-3/4"	3"	2.359"	83.44	79.82	76.19	72.56
77781		.4688	15/32"	11.908	3-5/8"	2-1/8"	1.503"	83.59	79.96	76.32	72.69
	89781	.4688	15/32"	11.908	4-3/4"	3"	2.441"	87.63	83.82	80.01	76.20
77786		.4724		12.000	94	56	38	83.84	80.19	76.55	72.90
	89786	.4724		12.000	120	76	62	87.89	84.07	80.25	76.43
77791		.4844	31/64"	12.304	3-11/16"	2-3/16"	1.554"	84.41	80.74	77.07	73.40
	89791	.4844	31/64"	12.304	4-3/4"	3"	2.522"	87.89	84.07	80.25	76.43
77796		.4921		12.500	95	56	40	85.24	81.53	77.83	74.12
	89796	.4921		12.500	120	76	65	89.94	86.03	82.12	78.21
77801		.5000	1/2"	12.700	3-3/4"	2-1/4"	1.604"	85.79	82.06	78.33	74.60
	89801	.5000	1/2"	12.700	4-3/4"	3"	2.604"	89.94	86.03	82.12	78.21
77806		.5118		13.000	107	60	42	109.17	104.42	99.68	94.93
	89806	.5118		13.000	127	83	68	113.19	108.27	103.35	98.43
77811		.5156	33/64"	13.096	4-1/4"	2-3/8"	1.654"	111.73	106.88	102.02	97.16
	89811	.5156	33/64"	13.096	5"	3-1/4"	2.685"	115.84	110.80	105.77	100.73
77816		.5312	17/32"	13.492	4-1/4"	2-3/8"	1.704"	114.28	109.31	104.34	99.37
	89816	.5312	17/32"	13.492	5"	3-1/4"	2.766"	118.51	113.36	108.20	103.05
NEW 77821		.5315		13.500	107	60	43	116.84	111.76	106.68	101.60
	89821	.5315		13.500	127	83	70	121.16	115.90	110.63	105.36

continued →

Series 1520H, 1205H (continued)

.5469" - .6299"
(13.891mm - 16.000mm)

3xD (1520H) EDP#	5xD (1205H) EDP#	$d^{\dagger}$ Diameter			l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100
		Decimal		Metric							
77826		.5469	35/64"	13.891	4-1/4"	2-3/8"	1.754"	119.39	114.20	109.01	103.82
	89826	.5469	35/64"	13.891	5"	3-1/4"	2.848"	123.82	118.44	113.05	107.67
77831		.5512		14.000	107	60	45	121.96	116.66	111.35	106.05
	89831	.5512		14.000	127	83	73	126.51	121.01	115.51	110.01
77836		.5625	9/16"	14.287	4-1/2"	2-1/2"	1.804"	131.74	126.02	120.29	114.56
	89836	.5625	9/16"	14.287	5"	3-1/4"	2.929"	136.69	130.75	124.80	118.86
77841		.5709		14.500	115	65	47	134.21	128.37	122.54	116.70
	89841	.5709		14.500	127	83	76	139.24	133.19	127.13	121.08
77846		.5781	37/64"	14.683	4-1/2"	2-1/2"	1.854"	136.65	130.71	124.77	118.83
	89846	.5781	37/64"	14.683	5-1/4"	3-1/2"	3.010"	141.82	135.65	129.49	123.32
77851		.5906		15.000	115	65	48	139.16	133.11	127.06	121.01
	89851	.5906		15.000	133	89	78	144.41	138.13	131.85	125.57
77856		.5938	19/32"	15.082	4-1/2"	2-1/2"	1.904"	139.89	133.80	127.72	121.64
	89856	.5938	19/32"	15.082	5-1/4"	3-1/2"	3.092"	145.19	138.88	132.56	126.25
NEW	77861	.6094	39/64"	15.478	4-1/2"	2-1/2"	1.954"	140.58	134.46	128.35	122.24
	89861	.6094	39/64"	15.478	5-1/4"	3-1/2"	3.173"	145.90	139.56	133.21	126.87
	77866	.6102		15.500	115	65	50	141.30	135.16	129.01	122.87
	89866	.6102		15.500	133	89	81	146.65	140.27	133.90	127.52
	77871	.6250	5/8"	15.875	4-1/2"	2-1/2"	2.004"	142.00	135.83	129.65	123.48
	89871	.6250	5/8"	15.875	5-1/4"	3-1/2"	3.254"	147.40	140.99	134.58	128.17
NEW	77876	.6299		16.000	115	65	51	145.42	139.10	132.77	126.45
	89876	.6299		16.000	133	89	83	150.95	144.39	137.82	131.26



TOLERANCES

d	+.0000" - .0005" (+.0000 - .0127mm)	
l_1	$\leq 1/8"$	+.125" - .062" (+3.175 - 1.588mm)
	$> 1/8"$	+.125" - .125" (+3.175 - 3.175mm)
l_2	$\leq 1/8"$	+.125" - .062" (+3.175 - 1.588mm)
	$> 1/8"$	+.125" - .125" (+3.175 - 3.175mm)

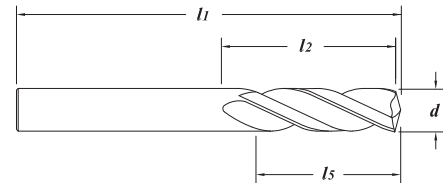

Series 1120H, 1100H

.1094" - .1575"
(2.779mm - 4.000mm)

Recommended for cast iron, tungsten, and materials with high silicon content

BALINIT® Durana Coating

Solid submicron grain carbide drill
Self-centering drill point
Near reamer finishes
Can be used as a core drill
Excellent heat resistance and lubricity
Stub length reduces deflection and vibration
Tighter tolerance holes
Improved roundness and straightness
Live tooling recommended on lathe processes
Series 1100 Bright Finish - page 90



3xD (1120H) EDP#	5xD (1100H) EDP#	d † Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100	
		Decimal		Metric							
78276		.1094	7/64"	2.779	1-13/16"	13/16"	.343"	15.38	14.71	14.04	13.37
	90276	.1094	7/64"	2.779	2-1/4"	1-1/4"	.562"	15.88	15.19	14.50	13.81
78281		.1100	#35	2.794	1-7/8"	7/8"	.345"	15.51	14.84	14.16	13.49
	90281	.1100	#35	2.794	2-1/4"	1-1/4"	.565"	16.05	15.36	14.66	13.96
78286		.1110	#34	2.819	1-7/8"	7/8"	.348"	15.67	14.99	14.31	13.63
78291		.1130	#33	2.870	1-7/8"	7/8"	.354"	15.90	15.21	14.52	13.83
	90291	.1130	#33	2.870	2-1/4"	1-1/4"	.580"	16.47	15.75	15.04	14.32
78296		.1160	#32	2.946	1-7/8"	7/8"	.364"	16.11	15.41	14.71	14.01
	90296	.1160	#32	2.946	2-1/4"	1-1/4"	.596"	16.63	15.91	15.18	14.46
78301		.1181		3.000	48	22	9	16.24	15.53	14.83	14.12
	90301	.1181		3.000	57	32	15	16.77	16.04	15.31	14.58
78306		.1200	#31	3.048	1-7/8"	7/8"	.376"	16.35	15.64	14.93	14.22
	90306	.1200	#31	3.048	2-1/4"	1-1/4"	.616"	16.87	16.14	15.40	14.67
78311		.1250	1/8"	3.175	1-7/8"	7/8"	.392"	16.54	15.82	15.10	14.38
	90311	.1250	1/8"	3.175	2-1/4"	1-1/4"	.642"	17.04	16.30	15.56	14.82
78316		.1285	#30	3.264	1-15/16"	15/16"	.403"	16.91	16.17	15.44	14.70
	90316	.1285	#30	3.264	2-1/4"	1-1/4"	.660"	17.41	16.65	15.90	15.14
78321		.1360	#29	3.454	1-15/16"	15/16"	.426"	17.30	16.54	15.79	15.04
	90321	.1360	#29	3.454	2-1/2"	1-3/8"	.698"	17.92	17.14	16.36	15.58
78326		.1378		3.500	49	24	11	17.80	17.03	16.25	15.48
	90326	.1378		3.500	63	35	18	18.41	17.61	16.81	16.01
78331		.1405	#28	3.569	1-15/16"	15/16"	.440"	17.99	17.20	16.42	15.64
	90331	.1405	#28	3.569	2-1/2"	1-3/8"	.721"	18.61	17.80	16.99	16.18
78336		.1406	9/64"	3.571	1-15/16"	15/16"	.441"	18.17	17.38	16.59	15.80
	90336	.1406	9/64"	3.571	2-1/2"	1-3/8"	.722"	18.78	17.96	17.15	16.33
78341		.1440	#27	3.658	2-1/16"	1"	.451"	19.44	18.59	17.75	16.90
	90341	.1440	#27	3.658	2-1/2"	1-3/8"	.739"	19.45	18.60	17.76	16.91
78346		.1470	#26	3.734	2-1/16"	1"	.461"	19.65	18.80	17.94	17.09
	90346	.1470	#26	3.734	2-1/2"	1-3/8"	.755"	19.67	18.81	17.96	17.10
78351		.1495	#25	3.797	2-1/16"	1"	.469"	19.83	18.96	18.10	17.24
	90351	.1495	#25	3.797	2-1/2"	1-3/8"	.768"	19.84	18.98	18.11	17.25
78356		.1520	#24	3.861	2-1/16"	1"	.476"	19.86	19.00	18.13	17.27
	90356	.1520	#24	3.861	2-1/2"	1-3/8"	.780"	19.86	19.00	18.13	17.27
78361		.1540	#23	3.912	2-1/16"	1"	.483"	20.02	19.15	18.28	17.41
	90361	.1540	#23	3.912	2-1/2"	1-3/8"	.791"	20.03	19.16	18.29	17.42
78366		.1562	5/32"	3.967	2-1/16"	1"	.490"	20.11	19.24	18.36	17.49
	90366	.1562	5/32"	3.967	2-1/2"	1-3/8"	.802"	20.11	19.24	18.36	17.49
78371		.1570	#22	3.988	2-1/8"	1-1/16"	.492"	21.26	20.34	19.41	18.49
	90371	.1570	#22	3.988	2-1/2"	1-3/8"	.806"	21.26	20.34	19.41	18.49
78376		.1575		4.000	54	27	13	21.26	20.34	19.41	18.49
	90376	.1575		4.000	63	35	21	21.26	20.34	19.41	18.49

continued →

Series 1120H, 1100H (continued)

.1590" - .2362"
(4.039mm - 6.000mm)

3xD (1120H) EDP#	5xD (1100H) EDP#	$d^{\dagger}$			l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100
		Decimal	Diameter	Metric							
78381		.1590	#21	4.039	2-1/8"	1-1/16"	.498"	21.69	20.75	19.80	18.86
	90381	.1590	#21	4.039	2-1/2"	1-3/8"	.816"	21.74	20.79	19.85	18.90
78386		.1610	#20	4.089	2-1/8"	1-1/16"	.505"	21.69	20.75	19.80	18.86
	90386	.1610	#20	4.089	2-1/2"	1-3/8"	.827"	21.74	20.79	19.85	18.90
78391		.1660	#19	4.216	2-1/8"	1-1/16"	.520"	21.85	20.90	19.95	19.00
	90391	.1660	#19	4.216	2-3/4"	1-5/8"	.852"	21.86	20.91	19.96	19.01
78396		.1695	#18	4.305	2-1/8"	1-1/16"	.531"	21.99	21.03	20.08	19.12
	90396	.1695	#18	4.305	2-3/4"	1-5/8"	.870"	22.00	21.04	20.09	19.13
78401		.1719	11/64"	4.366	2-1/8"	1-1/16"	.539"	22.11	21.15	20.19	19.23
	90401	.1719	11/64"	4.366	2-3/4"	1-5/8"	.883"	22.11	21.15	20.19	19.23
78406		.1730	#17	4.394	2-3/16"	1-1/8"	.542"	23.02	22.02	21.02	20.02
	90406	.1730	#17	4.394	2-3/4"	1-5/8"	.888"	23.02	22.02	21.02	20.02
78411		.1770	#16	4.496	2-3/16"	1-1/8"	.555"	23.26	22.25	21.24	20.23
	90411	.1770	#16	4.496	2-3/4"	1-5/8"	.909"	23.28	22.26	21.25	20.24
78416		.1772		4.500	56	29	14	23.36	22.34	21.33	20.31
	90416	.1772		4.500	70	41	23	23.37	22.35	21.34	20.32
78421		.1800	#15	4.572	2-3/16"	1-1/8"	.564"	23.45	22.43	21.41	20.39
	90421	.1800	#15	4.572	2-3/4"	1-5/8"	.924"	23.49	22.47	21.45	20.43
78426		.1820	#14	4.623	2-3/16"	1-1/8"	.570"	23.94	22.90	21.86	20.82
	90426	.1820	#14	4.623	2-3/4"	1-5/8"	.934'	23.95	22.91	21.87	20.83
78431		.1850	#13	4.700	2-3/16"	1-1/8"	.580"	24.06	23.01	21.97	20.92
	90431	.1850	#13	4.700	2-3/4"	1-5/8"	.950'	24.06	23.01	21.97	20.92
78436		.1875	3/16"	4.763	2-3/16"	1-1/8"	.588"	24.06	23.01	21.97	20.92
	90436	.1875	3/16"	4.763	2-3/4"	1-5/8"	.963"	24.06	23.01	21.97	20.92
78441		.1890	#12	4.801	2-1/4"	1-3/16"	.592"	25.77	24.65	23.53	22.41
	90441	.1890	#12	4.801	2-3/4"	1-5/8"	.970"	25.75	24.63	23.51	22.39
78446		.1910	#11	4.851	2-1/4"	1-3/16"	.599"	26.00	24.87	23.74	22.61
	90446	.1910	#11	4.851	2-3/4"	1-5/8"	.981"	25.98	24.85	23.72	22.59
78451		.1935	#10	4.915	2-1/4"	1-3/16"	.606"	27.05	25.87	24.70	23.52
	90451	.1935	#10	4.915	2-3/4"	1-5/8"	.993"	27.05	25.87	24.70	23.52
78456		.1960	#9	4.978	2-1/4"	1-3/16"	.614"	27.62	26.42	25.22	24.02
	90456	.1960	#9	4.978	3"	1-3/4"	1.006"	27.62	26.42	25.22	24.02
78461		.1969		5.000	57	30	16	27.77	26.57	25.36	24.15
	90461	.1969		5.000	76	44	26	27.76	26.55	25.35	24.14
78466		.1990	#8	5.055	2-1/4"	1-3/16"	.624"	27.93	26.72	25.50	24.29
	90466	.1990	#8	5.055	3"	1-3/4"	1.022"	27.92	26.71	25.49	24.28
78471		.2010	#7	5.105	2-1/4"	1-3/16"	.630"	28.67	27.42	26.18	24.93
	90471	.2010	#7	5.105	3"	1-3/4"	1.032"	28.67	27.42	26.18	24.93
78476		.2031	13/64"	5.159	2-1/4"	1-3/16"	.637"	29.62	28.34	27.05	25.76
	90476	.2031	13/64"	5.159	3"	1-3/4"	1.043"	29.61	28.33	27.04	25.75
	90481	.2040	#6	5.182	3"	1-3/4"	1.047"	29.79	28.49	27.20	25.90
78486		.2055	#5	5.220	2-3/8"	1-1/4"	.644"	29.91	28.61	27.31	26.01
	90486	.2055	#5	5.220	3"	1-3/4"	1.055"	29.90	28.60	27.30	26.00
78491		.2090	#4	5.309	2-3/8"	1-1/4"	.655"	30.36	29.04	27.72	26.40
	90491	.2090	#4	5.309	3"	1-3/4"	1.073"	30.36	29.04	27.72	26.40
78496		.2130	#3	5.410	2-3/8"	1-1/4"	.668"	30.82	29.48	28.14	26.80
	90496	.2130	#3	5.410	3"	1-3/4"	1.094"	30.82	29.48	28.14	26.80
78501		.2165		5.500	60	32	17	31.03	29.68	28.33	26.98
	90501	.2165		5.500	76	44	28	31.03	29.68	28.33	26.98
78506		.2188	7/32"	5.558	2-3/8"	1-1/4"	.686"	31.22	29.87	28.51	27.15
	90506	.2188	7/32"	5.558	3"	1-3/4"	1.123"	31.22	29.87	28.51	27.15
78511		.2210	#2	5.613	2-7/16"	1-5/16"	.693"	31.92	30.54	29.15	27.76
	90511	.2210	#2	5.613	3"	1-3/4"	1.135"	31.90	30.51	29.13	27.74
78516		.2280	#1	5.791	2-7/16"	1-5/16"	.715"	32.05	30.66	29.26	27.87
	90516	.2280	#1	5.791	3"	1-3/4"	1.171"	32.05	30.66	29.26	27.87
78521		.2340	A	5.944	2-7/16"	1-5/16"	.733"	32.22	30.82	29.42	28.02
	90521	.2340	A	5.944	3-1/4"	2"	1.201"	32.50	31.09	29.67	28.26
78526		.2344	15/64"	5.954	2-7/16"	1-5/16"	.735"	32.35	30.94	29.54	28.13
	90526	.2344	15/64"	5.954	3-1/4"	2"	1.203"	32.60	31.19	29.77	28.35
78531		.2362		6.000	64	35	19	32.43	31.02	29.61	28.20
	90531	.2362		6.000	82	50	31	32.69	31.27	29.85	28.43

3xD (1120H) EDP#	5xD (1100H) EDP#	$d^{\dagger}$ Diameter			l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100
		Decimal		Metric							
78536		.2380	B	6.045	2-1/2"	1-3/8"	.746"	32.56	31.14	29.73	28.31
	90536	.2380	B	6.045	3-1/4"	2"	1.222"	32.82	31.39	29.97	28.54
78541		.2420	C	6.147	2-1/2"	1-3/8"	.758"	32.76	31.34	29.91	28.49
	90541	.2420	C	6.147	3-1/4"	2"	1.242"	33.01	31.57	30.14	28.70
78546		.2460	D	6.248	2-1/2"	1-3/8"	.771"	32.95	31.52	30.08	28.65
	90546	.2460	D	6.248	3-1/4"	2"	1.263"	33.24	31.79	30.35	28.90
78551		.2500	1/4" / E	6.350	2-1/2"	1-3/8"	.783"	33.15	31.71	30.27	28.83
	90551	.2500	1/4" / E	6.350	3-1/4"	2"	1.283"	33.43	31.98	30.52	29.07
78556		.2559		6.500	67	37	21	36.71	35.11	33.52	31.92
	90556	.2559		6.500	82	50	33	37.28	35.66	34.04	32.42
78561		.2570	F	6.528	2-5/8"	1-7/16"	.805"	37.33	35.71	34.08	32.46
	90561	.2570	F	6.528	3-1/4"	2"	1.319"	37.90	36.26	34.61	32.96
78566		.2610	G	6.629	2-5/8"	1-7/16"	.818"	37.80	36.16	34.51	32.87
	90566	.2610	G	6.629	3-1/2"	2-1/8"	1.340"	39.53	37.81	36.09	34.37
78571		.2656	17/64"	6.746	2-5/8"	1-7/16"	.832"	38.41	36.74	35.07	33.40
	90571	.2656	17/64"	6.746	3-1/2"	2-1/8"	1.364"	40.17	38.42	36.68	34.93
78576		.2660	H	6.756	2-11/16"	1-1/2"	.834"	39.36	37.65	35.94	34.23
	90576	.2660	H	6.756	3-1/2"	2-1/8"	1.366"	41.14	39.35	37.56	35.77
78581		.2720	I	6.909	2-11/16"	1-1/2"	.852"	39.74	38.02	36.29	34.56
	90581	.2720	I	6.909	3-1/2"	2-1/8"	1.396"	41.57	39.77	37.96	36.15
78586		.2756		7.000	68	38	22	39.97	38.24	36.50	34.76
	90586	.2756		7.000	88	54	36	41.80	39.99	38.17	36.35
78591		.2770	J	7.036	2-11/16"	1-1/2"	.868"	40.27	38.52	36.77	35.02
	90591	.2770	J	7.036	3-1/2"	2-1/8"	1.422"	42.14	40.30	38.47	36.64
78596		.2810	K	7.137	2-11/16"	1-1/2"	.881"	40.61	38.84	37.08	35.31
	90596	.2810	K	7.137	3-1/2"	2-1/8"	1.443"	42.45	40.60	38.76	36.91
78601		.2812	9/32"	7.142	2-11/16"	1-1/2"	.881"	41.79	39.97	38.16	36.34
	90601	.2812	9/32"	7.142	3-1/2"	2-1/8"	1.444"	43.71	41.81	39.91	38.01
78606		.2900	L	7.366	2-3/4"	1-9/16"	.909"	43.11	41.24	39.36	37.49
	90606	.2900	L	7.366	3-1/2"	2-1/8"	1.489"	45.09	43.13	41.17	39.21
78611		.2950	M	7.493	2-3/4"	1-9/16"	.925"	44.18	42.26	40.34	38.42
	90611	.2950	M	7.493	3-3/4"	2-3/8"	1.515"	47.44	45.38	43.31	41.25
78616		.2953		7.500	70	40	23	44.18	42.26	40.34	38.42
	90616	.2953		7.500	95	60	39	47.44	45.38	43.31	41.25
78621		.2969	19/64"	7.541	2-3/4"	1-9/16"	.930"	44.18	42.26	40.34	38.42
	90621	.2969	19/64"	7.541	3-3/4"	2-3/8"	1.524"	47.44	45.38	43.31	41.25
78626		.3020	N	7.671	2-15/16"	1-5/8"	.946"	45.68	43.69	41.71	39.72
	90626	.3020	N	7.671	3-3/4"	2-3/8"	1.550"	47.75	45.67	43.60	41.52
78631		.3125	5/16"	7.938	2-15/16"	1-5/8"	.979"	45.84	43.85	41.85	39.86
	90631	.3125	5/16"	7.938	3-3/4"	2-3/8"	1.604"	47.78	45.71	43.63	41.55
78636		.3150		8.000	75	43	25	48.70	46.59	44.47	42.35
	90636	.3150		8.000	95	60	41	50.77	48.57	46.36	44.15
78641		.3160	O	8.026	2-15/16"	1-11/16"	.990"	48.70	46.59	44.47	42.35
	90641	.3160	O	8.026	3-3/4"	2-3/8"	1.622"	50.77	48.57	46.36	44.15
78646		.3230	P	8.204	2-15/16"	1-11/16"	1.012"	48.70	46.59	44.47	42.35
	90646	.3230	P	8.204	3-3/4"	2-3/8"	1.658"	50.77	48.57	46.36	44.15
78651		.3281	21/64"	8.334	2-15/16"	1-11/16"	1.028"	50.54	48.35	46.15	43.95
	90651	.3281	21/64"	8.334	4"	2-1/2"	1.684"	52.82	50.52	48.23	45.93
78656		.3320	Q	8.433	3"	1-11/16"	1.040"	51.57	49.32	47.08	44.84
	90656	.3320	Q	8.433	4"	2-1/2"	1.704"	53.90	51.56	49.21	46.87
78661		.3346		8.500	76	43	27	51.99	49.73	47.47	45.21
	90661	.3346		8.500	101	63	44	54.31	51.95	49.59	47.23
78666		.3390	R	8.611	3"	1-11/16"	1.062"	53.41	51.08	48.76	46.44
	90666	.3390	R	8.611	4"	2-1/2"	1.740"	55.81	53.38	50.96	48.53
78671		.3438	11/32"	8.733	3"	1-11/16"	1.077"	55.34	52.93	50.53	48.12
	90671	.3438	11/32"	8.733	4"	2-1/2"	1.765"	57.80	55.29	52.77	50.26
78676		.3480	S	8.839	3-1/16"	1-3/4"	1.091"	62.63	59.91	57.18	54.46
	90676	.3480	S	8.839	4"	2-1/2"	1.787"	61.35	58.69	56.02	53.35
78681		.3543		9.000	78	44	28	62.99	60.25	57.51	54.77
	90681	.3543		9.000	101	63	46	61.71	59.03	56.34	53.66

continued →

Series 1120H, 1100H (continued)

.3580" - .5000"
(9.093mm - 12.700mm)

3xD (1120H) EDP#	5xD (1100H) EDP#	$d^{\dagger}$ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100	
		Decimal		Metric							
78686		.3580	T	9.093	3-1/16"	1-3/4"	1.122"	63.14	60.39	57.65	54.90
78691		.3594	23/64"	9.129	3-1/16"	1-3/4"	1.126"	63.57	60.81	58.04	55.28
	90691	.3594	23/64"	9.129	4-1/4"	2-3/4"	1.845"	64.27	61.48	58.68	55.89
78696		.3680	U	9.347	3-1/8"	1-13/16"	1.153"	67.22	64.30	61.37	58.45
	90696	.3680	U	9.347	4-1/4"	2-3/4"	1.889"	67.94	64.99	62.03	59.08
78701		.3740		9.500	79	46	30	68.20	65.23	62.27	59.30
	90701	.3740		9.500	107	70	49	68.93	65.93	62.94	59.94
78706		.3750	3/8"	9.525	3-1/8"	1-13/16"	1.175"	68.20	65.23	62.27	59.30
	90706	.3750	3/8"	9.525	4-1/4"	2-3/4"	1.925"	68.93	65.93	62.94	59.94
78711		.3770	V	9.576	3-1/4"	1-7/8"	1.182"	68.86	65.87	62.87	59.88
	90711	.3770	V	9.576	4-1/4"	2-3/4"	1.936"	71.71	68.60	65.48	62.36
78716		.3860	W	9.804	3-1/4"	1-7/8"	1.210"	72.73	69.56	66.40	63.24
	90716	.3860	W	9.804	4-1/2"	2-7/8"	1.982"	75.64	72.35	69.06	65.77
78721		.3906	25/64"	9.921	3-1/4"	1-7/8"	1.224"	73.62	70.42	67.22	64.02
	90721	.3906	25/64"	9.921	4-1/2"	2-7/8"	2.005"	76.58	73.25	69.92	66.59
78726		.3937		10.000	84	49	31	75.92	72.62	69.32	66.02
	90726	.3937		10.000	114	73	51	78.95	75.52	72.08	68.65
78736		.4040	Y	10.262	3-5/16"	1-15/16"	1.266"	78.42	75.01	71.60	68.19
	90736	.4040	Y	10.262	4-1/2"	2-7/8"	2.074"	81.54	77.99	74.45	70.90
78741		.4062	13/32"	10.317	3-5/16"	1-15/16"	1.273"	80.90	77.39	73.87	70.35
	90741	.4062	13/32"	10.317	4-1/2"	2-7/8"	2.085"	84.09	80.43	76.78	73.12
78746		.4130	Z	10.490	3-3/8"	2"	1.294"	81.63	78.08	74.53	70.98
	90746	.4130	Z	10.490	4-1/2"	2-7/8"	2.120"	84.84	81.15	77.46	73.77
78751		.4134		10.500	86	51	33	81.63	78.08	74.53	70.98
	90751	.4134		10.500	114	73	54	84.84	81.15	77.46	73.77
78756		.4219	27/64"	10.716	3-3/8"	2"	1.322"	82.47	78.88	75.30	71.71
	90756	.4219	27/64"	10.716	4-1/2"	2-7/8"	2.166"	85.69	81.96	78.24	74.51
78761		.4331		11.000	87	52	34	87.87	84.05	80.23	76.41
	90761	.4331		11.000	114	73	56	92.08	88.08	84.07	80.07
78766		.4375	7/16"	11.113	3-7/16"	2-1/16"	1.371"	87.87	84.05	80.23	76.41
	90766	.4375	7/16"	11.113	4-1/2"	2-7/8"	2.246"	92.08	88.08	84.07	80.07
	90771	.4528		11.500	120	76	59	98.99	94.69	90.38	86.08
78776		.4531	29/64"	11.509	3-9/16"	2-1/8"	1.420"	94.48	90.38	86.27	82.16
	90776	.4531	29/64"	11.509	4-3/4"	3"	2.326"	98.99	94.69	90.38	86.08
78781		.4688	15/32"	11.908	3-5/8"	2-1/8"	1.469"	99.38	95.06	90.74	86.42
	90781	.4688	15/32"	11.908	4-3/4"	3"	2.407"	104.09	99.56	95.04	90.51
78786		.4724		12.000	94	56	38	99.66	95.33	90.99	86.66
	90786	.4724		12.000	120	76	62	104.37	99.84	95.30	90.76
78791		.4844	31/64"	12.304	3-11/16"	2-3/16"	1.518"	99.96	95.61	91.27	86.92
	90791	.4844	31/64"	12.304	4-3/4"	3"	2.487"	104.37	99.84	95.30	90.76
78796		.4921		12.500	95	56	39	101.50	97.09	92.67	88.26
	90796	.4921		12.500	120	76	64	106.87	102.22	97.58	92.93
78801		.5000	1/2"	12.700	3-3/4"	2-1/4"	1.567"	102.03	97.59	93.16	88.72
	90801	.5000	1/2"	12.700	4-3/4"	3"	2.567"	106.87	102.22	97.58	92.93

TOLERANCES

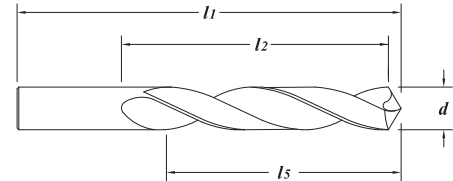
d	+.0000" - .0005" (+.0000 - .0127mm)	
l₁	≤ 1/8"	+.125" - .062" (+3.175 - 1.588mm)
	> 1/8"	+.125" - .125" (+3.175 - 3.175mm)
l₂	≤ 1/8"	+.125" - .062" (+3.175 - 1.588mm)
	> 1/8"	+.125" - .125" (+3.175 - 3.175mm)


Series 1200

.0625" - .1575"
(1.588mm - 4.000mm)

**GENERAL PURPOSE
DRILLS**

Solid submicron grain carbide drill
General purpose jobber style
Cam point (≤ 1/8" diameter - 4-facet point)
Live tooling recommended on lathe processes
Durana Coating - page 88



EDP#	d †		Metric	l₁ Overall Length	l₂ Flute Length	l₅ Max Drill Depth	1-11	12-24	25-49	50-100
	Decimal	Diameter								
56165	.0625	1/16"	1.588	1-3/4"	3/4"	.331"	7.42	7.10	6.77	6.45
56170	.0635	#52	1.613	1-3/4"	3/4"	.337"	7.52	7.19	6.87	6.54
56175	.0670	#51	1.702	1-3/4"	3/4"	.355"	7.64	7.30	6.97	6.64
56180	.0700	#50	1.778	1-3/4"	7/8"	.371"	7.82	7.48	7.14	6.80
56185	.0730	#49	1.854	1-3/4"	7/8"	.387"	8.03	7.68	7.33	6.98
56190	.0760	#48	1.930	1-3/4"	7/8"	.403"	8.29	7.93	7.57	7.21
56195	.0781	5/64"	1.984	1-3/4"	7/8"	.414"	8.60	8.23	7.85	7.48
56200	.0785	#47	1.994	1-3/4"	7/8"	.416"	8.89	8.50	8.12	7.73
56205	.0787		2.000	44	22	11	9.03	8.64	8.24	7.85
56210	.0810	#46	2.057	1-3/4"	7/8"	.429"	9.18	8.78	8.38	7.98
56215	.0820	#45	2.083	1-3/4"	7/8"	.435"	9.45	9.04	8.63	8.22
56220	.0860	#44	2.184	2"	1"	.456"	9.76	9.34	8.91	8.49
56225	.0890	#43	2.261	2"	1"	.472"	10.04	9.60	9.17	8.73
56230	.0935	#42	2.375	2"	1"	.496"	10.18	9.74	9.29	8.85
56235	.0938	3/32"	2.383	2"	1"	.497"	10.41	9.96	9.50	9.05
56240	.0960	#41	2.438	2"	1"	.509"	10.50	10.04	9.59	9.13
56245	.0980	#40	2.489	2"	1"	.519"	10.66	10.20	9.73	9.27
56250	.0984		2.500	57	32	13	10.72	10.25	9.79	9.32
56255	.0995	#39	2.527	2-1/4"	1-1/4"	.527"	10.76	10.30	9.83	9.36
56260	.1015	#38	2.578	2-1/4"	1-1/4"	.538"	10.89	10.42	9.94	9.47
56265	.1040	#37	2.642	2-1/4"	1-1/4"	.551"	11.04	10.56	10.08	9.60
56270	.1065	#36	2.705	2-1/4"	1-1/4"	.564"	11.18	10.69	10.21	9.72
56275	.1094	7/64"	2.779	2-1/4"	1-1/4"	.580"	11.36	10.87	10.37	9.88
56280	.1100	#35	2.794	2-1/4"	1-1/4"	.583"	11.49	10.99	10.49	9.99
56285	.1110	#34	2.819	2-1/4"	1-1/4"	.588"	11.63	11.12	10.62	10.11
56290	.1130	#33	2.870	2-1/4"	1-1/4"	.599"	11.85	11.33	10.82	10.30
56295	.1160	#32	2.946	2-1/4"	1-1/4"	.615"	11.97	11.45	10.93	10.41
56300	.1181		3.000	57	32	16	12.09	11.56	11.04	10.51
56305	.1200	#31	3.048	2-1/4"	1-1/4"	.636"	12.17	11.64	11.11	10.58
56310	.1250	1/8"	3.175	2-1/4"	1-1/4"	.663"	12.32	11.78	11.25	10.71
56315	.1285	#30	3.264	2-1/4"	1-1/4"	.681"	12.63	12.08	11.53	10.98
56320	.1360	#29	3.454	2-1/2"	1-3/8"	.721"	13.03	12.46	11.90	11.33
56325	.1378		3.500	63	35	19	13.46	12.87	12.29	11.70
56330	.1405	#28	3.569	2-1/2"	1-3/8"	.745"	13.58	12.99	12.40	11.81
56335	.1406	9/64"	3.571	2-1/2"	1-3/8"	.745"	13.74	13.15	12.55	11.95
56340	.1440	#27	3.658	2-1/2"	1-3/8"	.763"	14.28	13.66	13.04	12.42
56345	.1470	#26	3.734	2-1/2"	1-3/8"	.779"	14.42	13.79	13.17	12.54
56350	.1495	#25	3.797	2-1/2"	1-3/8"	.792"	14.62	13.98	13.35	12.71
56355	.1520	#24	3.861	2-1/2"	1-3/8"	.806"	14.64	14.00	13.37	12.73
56360	.1540	#23	3.912	2-1/2"	1-3/8"	.816"	14.74	14.10	13.46	12.82
56365	.1562	5/32"	3.967	2-1/2"	1-3/8"	.828"	14.85	14.20	13.56	12.91
56370	.1570	#22	3.988	2-1/2"	1-3/8"	.832"	15.78	15.09	14.41	13.72
56375	.1575		4.000	63	35	21	15.97	15.28	14.58	13.89

continued →

Series 1200 (continued)

.1590" - .3346"
(4.039mm - 8.500mm)

EDP#	$d^{\dagger}$ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100	
	Decimal	Metric								
56380	.1590	#21	4.039	2-1/2"	1-3/8"	.843"	16.16	15.46	14.75	14.05
56385	.1610	#20	4.089	2-1/2"	1-3/8"	.853"	16.27	15.57	14.86	14.15
56390	.1660	#19	4.216	2-3/4"	1-5/8"	.880"	16.94	16.20	15.47	14.73
56395	.1695	#18	4.305	2-3/4"	1-5/8"	.898"	17.15	16.40	15.66	14.91
56400	.1719	11/64"	4.366	2-3/4"	1-5/8"	.911"	17.51	16.75	15.99	15.23
56405	.1730	#17	4.394	2-3/4"	1-5/8"	.917"	17.74	16.97	16.20	15.43
56410	.1770	#16	4.496	2-3/4"	1-5/8"	.938"	17.94	17.16	16.38	15.60
56415	.1772		4.500	70	41	24	18.03	17.25	16.46	15.68
56420	.1800	#15	4.572	2-3/4"	1-5/8"	.954"	18.11	17.33	16.54	15.75
56425	.1820	#14	4.623	2-3/4"	1-5/8"	.965"	18.53	17.72	16.92	16.11
56430	.1850	#13	4.700	2-3/4"	1-5/8"	.981"	18.66	17.85	17.04	16.23
56435	.1875	3/16"	4.763	2-3/4"	1-5/8"	.994"	18.76	17.94	17.13	16.31
56440	.1890	#12	4.801	2-3/4"	1-5/8"	1.002"	19.37	18.52	17.68	16.84
56445	.1910	#11	4.851	2-3/4"	1-5/8"	1.012"	19.57	18.72	17.87	17.02
56450	.1935	#10	4.915	2-3/4"	1-5/8"	1.026"	20.52	19.62	18.73	17.84
56455	.1960	#9	4.978	3"	1-3/4"	1.039"	21.02	20.11	19.19	18.28
56460	.1969		5.000	76	44	26	21.15	20.23	19.31	18.39
56465	.1990	#8	5.055	3"	1-3/4"	1.055"	21.29	20.36	19.44	18.51
56470	.2010	#7	5.105	3"	1-3/4"	1.065"	21.91	20.96	20.00	19.05
56475	.2031	13/64"	5.159	3"	1-3/4"	1.077"	22.08	21.12	20.16	19.20
56480	.2040	#6	5.182	3"	1-3/4"	1.081"	22.53	21.55	20.57	19.59
56485	.2055	#5	5.220	3"	1-3/4"	1.089"	23.00	22.00	21.00	20.00
56490	.2090	#4	5.309	3"	1-3/4"	1.108"	23.39	22.37	21.36	20.34
56495	.2130	#3	5.410	3"	1-3/4"	1.129"	23.81	22.77	21.74	20.70
56500	.2165		5.500	76	44	29	23.99	22.95	21.90	20.86
56505	.2188	7/32"	5.558	3"	1-3/4"	1.160"	24.16	23.11	22.06	21.01
56510	.2210	#2	5.613	3"	1-3/4"	1.171"	24.76	23.68	22.61	21.53
56515	.2280	#1	5.791	3"	1-3/4"	1.208"	24.90	23.82	22.73	21.65
56520	.2340	A	5.944	3-1/4"	2"	1.240"	25.19	24.09	23.00	21.90
56525	.2344	15/64"	5.954	3-1/4"	2"	1.242"	25.25	24.16	23.06	21.96
56530	.2362		6.000	82	50	32	25.36	24.26	23.15	22.05
56535	.2380	B	6.045	3-1/4"	2"	1.262"	25.44	24.33	23.23	22.12
56540	.2420	C	6.147	3-1/4"	2"	1.283"	25.63	24.52	23.40	22.29
56545	.2460	D	6.248	3-1/4"	2"	1.304"	25.82	24.70	23.57	22.45
56550	.2500	1/4" / E	6.350	3-1/4"	2"	1.325"	26.00	24.87	23.74	22.61
56555	.2559		6.500	82	50	34	26.63	25.48	24.32	23.16
56560	.2570	F	6.528	3-1/4"	2"	1.362"	27.17	25.99	24.81	23.63
56565	.2610	G	6.629	3-1/2"	2-1/8"	1.383"	27.74	26.53	25.33	24.12
56570	.2656	17/64"	6.746	3-1/2"	2-1/8"	1.408"	28.30	27.07	25.84	24.61
56575	.2660	H	6.756	3-1/2"	2-1/8"	1.410"	29.11	27.84	26.58	25.31
56580	.2720	I	6.909	3-1/2"	2-1/8"	1.442"	29.43	28.15	26.87	25.59
56585	.2756		7.000	88	54	37	29.67	28.38	27.09	25.80
56590	.2770	J	7.036	3-1/2"	2-1/8"	1.468"	29.93	28.63	27.33	26.03
56595	.2810	K	7.137	3-1/2"	2-1/8"	1.489"	30.20	28.89	27.57	26.26
56600	.2812	9/32"	7.142	3-1/2"	2-1/8"	1.490"	30.39	29.07	27.75	26.43
56605	.2900	L	7.366	3-1/2"	2-1/8"	1.537"	31.48	30.11	28.74	27.37
56610	.2950	M	7.493	3-3/4"	2-3/8"	1.564"	33.70	32.23	30.77	29.30
56615	.2953		7.500	95	60	40	33.70	32.23	30.77	29.30
56620	.2969	19/64"	7.541	3-3/4"	2-3/8"	1.574"	33.70	32.23	30.77	29.30
56625	.3020	N	7.671	3-3/4"	2-3/8"	1.601"	35.70	34.14	32.59	31.04
56630	.3125	5/16"	7.938	3-3/4"	2-3/8"	1.656"	35.83	34.28	32.72	31.16
56635	.3150		8.000	95	60	42	38.44	36.77	35.10	33.43
56640	.3160	O	8.026	3-3/4"	2-3/8"	1.675"	38.44	36.77	35.10	33.43
56645	.3230	P	8.204	3-3/4"	2-3/8"	1.712"	38.44	36.77	35.10	33.43
56650	.3281	21/64"	8.334	4"	2-1/2"	1.739"	39.01	37.31	35.62	33.92
56655	.3320	Q	8.433	4"	2-1/2"	1.760"	39.93	38.19	36.46	34.72
56660	.3346		8.500	101	63	45	40.27	38.52	36.77	35.02

EDP#	d^+ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100
	Decimal	Metric							
56665	.3390	R	8.611	4"	2-1/2"	1.797"	41.57	39.77	36.15
56670	.3438	11/32"	8.733	4"	2-1/2"	1.822"	43.25	41.37	37.61
56675	.3480	S	8.839	4"	2-1/2"	1.845"	43.40	41.51	37.74
56680	.3543		9.000	101	63	48	43.65	41.76	37.96
56685	.3580	T	9.093	4-1/4"	2-3/4"	1.898"	44.05	42.13	38.30
56690	.3594	23/64"	9.129	4-1/4"	2-3/4"	1.905"	44.36	42.43	38.57
56695	.3680	U	9.347	4-1/4"	2-3/4"	1.951"	50.34	48.15	45.96
56700	.3740		9.500	107	70	50	50.81	48.60	46.39
56705	.3750	3/8"	9.525	4-1/4"	2-3/4"	1.988"	51.21	48.98	46.76
56710	.3770	V	9.576	4-1/4"	2-3/4"	1.998"	52.19	49.92	47.65
56715	.3860	W	9.804	4-1/2"	2-7/8"	2.046"	53.29	50.97	48.66
56720	.3906	25/64"	9.921	4-1/2"	2-7/8"	2.070"	54.08	51.73	49.38
56725	.3937		10.000	114	73	53	56.03	53.59	51.16
56730	.3970	X	10.084	4-1/2"	2-7/8"	2.104"	57.68	55.18	52.67
56735	.4040	Y	10.262	4-1/2"	2-7/8"	2.141"	58.14	55.62	53.09
56740	.4062	13/32"	10.317	4-1/2"	2-7/8"	2.153"	60.24	57.62	55.00
56745	.4130	Z	10.490	4-1/2"	2-7/8"	2.189"	60.88	58.23	55.59
56750	.4134		10.500	114	73	56	60.88	58.23	55.59
56755	.4219	27/64"	10.716	4-1/2"	2-7/8"	2.236"	61.56	58.88	56.21
56760	.4331		11.000	114	73	58	66.85	63.94	61.04
56765	.4375	7/16"	11.113	4-1/2"	2-7/8"	2.319"	66.85	63.94	61.04
56770	.4528		11.500	120	76	61	72.52	69.37	66.21
56775	.4531	29/64"	11.509	4-3/4"	3"	2.402"	72.52	69.37	66.21
56780	.4688	15/32"	11.908	4-3/4"	3"	2.485"	76.71	73.37	70.04
56785	.4724		12.000	120	76	64	76.95	73.60	70.26
56790	.4844	31/64"	12.304	4-3/4"	3"	2.568"	76.95	73.60	70.26
56795	.4921		12.500	120	76	2.608"	79.01	75.57	72.14
56800	.5000	1/2"	12.700	4-3/4"	3"	2.650"	79.01	75.57	72.14



Drill Manufacturing

Series 1200H

.0625" - .1575"
(1.588mm - 4.000mm)



TOLERANCES

d	+.0000" - .0005" (+.0000 - .0127mm)	
l ₁	≤ 1/8"	+.125" - .062" (+3.175 - 1.588mm)
	> 1/8"	+.125" - .125" (+3.175 - 3.175mm)
l ₂	≤ 1/8"	+.125" - .062" (+3.175 - 1.588mm)
	> 1/8"	+.125" - .125" (+3.175 - 3.175mm)

BALINIT® Durana Coating

Solid submicron grain carbide drill

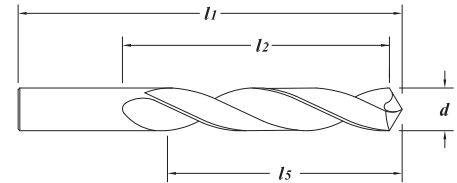
General purpose jobber style

Excellent heat resistance and lubricity

Cam point (≤ 1/8" diameter is with 4-facet point)

Live tooling recommended on lathe processes

Bright Finish - page 85



EDP#	d †		l ₁ Overall Length	l ₂ Flute Length	l ₃ Max Drill Depth	1-11	12-24	25-49	50-100
	Decimal	Diameter Metric							
56166	.0625	1/16"	1.588	1-3/4"	3/4"	.331"	9.51	9.10	8.68
56171	.0635	#52	1.613	1-3/4"	3/4"	.337"	9.63	9.21	8.79
56181	.0700	#50	1.778	1-3/4"	7/8"	.371"	9.90	9.47	9.04
56186	.0730	#49	1.854	1-3/4"	7/8"	.387"	10.13	9.69	9.25
56191	.0760	#48	1.930	1-3/4"	7/8"	.403"	10.38	9.93	9.48
56196	.0781	5/64"	1.984	1-3/4"	7/8"	.414"	10.72	10.25	9.79
56206	.0787		2.000	44	22	11	11.13	10.65	10.16
56216	.0820	#45	2.083	1-3/4"	7/8"	.435"	11.56	11.06	10.55
56221	.0860	#44	2.184	2"	1"	.456"	11.87	11.35	10.84
56226	.0890	#43	2.261	2"	1"	.472"	12.13	11.61	11.08
56231	.0935	#42	2.375	2"	1"	.496"	12.28	11.75	11.21
56236	.0938	3/32"	2.383	2"	1"	.497"	12.51	11.97	11.42
56241	.0960	#41	2.438	2"	1"	.509"	12.62	12.07	11.52
56246	.0980	#40	2.489	2"	1"	.519"	12.78	12.22	11.67
56251	.0984		2.500	57	32	13	12.80	12.24	11.69
56256	.0995	#39	2.527	2-1/4"	1-1/4"	.527"	12.86	12.30	11.74
56261	.1015	#38	2.578	2-1/4"	1-1/4"	.538"	13.02	12.45	11.89
56266	.1040	#37	2.642	2-1/4"	1-1/4"	.551"	13.12	12.55	11.98
56271	.1065	#36	2.705	2-1/4"	1-1/4"	.564"	13.27	12.69	12.12
56276	.1094	7/64"	2.779	2-1/4"	1-1/4"	.580"	13.48	12.89	12.31
56281	.1100	#35	2.794	2-1/4"	1-1/4"	.583"	13.58	12.99	12.40
56286	.1110	#34	2.819	2-1/4"	1-1/4"	.588"	13.73	13.13	12.54
56291	.1130	#33	2.870	2-1/4"	1-1/4"	.599"	13.95	13.34	12.74
56296	.1160	#32	2.946	2-1/4"	1-1/4"	.615"	14.05	13.44	12.83
56301	.1181		3.000	57	32	16	14.17	13.55	12.94
56306	.1200	#31	3.048	2-1/4"	1-1/4"	.636"	14.28	13.66	13.04
56311	.1250	1/8"	3.175	2-1/4"	1-1/4"	.663"	14.40	13.77	13.15
56316	.1285	#30	3.264	2-1/4"	1-1/4"	.681"	14.73	14.09	13.45
56321	.1360	#29	3.454	2-1/2"	1-3/8"	.721"	15.12	14.47	13.81
56331	.1405	#28	3.569	2-1/2"	1-3/8"	.745"	15.71	15.03	14.34
56336	.1406	9/64"	3.571	2-1/2"	1-3/8"	.745"	15.85	15.16	14.47
56341	.1440	#27	3.658	2-1/2"	1-3/8"	.763"	16.39	15.68	14.96
56346	.1470	#26	3.734	2-1/2"	1-3/8"	.779"	16.54	15.82	15.10
56351	.1495	#25	3.797	2-1/2"	1-3/8"	.792"	16.69	15.96	15.24
56356	.1520	#24	3.861	2-1/2"	1-3/8"	.806"	16.77	16.04	15.31
56361	.1540	#23	3.912	2-1/2"	1-3/8"	.816"	16.85	16.12	15.38
56366	.1562	5/32"	3.967	2-1/2"	1-3/8"	.828"	16.93	16.19	15.46
56371	.1570	#22	3.988	2-1/2"	1-3/8"	.832"	17.87	17.09	16.32

EDP#	$d^{\dagger}$ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100	
	Decimal	Metric								
56381	.1590	#21	4.039	2-1/2"	1-3/8"	.843"	18.27	17.48	16.68	15.89
56386	.1610	#20	4.089	2-1/2"	1-3/8"	.853"	18.38	17.58	16.78	15.98
56391	.1660	#19	4.216	2-3/4"	1-5/8"	.880"	19.06	18.23	17.40	16.57
56396	.1695	#18	4.305	2-3/4"	1-5/8"	.898"	19.24	18.40	17.57	16.73
56401	.1719	11/64"	4.366	2-3/4"	1-5/8"	.911"	19.57	18.72	17.87	17.02
56411	.1770	#16	4.496	2-3/4"	1-5/8"	.938"	20.03	19.16	18.29	17.42
56421	.1800	#15	4.572	2-3/4"	1-5/8"	.954"	20.23	19.35	18.47	17.59
56426	.1820	#14	4.623	2-3/4"	1-5/8"	.965"	20.62	19.72	18.83	17.93
56436	.1875	3/16"	4.763	2-3/4"	1-5/8"	.994"	20.86	19.95	19.05	18.14
56441	.1890	#12	4.801	2-3/4"	1-5/8"	1.002"	22.99	21.99	20.99	19.99
56446	.1910	#11	4.851	2-3/4"	1-5/8"	1.012"	23.20	22.19	21.18	20.17
56451	.1935	#10	4.915	2-3/4"	1-5/8"	1.026"	24.10	23.06	22.01	20.96
56471	.2010	#7	5.105	3"	1-3/4"	1.065"	25.52	24.41	23.30	22.19
56481	.2040	#6	5.182	3"	1-3/4"	1.081"	26.14	25.00	23.87	22.73
56486	.2055	#5	5.220	3"	1-3/4"	1.089"	26.60	25.44	24.29	23.13
56491	.2090	#4	5.309	3"	1-3/4"	1.108"	27.03	25.85	24.68	23.50
56496	.2130	#3	5.410	3"	1-3/4"	1.129"	27.42	26.22	25.03	23.84
56506	.2188	7/32"	5.558	3"	1-3/4"	1.160"	27.76	26.55	25.35	24.14
56516	.2280	#1	5.791	3"	1-3/4"	1.208"	28.51	27.27	26.03	24.79
56526	.2344	15/64"	5.954	3-1/4"	2"	1.242"	28.99	27.73	26.47	25.21
56541	.2420	C	6.147	3-1/4"	2"	1.283"	29.36	28.08	26.81	25.53
56551	.2500	1/4" / E	6.350	3-1/4"	2"	1.325"	29.72	28.42	27.13	25.84
56561	.2570	F	6.528	3-1/4"	2"	1.362"	34.05	32.57	31.09	29.61
56566	.2610	G	6.629	3-1/2"	2-1/8"	1.383"	34.57	33.07	31.56	30.06
56571	.2656	17/64"	6.746	3-1/2"	2-1/8"	1.408"	35.14	33.62	32.09	30.56
56601	.2812	9/32"	7.142	3-1/2"	2-1/8"	1.490"	37.19	35.57	33.96	32.34
56606	.2900	L	7.366	3-1/2"	2-1/8"	1.537"	38.33	36.66	35.00	33.33
56626	.3020	N	7.671	3-3/4"	2-3/8"	1.601"	42.53	40.68	38.83	36.98
56631	.3125	5/16"	7.938	3-3/4"	2-3/8"	1.656"	42.69	40.83	38.98	37.12
56646	.3230	P	8.204	3-3/4"	2-3/8"	1.712"	45.26	43.30	41.33	39.36
56651	.3281	21/64"	8.334	4"	2-1/2"	1.739"	45.84	43.85	41.85	39.86
56671	.3438	11/32"	8.733	4"	2-1/2"	1.822"	50.07	47.89	45.72	43.54
56696	.3680	U	9.347	4-1/4"	2-3/4"	1.951"	60.75	58.11	55.47	52.83
56706	.3750	3/8"	9.525	4-1/4"	2-3/4"	1.988"	61.61	58.93	56.25	53.57
56731	.3970	X	10.084	4-1/2"	2-7/8"	2.104"	68.60	65.62	62.63	59.65
56741	.4062	13/32"	10.317	4-1/2"	2-7/8"	2.153"	71.17	68.08	64.98	61.89
56756	.4219	27/64"	10.716	4-1/2"	2-7/8"	2.236"	72.50	69.34	66.19	63.04
56766	.4375	7/16"	11.113	4-1/2"	2-7/8"	2.319"	77.77	74.39	71.01	67.63
56801	.5000	1/2"	12.700	4-3/4"	3"	2.650"	89.94	86.03	82.12	78.21

Series 1100

.1094" - .2040"
(2.779mm - 5.182mm)

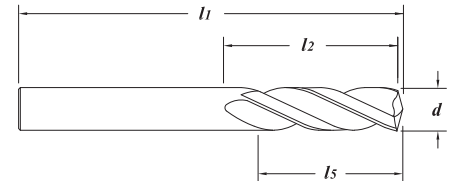


TOLERANCES

d	+.0000" -.0005" (+.0000 -.0127mm)	
l ₁	≤ 1/8"	+.125" -.062" (+3.175 -1.588mm)
	> 1/8"	+.125" -.125" (+3.175 -3.175mm)
l ₂	≤ 1/8"	+.125" -.062" (+3.175 -1.588mm)
	> 1/8"	+.125" -.125" (+3.175 -3.175mm)

Recommended for cast iron, tungsten, and materials with high silicon content

Solid submicron grain carbide drill
Self-centering drill point
Near reamer finishes
Can be used as a core drill
Tighter tolerance holes
Improved roundness and straightness
Live tooling recommended on lathe processes
Durana Coating - page 81



EDP#	d [†]		l ₁	l ₂	l ₅	1-11	12-24	25-49	50-100
	Decimal	Diameter							
90275	.1094	7/64"	2.779	2-1/4"	1-1/4"	.562"	13.80	13.20	12.60
90280	.1100	#35	2.794	2-1/4"	1-1/4"	.565"	13.95	13.34	12.74
90285	.1110	#34	2.819	2-1/4"	1-1/4"	.570"	14.12	13.51	12.89
90290	.1130	#33	2.870	2-1/4"	1-1/4"	.580"	14.35	13.73	13.10
90295	.1160	#32	2.946	2-1/4"	1-1/4"	.596"	14.55	13.92	13.28
90300	.1181		3.000	57	32	15	14.65	14.01	13.38
90305	.1200	#31	3.048	2-1/4"	1-1/4"	.616"	14.75	14.11	13.47
90310	.1250	1/8"	3.175	2-1/4"	1-1/4"	.642"	14.96	14.31	13.66
90315	.1285	#30	3.264	2-1/4"	1-1/4"	.660"	15.32	14.65	13.99
90320	.1360	#29	3.454	2-1/2"	1-3/8"	.698"	15.80	15.11	14.43
90325	.1378		3.500	63	35	18	16.31	15.60	14.89
90330	.1405	#28	3.569	2-1/2"	1-3/8"	.721"	16.49	15.77	15.06
90335	.1406	9/64"	3.571	2-1/2"	1-3/8"	.722"	16.68	15.95	15.23
90340	.1440	#27	3.658	2-1/2"	1-3/8"	.739"	17.34	16.59	15.83
90345	.1470	#26	3.734	2-1/2"	1-3/8"	.755"	17.58	16.82	16.05
90350	.1495	#25	3.797	2-1/2"	1-3/8"	.768"	17.73	16.96	16.19
90355	.1520	#24	3.861	2-1/2"	1-3/8"	.780"	17.77	17.00	16.22
90365	.1562	5/32"	3.967	2-1/2"	1-3/8"	.802"	18.01	17.23	16.44
90375	.1575		4.000	63	35	21	19.15	18.32	17.48
90380	.1590	#21	4.039	2-1/2"	1-3/8"	.816"	19.61	18.76	17.90
90385	.1610	#20	4.089	2-1/2"	1-3/8"	.827"	19.61	18.76	17.90
90390	.1660	#19	4.216	2-3/4"	1-5/8"	.852"	19.77	18.91	18.05
90395	.1695	#18	4.305	2-3/4"	1-5/8"	.870"	19.90	19.03	18.17
90400	.1719	11/64"	4.366	2-3/4"	1-5/8"	.883"	20.02	19.15	18.28
90420	.1800	#15	4.572	2-3/4"	1-5/8"	.924"	21.37	20.44	19.51
90425	.1820	#14	4.623	2-3/4"	1-5/8"	.934"	21.85	20.90	19.95
90435	.1875	3/16"	4.763	2-3/4"	1-5/8"	.963"	21.99	21.03	20.08
90440	.1890	#12	4.801	2-3/4"	1-5/8"	.970"	22.14	21.18	20.21
90455	.1960	#9	4.978	3"	1-3/4"	1.006"	24.01	22.97	21.92
90460	.1969		5.000	76	44	26	24.16	23.11	22.06
90470	.2010	#7	5.105	3"	1-3/4"	1.032"	25.07	23.98	22.89
90475	.2031	13/64"	5.159	3"	1-3/4"	1.043"	26.01	24.88	23.75
90480	.2040	#6	5.182	3"	1-3/4"	1.047"	26.17	25.04	23.90

EDP#	$d^{\dagger}$ Diameter			l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100
	Decimal		Metric							
90485	.2055	#5	5.220	3"	1-3/4"	1.055"	26.29	25.15	24.00	22.86
90500	.2165		5.500	76	44	28	27.42	26.22	25.03	23.84
90505	.2188	7/32"	5.558	3"	1-3/4"	1.123"	27.63	26.43	25.23	24.03
90510	.2210	#2	5.613	3"	1-3/4"	1.135"	28.31	27.08	25.85	24.62
90515	.2280	#1	5.791	3"	1-3/4"	1.171"	28.45	27.21	25.98	24.74
90525	.2344	15/64"	5.954	3-1/4"	2"	1.203"	28.89	27.63	26.38	25.12
90530	.2362		6.000	82	50	31	28.97	27.71	26.45	25.19
90550	.2500	1/4" / E	6.350	3-1/4"	2"	1.283"	29.70	28.41	27.12	25.83
90555	.2559		6.500	82	50	33	30.44	29.12	27.79	26.47
90560	.2570	F	6.528	3-1/4"	2"	1.319"	31.08	29.73	28.38	27.03
90565	.2610	G	6.629	3-1/2"	2-1/8"	1.340"	32.69	31.27	29.85	28.43
90570	.2656	17/64"	6.746	3-1/2"	2-1/8"	1.364"	33.35	31.90	30.45	29.00
90575	.2660	H	6.756	3-1/2"	2-1/8"	1.366"	34.30	32.81	31.32	29.83
90580	.2720	I	6.909	3-1/2"	2-1/8"	1.396"	34.72	33.21	31.70	30.19
90585	.2756		7.000	88	54	36	34.97	33.45	31.93	30.41
90600	.2812	9/32"	7.142	3-1/2"	2-1/8"	1.444"	36.87	35.27	33.66	32.06
90605	.2900	L	7.366	3-1/2"	2-1/8"	1.489"	38.24	36.58	34.91	33.25
90620	.2969	19/64"	7.541	3-3/4"	2-3/8"	1.524"	40.61	38.84	37.08	35.31
90625	.3020	N	7.671	3-3/4"	2-3/8"	1.550"	40.91	39.13	37.35	35.57
90630	.3125	5/16"	7.938	3-3/4"	2-3/8"	1.604"	40.95	39.17	37.39	35.61
90635	.3150		8.000	95	60	41	43.94	42.03	40.12	38.21
90640	.3160	O	8.026	3-3/4"	2-3/8"	1.622"	43.94	42.03	40.12	38.21
90650	.3281	21/64"	8.334	4"	2-1/2"	1.684"	45.97	43.97	41.97	39.97
90655	.3320	Q	8.433	4"	2-1/2"	1.704"	47.05	45.00	42.96	40.91
90660	.3346		8.500	101	63	44	47.47	45.41	43.34	41.28
90665	.3390	R	8.611	4"	2-1/2"	1.740"	48.94	46.82	44.69	42.56
90670	.3438	11/32"	8.733	4"	2-1/2"	1.765"	50.99	48.77	46.56	44.34
90680	.3543		9.000	101	63	46	53.03	50.72	48.42	46.11
90690	.3594	23/64"	9.129	4-1/4"	2-3/4"	1.845"	53.90	51.56	49.21	46.87
90705	.3750	3/8"	9.525	4-1/4"	2-3/4"	1.925"	58.54	55.99	53.45	50.90
90725	.3937		10.000	114	73	51	68.05	65.09	62.13	59.17
90745	.4130	Z	10.490	4-1/2"	2-7/8"	2.120"	73.91	70.70	67.48	64.27
90755	.4219	27/64"	10.716	4-1/2"	2-7/8"	2.166"	74.75	71.50	68.25	65.00
90760	.4331		11.000	114	73	56	81.16	77.63	74.10	70.57
90765	.4375	7/16"	11.113	4-1/2"	2-7/8"	2.246"	81.16	77.63	74.10	70.57
90775	.4531	29/64"	11.509	4-3/4"	3"	2.326"	88.08	84.25	80.42	76.59
90780	.4688	15/32"	11.908	4-3/4"	3"	2.407"	93.17	89.12	85.07	81.02
90790	.4844	31/64"	12.304	4-3/4"	3"	2.487"	93.46	89.40	85.33	81.27
90800	.5000	1/2"	12.700	4-3/4"	3"	2.567"	95.92	91.75	87.58	83.41

Series 1800H

.1875" - .3125"
(4.763mm - 7.938mm)



TOLERANCES

d	$+0.0000" - 0.0005" (+0.0000 - 0.0127\text{mm})$
l_1	$+0.125" - 0.125" (+3.175 - 3.175\text{mm})$
l_2	$+0.125" - 0.125" (+3.175 - 3.175\text{mm})$

Recommended for deep holes in soft, non-ferrous materials (aluminum, brass, bronze)

Parabolic

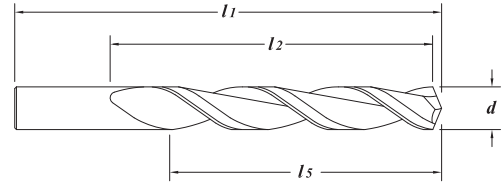
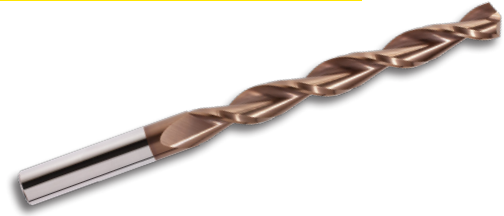
BALINIT® Durana Coating

Solid submicron grain carbide drill

Wide open flutes and high helix remove chips quickly

4-facet point

Live tooling recommended on lathe processes



EDP#	$d^{\dagger}$ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100
	Decimal	Metric							
22436	.1875	3/16"	4.763	3-13/16"	2-5/16"	1.539"	25.88	24.75	23.63
22441	.1890	#12	4.801	3-13/16"	2-5/16"	1.551"	26.45	25.30	24.15
22456	.1960	#9	4.978	3-15/16"	2-7/16"	1.609"	28.29	27.06	25.83
22461	.1969		5.000	100	62	41	28.89	27.63	26.38
22466	.1990	#8	5.055	3-15/16"	2-7/16"	1.633"	29.37	28.09	26.82
22471	.2010	#7	5.105	3-15/16"	2-7/16"	1.650"	29.90	28.60	27.30
22476	.2031	13/64"	5.159	3-15/16"	2-7/16"	1.667"	29.22	27.95	26.68
22486	.2055	#5	5.220	4"	2-1/2"	1.687"	31.40	30.03	28.67
22496	.2130	#3	5.410	4"	2-1/2"	1.748"	32.37	30.97	29.56
22501	.2165		5.500	102	64	45	32.90	31.47	30.04
22506	.2188	7/32"	5.558	4"	2-1/2"	1.796"	33.40	31.94	30.49
22511	.2210	#2	5.613	4"	2-1/2"	1.814"	33.88	32.41	30.93
22516	.2280	#1	5.791	4-1/8"	2-5/8"	1.871"	34.40	32.90	31.41
22531	.2362		6.000	105	67	49	35.96	34.40	32.83
22541	.2420	C	6.147	4-1/4"	2-3/4"	1.986"	36.36	34.78	33.20
22546	.2460	D	6.248	4-1/4"	2-3/4"	2.019"	36.51	34.93	33.34
22551	.2500	1/4" / E	6.350	4-1/4"	2-3/4"	2.052"	36.71	35.11	33.52
22556	.2559		6.500	108	70	53	37.93	36.28	34.63
22561	.2570	F	6.528	4-3/8"	2-7/8"	2.109"	39.53	37.81	36.09
22566	.2610	G	6.629	4-3/8"	2-7/8"	2.142"	40.61	38.84	37.08
22571	.2656	17/64"	6.746	4-3/8"	2-7/8"	2.180"	41.78	39.96	38.15
22576	.2660	H	6.756	4-3/8"	2-7/8"	2.183"	43.15	41.27	39.40
22581	.2720	I	6.909	4-3/8"	2-7/8"	2.232"	44.45	42.52	40.58
22586	.2756		7.000	111	73	57	45.78	43.79	41.80
22596	.2810	K	7.137	4-7/16"	2-15/16"	2.306"	47.78	45.71	43.63
22606	.2900	L	7.366	4-7/16"	2-15/16"	2.380"	49.90	47.73	45.56
22631	.3125	5/16"	7.938	4-11/16"	3-3/16"	2.565"	52.16	49.90	47.63

EDP#	d^+ Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100
	Decimal	Metric							
22636	.3150	8.000	119	81	66	55.15	52.76	50.36	47.96
22646	.3230	P 8.204	4-11/16"	3-3/16"	2.651"	57.68	55.18	52.67	50.16
22656	.3320	Q 8.433	4-15/16"	3-7/16"	2.725"	60.24	57.62	55.00	52.38
22661	.3346	8.500	125	87	70	61.50	58.83	56.15	53.48
22666	.3390	R 8.611	4-15/16"	3-7/16"	2.782"	63.43	60.68	57.92	55.16
22696	.3680	U 9.347	5"	3-1/2"	3.020"	70.06	67.01	63.97	60.92
22706	.3750	3/8" 9.525	5-1/8"	3-5/8"	3.078"	70.64	67.57	64.50	61.43
22721	.3906	25/64" 9.921	5-1/4"	3-3/4"	3.206"	77.69	74.32	70.94	67.56
22726	.3937	10.000	133	95	82	80.02	76.54	73.06	69.58
22751	.4134	10.500	137	98	86	93.86	89.78	85.70	81.62
22761	.4331	11.000	138	100	90	101.17	96.77	92.37	87.97
22766	.4375	7/16" 11.113	5-7/16"	3-15/16"	3.591"	101.17	96.77	92.37	87.97
22776	.4531	29/64" 11.509	5-9/16"	4-5/16"	3.719"	102.60	98.14	93.68	89.22
22801	.5000	1/2" 12.700	6"	4-1/2"	4.104"	107.92	103.22	98.53	93.84
22811	.5156	33/64" 13.096	6"	4-1/2"	4.232"	136.40	130.47	124.54	118.61
22831	.5512	14.000	156	117	115	159.93	152.98	146.02	139.07

