

Series V5

**NEW
ITEMS**

.2362" - .3125"
(6.000mm - 7.938mm)



TOLERANCES	
d1	+0.000" - .002" (+.000mm - .050mm)
d2	h6
r	+0.001" - .001" (+.025 - .025mm)

Recommended for titanium, inconel, and stainless steel

Variable Helix End Mill

AlCrN Coating

Solid submicron grain carbide end mill - center cutting

Recommended for Dynamic milling

Staggered flutes to control harmonics

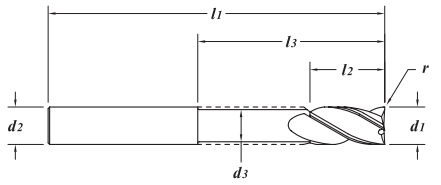
Variable flute design helps with chip evacuation in slots and pockets

PCT (Polish Carbide Treatment) enhances tool life

12mm and larger tools offered with weldon flat

.375" and larger diameters can be modified within 48 hours

The combination of an extended flute length with a weldon flat may cause the flute washout to reach inside some end mill holders



MATERIAL HARDNESS (Rc)

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EDP#	d1 †		d2	l1	l2	r	l3	d3	1-11	12-24	25-49	50-100		
	(plain)	(weldon)											Decimal	Metric
50000	-		.2362	6.000	6.0	50	13	-	-	-	22.03	21.08	20.12	19.16
50001	-		.2362	6.000	6.0	50	13	0.5	-	-	25.48	24.38	23.27	22.16
50002	-		.2362	6.000	6.0	65	19	-	-	-	24.84	23.76	22.68	21.60
50003	-		.2362	6.000	6.0	65	19	0.5	-	-	28.24	27.02	25.79	24.56
50004	-		.2362	6.000	6.0	65	13	-	20	5.4	33.13	31.69	30.25	28.81
50005	-		.2362	6.000	6.0	65	13	0.5	20	5.4	36.54	34.95	33.36	31.77
50006	-		.2362	6.000	6.0	65	13	1.0	20	5.4	36.54	34.95	33.36	31.77
50007	-		.2500	6.350	1/4"	2"	3/8"	-	-	-	21.15	20.23	19.31	18.39
51000	-		.2500	6.350	1/4"	2"	3/8"	.010"	-	-	24.53	23.46	22.40	21.33
50008	-		.2500	6.350	1/4"	2"	3/8"	.015"	-	-	24.53	23.46	22.40	21.33
51001	-		.2500	6.350	1/4"	2"	3/8"	.020"	-	-	24.53	23.46	22.40	21.33
50009	-		.2500	6.350	1/4"	2"	3/8"	.030"	-	-	24.53	23.46	22.40	21.33
51002	-		.2500	6.350	1/4"	2"	1/2"	-	-	-	21.15	20.23	19.31	18.39
51003	-		.2500	6.350	1/4"	2"	1/2"	.010"	-	-	24.53	23.46	22.40	21.33
51004	-		.2500	6.350	1/4"	2"	1/2"	.015"	-	-	24.53	23.46	22.40	21.33
50011	-		.2500	6.350	1/4"	2-1/2"	3/4"	-	-	-	23.98	22.94	21.89	20.85
51005	-		.2500	6.350	1/4"	2-1/2"	3/4"	.010"	-	-	27.15	25.97	24.79	23.61
50012	-		.2500	6.350	1/4"	2-1/2"	3/4"	.015"	-	-	27.15	25.97	24.79	23.61
50013	-		.2500	6.350	1/4"	2-1/2"	3/4"	.020"	-	-	27.15	25.97	24.79	23.61
50014	-		.2500	6.350	1/4"	2-1/2"	3/4"	.030"	-	-	27.15	25.97	24.79	23.61
50015	-		.2500	6.350	1/4"	3"	1"	-	-	-	36.63	35.04	33.44	31.85
51006	-		.2500	6.350	1/4"	3"	1"	.010"	-	-	40.25	38.50	36.75	35.00
51007	-		.2500	6.350	1/4"	3"	1"	.015"	-	-	40.25	38.50	36.75	35.00
50016	-		.2500	6.350	1/4"	3"	1"	.030"	-	-	40.25	38.50	36.75	35.00
NEW 50113	-		.2500	6.350	1/4"	3"	1-1/8"	.030"	-	-	40.25	38.50	36.75	35.00
50017	-		.2500	6.350	1/4"	4"	1/2"	.015"	1-1/4"	.235"	52.64	50.35	48.06	45.77
51008	-		.2500	6.350	1/4"	4"	1/2"	.015"	2-1/8"	.235"	52.64	50.35	48.06	45.77
50023	-		.2756	7.000	8.0	65	22	0.2	-	-	43.71	41.81	39.91	38.01
50018	-		.3125	7.938	5/16"	2-1/2"	13/16"	-	-	-	34.20	32.71	31.23	29.74
50019	-		.3125	7.938	5/16"	2-1/2"	13/16"	.015"	-	-	36.81	35.21	33.61	32.01
50021	-		.3125	7.938	5/16"	2-1/2"	13/16"	.020"	-	-	36.81	35.21	33.61	32.01
50022	-		.3125	7.938	5/16"	2-1/2"	13/16"	.030"	-	-	36.81	35.21	33.61	32.01

EDP#	<i>d1</i> [†] Diameter	<i>d2</i> Shank Diameter	<i>l1</i> Overall Length	<i>l2</i> Flute Length	<i>r</i> Corner Radius	<i>l3</i> Reach Length	<i>d3</i> Neck Diameter	1-11	12-24	25-49	50-100			
												(plain)	(weldon)	Decimal
50024	-	.3150	8.000	8.0	65	22	0.2	-	-	38.19	36.53	34.87	33.21	
50025	-	.3150	8.000	8.0	65	22	0.5	-	-	38.19	36.53	34.87	33.21	
50026	-	.3150	8.000	8.0	75	19	-	26	7.2	59.31	56.73	54.15	51.57	
50027	-	.3150	8.000	8.0	75	19	0.5	26	7.2	64.17	61.38	58.59	55.80	
50028	-	.3150	8.000	8.0	75	19	1.0	26	7.2	64.17	61.38	58.59	55.80	
50029	-	.3750	3/8"	9.525	3/8"	2"	1/2"	-	-	34.53	33.03	31.53	30.03	
50031	-	.3750	3/8"	9.525	3/8"	2"	1/2"	.015"	-	39.54	37.82	36.10	34.38	
50032	-	.3750	3/8"	9.525	3/8"	2"	1/2"	.020"	-	39.54	37.82	36.10	34.38	
50033	-	.3750	3/8"	9.525	3/8"	2"	1/2"	.030"	-	39.54	37.82	36.10	34.38	
50034	-	.3750	3/8"	9.525	3/8"	2-1/2"	1"	-	-	40.35	38.60	36.84	35.09	
50035	-	.3750	3/8"	9.525	3/8"	2-1/2"	1"	.015"	-	42.99	41.12	39.25	37.38	
50036	-	.3750	3/8"	9.525	3/8"	2-1/2"	1"	.020"	-	42.99	41.12	39.25	37.38	
50037	-	.3750	3/8"	9.525	3/8"	2-1/2"	1"	.030"	-	42.99	41.12	39.25	37.38	
50038	-	.3750	3/8"	9.525	3/8"	2-1/2"	1"	.060"	-	42.99	41.12	39.25	37.38	
51009	-	.3750	3/8"	9.525	3/8"	3"	1-1/4"	.015"	-	56.57	54.11	51.65	49.19	
NEW 50114	-	.3750	3/8"	9.525	3/8"	3"	1-1/4"	.030"	-	56.57	54.11	51.65	49.19	
51010	-	.3750	3/8"	9.525	3/8"	4"	1-1/2"	.015"	-	63.68	60.91	58.14	55.37	
50039	-	.3750	3/8"	9.525	3/8"	4"	2"	-	-	58.22	55.69	53.16	50.63	
50041	-	.3750	3/8"	9.525	3/8"	4"	2"	.030"	-	63.68	60.91	58.14	55.37	
51011	-	.3750	3/8"	9.525	3/8"	4"	1/2"	.015"	1-1/8"	.355"	75.98	72.68	69.37	66.07
50042	-	.3750	3/8"	9.525	3/8"	4"	7/8"	.015"	1-7/8"	.355"	75.98	72.68	69.37	66.07
51012	-	.3750	3/8"	9.525	3/8"	6"	1/2"	.015"	2-1/8"	.355"	100.45	96.09	91.72	87.35
51013	-	.3750	3/8"	9.525	3/8"	6"	1/2"	.015"	3-1/8"	.355"	100.45	96.09	91.72	87.35
51014	-	.3750	3/8"	9.525	3/8"	6"	1/2"	.015"	4-1/8"	.355"	100.45	96.09	91.72	87.35
50043	-	.3937	10.000	10.0	70	22	-	-	-	48.39	46.29	44.18	42.08	
51015	-	.3937	10.000	10.0	70	22	0.30	-	-	51.91	49.65	47.40	45.14	
50044	-	.3937	10.000	10.0	70	22	0.50	-	-	51.91	49.65	47.40	45.14	
51016	-	.3937	10.000	10.0	70	22	0.75	-	-	51.91	49.65	47.40	45.14	
51017	-	.3937	10.000	10.0	70	22	1.00	-	-	51.91	49.65	47.40	45.14	
50045	-	.3937	10.000	10.0	75	22	-	32	9.0	67.08	64.16	61.25	58.33	
50046	-	.3937	10.000	10.0	75	22	0.50	32	9.0	72.36	69.21	66.07	62.92	
NEW 51018	-	.3937	10.000	10.0	75	22	0.75	32	9.0	72.36	69.21	66.07	62.92	
50047	-	.3937	10.000	10.0	75	22	1.00	32	9.0	72.36	69.21	66.07	62.92	
51019	-	.4724	12.000	12.0	65	19	-	-	-	58.90	56.34	53.78	51.22	
51020	-	.4724	12.000	12.0	65	19	0.50	-	-	68.52	65.54	62.56	59.58	
50484	50485	.4724	12.000	12.0	75	26	-	-	-	62.85	60.12	57.38	54.65	
51021	-	.4724	12.000	12.0	75	26	0.30	-	-	76.45	73.13	69.80	66.48	
50486	50487	.4724	12.000	12.0	75	26	0.50	-	-	76.45	73.13	69.80	66.48	
51022	-	.4724	12.000	12.0	75	26	0.75	-	-	76.45	73.13	69.80	66.48	
51023	-	.4724	12.000	12.0	75	26	1.00	-	-	76.45	73.13	69.80	66.48	
NEW 50112	-	.4724	12.000	12.0	75	26	2.00	-	-	76.45	73.13	69.80	66.48	
NEW 50115	-	.4724	12.000	12.0	75	26	2.50	-	-	76.45	73.13	69.80	66.48	
50048	50299	.4724	12.000	12.0	75	32	-	-	-	62.85	60.12	57.38	54.65	
51024	-	.4724	12.000	12.0	75	32	0.30	-	-	76.45	73.13	69.80	66.48	
50049	50300	.4724	12.000	12.0	75	32	0.50	-	-	76.45	73.13	69.80	66.48	
51025	-	.4724	12.000	12.0	75	32	0.75	-	-	76.45	73.13	69.80	66.48	
51026	-	.4724	12.000	12.0	75	32	1.00	-	-	76.45	73.13	69.80	66.48	
51027	-	.4724	12.000	12.0	100	38	-	-	-	84.01	80.36	76.70	73.05	
51028	-	.4724	12.000	12.0	100	38	0.50	-	-	88.96	85.10	81.23	77.36	
50423	-	.4724	12.000	12.0	100	42	-	-	-	84.01	80.36	76.70	73.05	
50425	-	.4724	12.000	12.0	100	42	0.30	-	-	88.96	85.10	81.23	77.36	
50427	-	.4724	12.000	12.0	100	42	0.50	-	-	88.96	85.10	81.23	77.36	
50429	-	.4724	12.000	12.0	100	42	1.00	-	-	88.96	85.10	81.23	77.36	
50431	-	.4724	12.000	12.0	100	42	2.00	-	-	88.96	85.10	81.23	77.36	
51029	-	.4724	12.000	12.0	100	52	-	-	-	84.01	80.36	76.70	73.05	
51030	-	.4724	12.000	12.0	100	52	0.50	-	-	88.96	85.10	81.23	77.36	
50051	50301	.4724	12.000	12.0	100	26	-	38	10.8	96.26	92.07	87.89	83.70	
50052	50302	.4724	12.000	12.0	100	26	0.50	38	10.8	101.21	96.81	92.41	88.01	
50053	50303	.4724	12.000	12.0	100	26	1.00	38	10.8	101.21	96.81	92.41	88.01	

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MATERIAL HARDNESS (Rc)

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continued →

Series V5 (continued)

.5000"
(12.700mm)

EDP#		$d1$ † Diameter		$d2$ Shank Diameter	$l1$ Overall Length	$l2$ Flute Length	r Corner Radius	$l3$ Reach Length	$d3$ Neck Diameter	1-11	12-24	25-49	50-100
(plain)	(weldon)	Decimal	Metric										
50054	50304	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	-	-	-	56.49	54.03	49.12
50106	50305	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	.010"	-	-	65.70	62.84	59.99
50055	50306	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	.020"	-	-	65.70	62.84	59.99
50107	50307	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	.030"	-	-	65.70	62.84	59.99
50056	50308	.5000	1/2"	12.700	1/2"	3"	1"	-	-	-	60.35	57.73	55.10
50108	50309	.5000	1/2"	12.700	1/2"	3"	1"	.010"	-	-	73.34	70.15	66.96
50057	50310	.5000	1/2"	12.700	1/2"	3"	1"	.020"	-	-	73.34	70.15	66.96
50109	50311	.5000	1/2"	12.700	1/2"	3"	1"	.030"	-	-	73.34	70.15	66.96
50058	50312	.5000	1/2"	12.700	1/2"	3"	1-1/4"	-	-	-	60.35	57.73	55.10
50111	50313	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.010"	-	-	73.34	70.15	66.96
50059	50314	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.015"	-	-	73.34	70.15	66.96
50061	50315	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.020"	-	-	73.34	70.15	66.96
50062	50316	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.030"	-	-	73.34	70.15	66.96
50063	50317	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.045"	-	-	73.34	70.15	66.96
50064	50318	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.060"	-	-	73.34	70.15	66.96
50065	50319	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.090"	-	-	73.34	70.15	66.96
50433	50435	.5000	1/2"	12.700	1/2"	4"	1-1/2"	.010"	-	-	86.66	82.90	79.13
51031	-	.5000	1/2"	12.700	1/2"	4"	1-1/2"	.015"	-	-	86.66	82.90	79.13
51032	-	.5000	1/2"	12.700	1/2"	4"	1-1/2"	.030"	-	-	86.66	82.90	79.13
50436	50437	.5000	1/2"	12.700	1/2"	4"	1-5/8"	-	-	-	81.66	78.11	74.56
50438	50439	.5000	1/2"	12.700	1/2"	4"	1-5/8"	.010"	-	-	86.66	82.90	79.13
50440	50441	.5000	1/2"	12.700	1/2"	4"	1-5/8"	.020"	-	-	86.66	82.90	79.13
50442	50443	.5000	1/2"	12.700	1/2"	4"	1-5/8"	.030"	-	-	86.66	82.90	79.13
50444	50445	.5000	1/2"	12.700	1/2"	4"	1-5/8"	.040"	-	-	86.66	82.90	79.13
50446	50447	.5000	1/2"	12.700	1/2"	4"	1-5/8"	.060"	-	-	86.66	82.90	79.13
50067	50321	.5000	1/2"	12.700	1/2"	4"	2-1/8"	-	-	-	81.66	78.11	74.56
51033	-	.5000	1/2"	12.700	1/2"	4"	2-1/8"	.015"	-	-	86.66	82.90	79.13
50068	50322	.5000	1/2"	12.700	1/2"	4"	2-1/8"	.030"	-	-	86.66	82.90	79.13
51034	-	.5000	1/2"	12.700	1/2"	6"	1"	.030"	-	-	122.57	117.24	111.91
51035	-	.5000	1/2"	12.700	1/2"	6"	3-1/8"	-	-	-	117.10	112.01	106.92
51036	-	.5000	1/2"	12.700	1/2"	6"	3-1/8"	.030"	-	-	122.57	117.24	111.91
51037	-	.5000	1/2"	12.700	1/2"	4"	5/8"	.015"	1-1/2"	.475"	98.93	94.63	90.33
51038	-	.5000	1/2"	12.700	1/2"	4"	5/8"	.015"	2-1/4"	.475"	98.93	94.63	90.33
50066	50320	.5000	1/2"	12.700	1/2"	4"	1-1/4"	.030"	2-1/4"	.475"	98.93	94.63	90.33
51039	-	.5000	1/2"	12.700	1/2"	6"	5/8"	.015"	3-3/8"	.475"	134.86	129.00	123.13
51040	-	.5000	1/2"	12.700	1/2"	6"	5/8"	.015"	4-1/8"	.475"	134.86	129.00	123.13

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EDP#		$d1^{\dagger}$			$d2$	$l1$	$l2$	r	$l3$	$d3$	1-11	12-24	25-49	50-100
(plain)	(weldon)	Decimal	Diameter	Metric	Shank Diameter	Overall Length	Flute Length	Corner Radius	Reach Length	Neck Diameter				
50069	50323	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	-	-	-	111.35	106.51	101.67	96.83
51041	-	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.020"	-	-	116.75	111.67	106.60	101.52
50071	50324	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.030"	-	-	116.75	111.67	106.60	101.52
50072	50325	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.060"	-	-	116.75	111.67	106.60	101.52
50401	50402	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.120"	-	-	116.75	111.67	106.60	101.52
51042	-	.6250	5/8"	15.875	5/8"	4"	1-5/8"	-	-	-	118.92	113.75	108.58	103.41
51043	-	.6250	5/8"	15.875	5/8"	4"	1-5/8"	.030"	-	-	126.91	121.40	115.88	110.36
51044	-	.6250	5/8"	15.875	5/8"	4"	2-1/8"	-	-	-	118.92	113.75	108.58	103.41
51045	-	.6250	5/8"	15.875	5/8"	4"	2-1/8"	.030"	-	-	126.91	121.40	115.88	110.36
51046	-	.6250	5/8"	15.875	5/8"	6"	2-1/2"	.030"	-	-	174.70	167.10	159.51	151.91
50403	50404	.6250	5/8"	15.875	5/8"	6"	3-1/8"	.030"	-	-	174.70	167.10	159.51	151.91
51047	-	.6250	5/8"	15.875	5/8"	6"	3-1/8"	.060"	-	-	174.70	167.10	159.51	151.91
51048	-	.6250	5/8"	15.875	5/8"	6"	3-1/2"	.030"	-	-	174.70	167.10	159.51	151.91
51049	-	.6250	5/8"	15.875	5/8"	4"	3/4"	.030"	1-5/8"	.590"	137.59	131.60	125.62	119.64
50073	50326	.6250	5/8"	15.875	5/8"	4"	1-1/4"	.030"	2-1/4"	.590"	137.59	131.60	125.62	119.64
51050	-	.6250	5/8"	15.875	5/8"	6"	3/4"	.030"	2-3/8"	.590"	186.98	178.85	170.72	162.59
51051	-	.6250	5/8"	15.875	5/8"	6"	3/4"	.030"	3-3/8"	.590"	186.98	178.85	170.72	162.59
51052	-	.6250	5/8"	15.875	5/8"	6"	3/4"	.030"	4-1/8"	.590"	186.98	178.85	170.72	162.59
51053	-	.6299		16.000	16.0	75	19	-	-	-	113.07	108.15	103.24	98.32
51054	-	.6299		16.000	16.0	75	19	0.50	-	-	118.58	113.42	108.27	103.11
50074	50327	.6299		16.000	16.0	88	32	-	-	-	116.17	111.12	106.07	101.02
50075	50328	.6299		16.000	16.0	88	32	0.50	-	-	121.82	116.52	111.23	105.93
50420	-	.6299		16.000	16.0	88	32	1.00	-	-	121.82	116.52	111.23	105.93
51055	-	.6299		16.000	16.0	88	32	2.00	-	-	121.82	116.52	111.23	105.93
50422	-	.6299		16.000	16.0	88	32	3.00	-	-	121.82	116.52	111.23	105.93
50424	-	.6299		16.000	16.0	88	32	4.00	-	-	121.82	116.52	111.23	105.93
50430	-	.6299		16.000	16.0	100	40	0.50	-	-	129.54	123.90	118.27	112.64
50432	-	.6299		16.000	16.0	100	40	1.00	-	-	129.54	123.90	118.27	112.64
50434	-	.6299		16.000	16.0	100	40	3.00	-	-	129.54	123.90	118.27	112.64
50076	50329	.6299		16.000	16.0	100	32	-	50	14.4	134.25	128.41	122.58	116.74
50077	-	.6299		16.000	16.0	100	32	0.50	50	14.4	140.23	134.13	128.04	121.94
50426	-	.6299		16.000	16.0	100	32	1.00	50	14.4	140.23	134.13	128.04	121.94
51056	-	.6299		16.000	16.0	100	32	2.00	50	14.4	140.23	134.13	128.04	121.94
50428	-	.6299		16.000	16.0	100	32	3.00	50	14.4	140.23	134.13	128.04	121.94
50078	-	.7087		18.000	18.0	100	32	0.75	-	-	174.89	167.29	159.68	152.08

continued →

Series V5 (continued)

.7500"
(19.050mm)

MATERIAL HARDNESS (Rc)

70

35

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EDP#		$d1^{\dagger}$		$d2$	$l1$	$l2$	r	$l3$	$d3$	1-11	12-24	25-49	50-100	
(plain)	(weldon)	Decimal	Diameter	Metric	Shank Diameter	Overall Length	Flute Length	Corner Radius	Reach Length	Neck Diameter				
50079	50332	.7500	3/4"	19.050	3/4"	3"	7/8"	-	-	-	155.39	148.63	141.88	135.12
51103	-	.7500	3/4"	19.050	3/4"	3"	7/8"	.015"	-	-	163.88	156.75	149.63	142.50
50081	50333	.7500	3/4"	19.050	3/4"	3"	7/8"	.030"	-	-	163.86	156.74	149.61	142.49
51057	-	.7500	3/4"	19.050	3/4"	3"	7/8"	.060"	-	-	163.88	156.75	149.63	142.50
51105	-	.7500	3/4"	19.050	3/4"	3"	7/8"	.120"	-	-	163.88	156.75	149.63	142.50
51107	-	.7500	3/4"	19.050	3/4"	4"	1-1/4"	.015"	-	-	167.43	160.15	152.87	145.59
51058	-	.7500	3/4"	19.050	3/4"	4"	1-1/4"	.030"	-	-	167.43	160.15	152.87	145.59
51109	-	.7500	3/4"	19.050	3/4"	4"	1-1/4"	.060"	-	-	167.43	160.15	152.87	145.59
50082	50334	.7500	3/4"	19.050	3/4"	4"	1-1/2"	-	-	-	158.95	152.04	145.13	138.22
51111	-	.7500	3/4"	19.050	3/4"	4"	1-1/2"	.015"	-	-	167.43	160.15	152.87	145.59
50083	50335	.7500	3/4"	19.050	3/4"	4"	1-1/2"	.030"	-	-	167.43	160.15	152.87	145.59
50084	50336	.7500	3/4"	19.050	3/4"	4"	1-1/2"	.060"	-	-	167.43	160.15	152.87	145.59
51059	-	.7500	3/4"	19.050	3/4"	4"	1-1/2"	.078"	-	-	167.43	160.15	152.87	145.59
50085	50337	.7500	3/4"	19.050	3/4"	4"	1-1/2"	.120"	-	-	167.43	160.15	152.87	145.59
51113	-	.7500	3/4"	19.050	3/4"	4"	1-1/2"	.190"	-	-	167.43	160.15	152.87	145.59
51060	-	.7500	3/4"	19.050	3/4"	4"	1-5/8"	-	-	-	158.95	152.04	145.13	138.22
51115	-	.7500	3/4"	19.050	3/4"	4"	1-5/8"	.015"	-	-	167.43	160.15	152.87	145.59
51061	-	.7500	3/4"	19.050	3/4"	4"	1-5/8"	.030"	-	-	167.43	160.15	152.87	145.59
51119	-	.7500	3/4"	19.050	3/4"	4"	1-5/8"	.060"	-	-	167.43	160.15	152.87	145.59
51062	-	.7500	3/4"	19.050	3/4"	4"	1-3/4"	-	-	-	158.95	152.04	145.13	138.22
51121	-	.7500	3/4"	19.050	3/4"	4"	1-3/4"	.015"	-	-	167.43	160.15	152.87	145.59
51063	-	.7500	3/4"	19.050	3/4"	4"	1-3/4"	.030"	-	-	167.43	160.15	152.87	145.59
51123	-	.7500	3/4"	19.050	3/4"	4"	1-3/4"	.060"	-	-	167.43	160.15	152.87	145.59
50086	50338	.7500	3/4"	19.050	3/4"	5"	2-1/8"	-	-	-	213.35	204.07	194.80	185.52
51125	-	.7500	3/4"	19.050	3/4"	5"	2-1/8"	.015"	-	-	232.24	222.15	212.05	201.95
50087	50339	.7500	3/4"	19.050	3/4"	5"	2-1/8"	.030"	-	-	232.24	222.15	212.05	201.95
51064	-	.7500	3/4"	19.050	3/4"	5"	2-1/8"	.060"	-	-	232.24	222.15	212.05	201.95
51065	-	.7500	3/4"	19.050	3/4"	5"	2-1/8"	.120"	-	-	232.24	222.15	212.05	201.95
51127	-	.7500	3/4"	19.050	3/4"	5"	2-1/4"	.015"	-	-	232.24	222.15	212.05	201.95
51066	-	.7500	3/4"	19.050	3/4"	5"	2-1/4"	.030"	-	-	232.24	222.15	212.05	201.95
51129	-	.7500	3/4"	19.050	3/4"	5"	2-1/4"	.060"	-	-	232.24	222.15	212.05	201.95
51131	-	.7500	3/4"	19.050	3/4"	5"	2-1/2"	.015"	-	-	232.24	222.15	212.05	201.95
51067	-	.7500	3/4"	19.050	3/4"	5"	2-1/2"	.030"	-	-	232.24	222.15	212.05	201.95
51133	-	.7500	3/4"	19.050	3/4"	5"	2-1/2"	.060"	-	-	232.24	222.15	212.05	201.95
51135	-	.7500	3/4"	19.050	3/4"	5"	2-3/4"	.015"	-	-	232.24	222.15	212.05	201.95
51068	-	.7500	3/4"	19.050	3/4"	5"	2-3/4"	.030"	-	-	232.24	222.15	212.05	201.95
51137	-	.7500	3/4"	19.050	3/4"	5"	2-3/4"	.060"	-	-	232.24	222.15	212.05	201.95
50089	50341	.7500	3/4"	19.050	3/4"	6"	3-1/4"	-	-	-	249.68	238.82	227.97	217.11
51139	-	.7500	3/4"	19.050	3/4"	6"	3-1/4"	.015"	-	-	275.86	263.87	251.87	239.88
50091	50342	.7500	3/4"	19.050	3/4"	6"	3-1/4"	.030"	-	-	275.86	263.87	251.87	239.88
51141	-	.7500	3/4"	19.050	3/4"	6"	3-1/4"	.060"	-	-	275.86	263.87	251.87	239.88
51143	-	.7500	3/4"	19.050	3/4"	7"	4-1/4"	.015"	-	-	347.92	332.79	317.67	302.54
51145	-	.7500	3/4"	19.050	3/4"	7"	4-1/4"	.030"	-	-	347.92	332.79	317.67	302.54
51147	-	.7500	3/4"	19.050	3/4"	7"	4-1/4"	.060"	-	-	347.92	332.79	317.67	302.54
51069	-	.7500	3/4"	19.050	3/4"	4"	1"	.030"	2"	.705"	179.72	171.91	164.09	156.28
51070	-	.7500	3/4"	19.050	3/4"	5"	1"	.030"	2-1/2"	.705"	244.55	233.92	223.28	212.65
50088	50340	.7500	3/4"	19.050	3/4"	5-1/2"	1-1/2"	.030"	3-1/4"	.705"	288.21	275.68	263.15	250.62
51071	-	.7500	3/4"	19.050	3/4"	6"	1"	.030"	4-1/8"	.705"	288.21	275.68	263.15	250.62

EDP#		$d1^{\dagger}$ Diameter		$d2$ Shank Diameter	$l1$ Overall Length	$l2$ Flute Length	r Corner Radius	$l3$ Reach Length	$d3$ Neck Diameter	1-11	12-24	25-49	50-100
(plain)	(weldon)	Decimal	Metric										
50092	50343	.7874	20.000	20.0	100	38	-	-	-	214.75	205.41	196.08	186.74
51072	-	.7874	20.000	20.0	100	38	0.50	-	-	236.96	226.66	216.35	206.05
50093	50344	.7874	20.000	20.0	100	38	0.75	-	-	236.96	226.66	216.35	206.05
51073	-	.7874	20.000	20.0	100	38	1.00	-	-	236.96	226.66	216.35	206.05
51074	-	.7874	20.000	20.0	100	38	1.50	-	-	236.96	226.66	216.35	206.05
51075	-	.7874	20.000	20.0	100	38	2.00	-	-	236.96	226.66	216.35	206.05
51076	-	.7874	20.000	20.0	100	38	3.00	-	-	236.96	226.66	216.35	206.05
51077	-	.9843	25.000	25.0	100	38	-	-	-	245.26	234.60	223.93	213.27
51078	-	.9843	25.000	25.0	100	38	0.50	-	-	271.58	259.78	247.97	236.16
NEW 51079	-	.9843	25.000	25.0	100	38	0.75	-	-	271.58	259.78	247.97	236.16
51080	-	.9843	25.000	25.0	100	38	1.50	-	-	271.58	259.78	247.97	236.16
51081	-	.9843	25.000	25.0	100	38	3.00	-	-	271.58	259.78	247.97	236.16
50094	-	1.000	25.400	1"	4"	1-1/4"	-	-	-	237.46	227.14	216.81	206.49
50095	-	1.000	25.400	1"	4"	1-1/4"	.030"	-	-	285.84	273.42	260.99	248.56
NEW 51082	-	1.000	25.400	1"	4"	1-1/4"	.120"	-	-	285.84	273.42	260.99	248.56
-	50348	1.000	25.400	1"	4"	1-1/2"	-	-	-	237.46	227.14	216.81	206.49
-	50349	1.000	25.400	1"	4"	1-1/2"	.030"	-	-	285.84	273.42	260.99	248.56
-	50350	1.000	25.400	1"	4"	1-1/2"	.060"	-	-	285.84	273.42	260.99	248.56
51083	-	1.000	25.400	1"	4"	1-1/2"	.120"	-	-	285.84	273.42	260.99	248.56
NEW 50116	-	1.000	25.400	1"	4"	1-1/2"	.125"	-	-	285.84	273.42	260.99	248.56
50097	-	1.000	25.400	1"	4"	1-3/4"	-	-	-	237.46	227.14	216.81	206.49
50098	-	1.000	25.400	1"	4"	1-3/4"	.030"	-	-	285.84	273.42	260.99	248.56
50099	-	1.000	25.400	1"	4"	1-3/4"	.060"	-	-	285.84	273.42	260.99	248.56
51084	-	1.000	25.400	1"	4"	1-3/4"	.120"	-	-	285.84	273.42	260.99	248.56
NEW 51085	-	1.000	25.400	1"	4-1/2"	2"	.030"	-	-	318.76	304.90	291.04	277.18
51086	-	1.000	25.400	1"	4-1/2"	2"	.060"	-	-	318.76	304.90	291.04	277.18
51087	-	1.000	25.400	1"	4-1/2"	2"	.120"	-	-	318.76	304.90	291.04	277.18
51088	-	1.000	25.400	1"	4-1/2"	2"	.250"	-	-	318.76	304.90	291.04	277.18
51089	-	1.000	25.400	1"	5"	2-1/2"	.030"	-	-	351.68	336.39	321.10	305.81
51090	-	1.000	25.400	1"	5"	2-5/8"	.030"	-	-	351.68	336.39	321.10	305.81
50104	50354	1.000	25.400	1"	6"	3-1/4"	-	-	-	414.07	396.07	378.06	360.06
50105	-	1.000	25.400	1"	6"	3-1/4"	.030"	-	-	458.68	438.74	418.79	398.85
51091	-	1.000	25.400	1"	6"	3-3/8"	.060"	-	-	458.68	438.74	418.79	398.85
51092	-	1.000	25.400	1"	7"	4-1/4"	.030"	-	-	559.73	535.39	511.06	486.72
51093	-	1.000	25.400	1"	7"	4-1/4"	.060"	-	-	559.73	535.39	511.06	486.72
51094	-	1.000	25.400	1"	5"	1-1/4"	.030"	2-5/8"	.940"	364.00	348.17	332.35	316.52
50101	-	1.000	25.400	1"	5-1/2"	1-3/4"	.030"	3-1/4"	.940"	466.37	446.09	425.82	405.54
50102	50352	1.000	25.400	1"	5-1/2"	1-3/4"	.060"	3-1/4"	.940"	466.37	446.09	425.82	405.54
51095	-	1.000	25.400	1"	6"	1-1/4"	.030"	3-3/8"	.940"	470.98	450.51	430.03	409.55
51096	-	1.000	25.400	1"	7"	1-1/4"	.030"	4-1/4"	.940"	572.26	547.38	522.50	497.62

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MATERIAL HARDNESS (Rc)

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