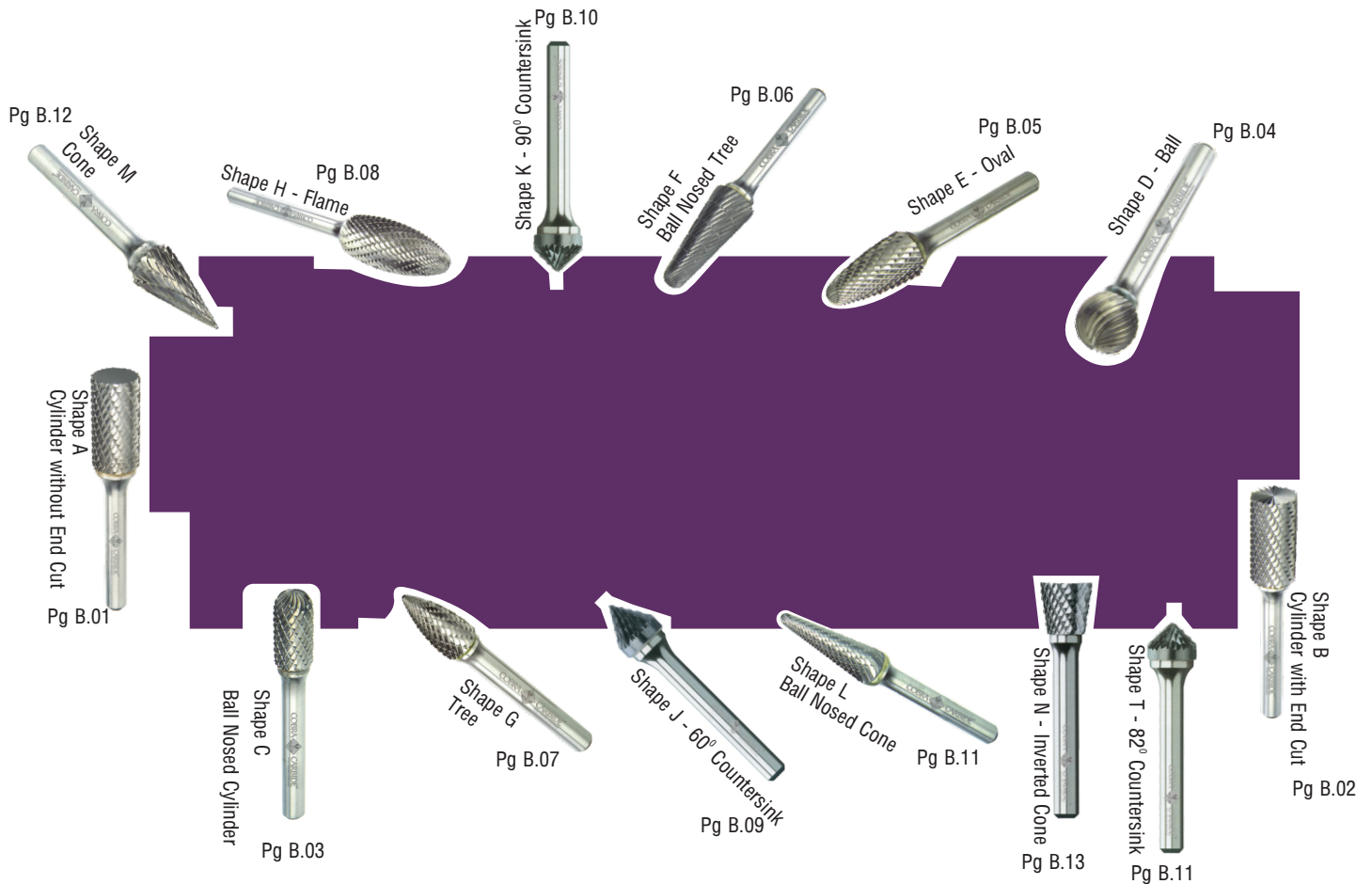


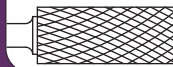


Single Cut :



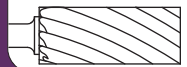
High stock removal & excellent surface finish on relatively hard materials.

Double Cut :



Permits faster penetration & material removal rates, due to the chisel edge. Reduced pull improves control & reduces operator fatigue.

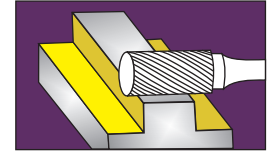
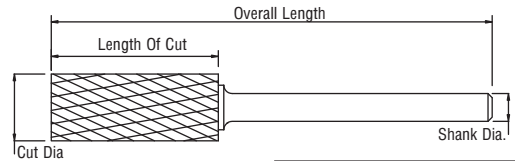
Aluma Cut :



Wide flute design for rapid stock removal in soft or nonferrous materials: aluminum, magnesium, brass, zinc alloys, lead, hard rubber & most plastics.

Metric burrs are available in stock

Cylindrical Without End Cut



Regular Length

Tool #	Description			EDP #		
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SA-11*	1/8"	1/2"	1/4"	10023	10027	\$ 15.10
SA-14*	3/16"	5/8"	1/4"	10047	10051	15.10
SA-1	1/4"	5/8"	1/4"	10071	10075	15.10
SA-1A	1/4"	1"	1/4"	10079	10083	21.90
SA-2	5/16"	3/4"	1/4"	10087	10091	15.50
SA-3	3/8"	3/4"	1/4"	10095	10099	16.70
SA-3A	3/8"	1"	1/4"	10103	10107	19.80
SA-4	7/16"	1"	1/4"	10111	10115	24.10
SA-5	1/2"	1"	1/4"	10119	10123	26.00
SA-6	5/8"	1"	1/4"	10127	10131	32.80
SA-15	3/4"	1/2"	1/4"	10135	10139	44.40
SA-16	3/4"	3/4"	1/4"	10143	10147	48.80
SA-7	3/4"	1"	1/4"	10151	10155	48.80
SA-9	1"	1"	1/4"	10159	10163	68.10

*Indicates solid 1/4" carbide shank 2" O.A.L all others have 1/4" diameter hardened steel shank.

1/8" Shank Diameter

Tool #	Description			EDP #		
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SA-41	1/16"	1/4"	1/8"	10007	10011	\$ 6.80
SA-42	3/32"	7/16"	1/8"	10015	10019	6.80
SA-43	1/8"	9/16"	1/8"	10031	10035	6.80
SA-43L2	1/8"	9/16"	1/8"	10040	10041	12.20
SA-43L3	1/8"	9/16"	1/8"	10044	10045	13.80
SA-51	1/4"	1/2"	1/8"	10063	10067	14.50

Note: L2 is 2" OAL and L3 is 3" OAL

Long Length

Tool #	Description			EDP #		
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SA-1L6	1/4"	1/2"	1/4"	10187	10191	\$ 18.80
SA-3L6	3/8"	3/4"	1/4"	10195	10199	26.50
SA-5L6	1/2"	1"	1/4"	10203	10207	41.30

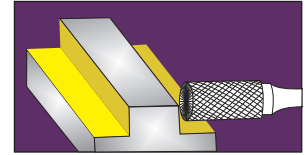
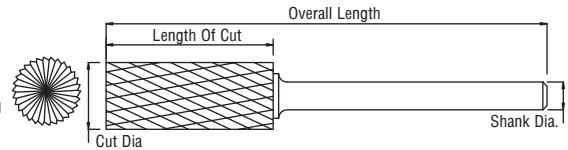
Metric burrs are available in stock

Burrs

Micro Grain Solid Carbide

Shape B

Cylindrical With End Cut



Regular Length

Tool #	Description			EDP #		List Price
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	
SB-11*	1/8"	1/2"	1/4"	10239	10241	\$ 16.40
SB-14*	3/16"	5/8"	1/4"	10243	10247	16.40
SB-1	1/4"	5/8"	1/4"	10275	10279	16.40
SB-1A	1/4"	1"	1/4"	10283	10287	24.20
SB-2	5/16"	3/4"	1/4"	10291	10295	17.10
SB-3	3/8"	3/4"	1/4"	10299	10303	18.30
SB-3A	3/8"	1"	1/4"	10307	10311	21.80
SB-4	7/16"	1"	1/4"	10315	10319	26.70
SB-5	1/2"	1"	1/4"	10323	10327	28.60
SB-6	5/8"	1"	1/4"	10331	10335	36.00
SB-15	3/4"	1/2"	1/4"	10339	10343	48.80
SB-16	3/4"	3/4"	1/4"	10347	10351	53.70
SB-7	3/4"	1"	1/4"	10355	10359	53.70
SB-9	1"	1"	1/4"	10371	10375	82.70

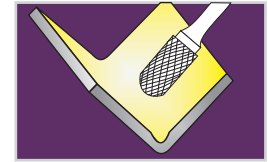
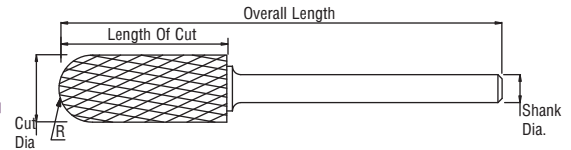
*Indicates solid 1/4" carbide shank 2" O.A.L all others have 1/4" diameter hardened steel shank.

1/8" Shank Diameter

Tool #	Description			EDP #		List Price
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	
SB-43	1/8"	9/16"	1/8"	10219	10223	\$ 6.80
SB-51	1/4"	3/16"	1/8"	10259	10263	14.50

Metric burrs are available in stock

Cylindrical With Radius End



Regular Length

Tool #	Description			EDP #		
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SC-11*	1/8"	1/2"	1/4"	10387	10391	\$ 17.60
SC-14*	3/16"	5/8"	1/4"	10411	10415	17.60
SC-1	1/4"	5/8"	1/4"	10427	10431	17.60
SC-1A	1/4"	1"	1/4"	10435	10439	24.00
SC-2	5/16"	3/4"	1/4"	10443	10447	16.90
SC-3	3/8"	3/4"	1/4"	10451	10455	18.50
SC-3A	3/8"	1"	1/4"	10459	10463	21.90
SC-4	7/16"	1"	1/4"	10467	10471	26.50
SC-5	1/2"	1"	1/4"	10475	10479	29.20
SC-6	5/8"	1"	1/4"	10483	10487	36.70
SC-7	3/4"	1"	1/4"	10491	10495	52.70
SC-9	1"	1"	1/4"	10516	10517	79.80

*Indicates solid 1/4" carbide shank 2" O.A.L all others have 1/4" diameter hardened steel shank.

1/8" Shank Diameter

Tool #	Description			EDP #		
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SC-41	3/32"	7/16"	1/8"	10379	10383	\$ 6.80
SC-42	1/8"	9/16"	1/8"	10395	10399	6.80
SC-42L2	1/8"	9/16"	1/8"	10402	10403	12.20
SC-42L3	1/8"	9/16"	1/8"	10404	10406	13.80
SC-51	1/4"	1/2"	1/8"	10419	10423	14.50

Note: L2 is 2" OAL and L3 is 3" OAL

Long Length

Tool #	Description			EDP #		
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SC-1L6	1/4"	1/2"	1/4"	10519	10523	\$ 21.90
SC-3L6	3/8"	3/4"	1/4"	10527	10531	29.50
SC-5L6	1/2"	1"	1/4"	10535	10539	46.40

Note: L6 is 6" Long Shank

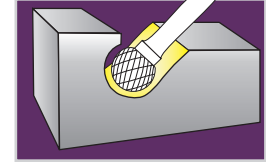
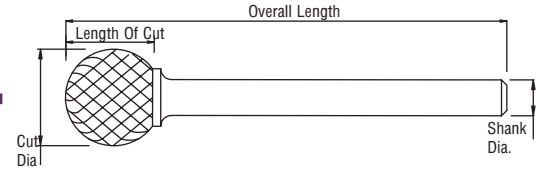
Metric burrs are available in stock

Burrs

Micro Grain Solid Carbide

Shape D

Shape D - Ball End



Regular Length

Description				EDP #		
Tool #	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SD-11*	1/8"	3/32"	1/4"	10551	10555	\$ 16.20
SD-14*	3/16"	1/8"	1/4"	10575	10579	16.20
SD-1	1/4"	7/32"	1/4"	10591	10595	16.20
SD-2	5/16"	1/4"	1/4"	10599	10603	13.70
SD-3	3/8"	5/16"	1/4"	10607	10611	15.30
SD-4	7/16"	3/8"	1/4"	10615	10619	17.60
SD-5	1/2"	7/16"	1/4"	10623	10627	20.50
SD-6	5/8"	9/16"	1/4"	10631	10635	25.40
SD-7	3/4"	11/16"	1/4"	10639	10643	35.10
SD-9	1"	15/16"	1/4"	10647	10651	60.30

*Indicates solid 1/4" carbide shank 2" O.A.L all others have 1/4" diameter hardened steel shank.

1/8" Shank Diameter

Description				EDP #		
Tool #	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SD-41	3/32"	3/32"	1/8"	10541	10542	\$ 6.80
SD-42	1/8"	1/8"	1/8"	10543	10547	6.80
SD-42L2	1/8"	1/8"	1/8"	10544	10545	12.20
SD-42L3	1/8"	1/8"	1/8"	10552	10553	13.80
SD-51	1/4"	7/32"	1/8"	10583	10587	14.50

Note: L2 is 2" OAL and L3 is 3" OAL

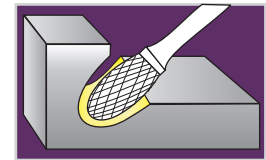
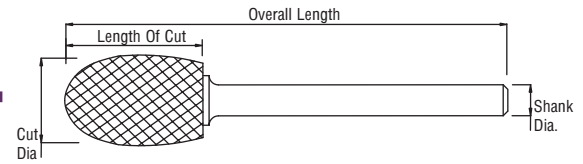
Long Length

Description				EDP #		
Tool #	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SD-1L6	1/4"	7/32"	1/4"	10675	10679	\$ 20.20
SD-3L6	3/8"	5/16"	1/4"	10683	10687	24.30
SD-5L6	1/2"	7/16"	1/4"	10691	10695	32.70

Note: L6 is 6" Long Shank

Metric burrs are available in stock

Shape E - Oval



Regular Length

Tool #	Description			EDP #		
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SE-11	3/16"	5/16"	1/4"	10725	10726	\$ 19.70
SE-1*	1/4"	3/8"	1/4"	10723	10727	19.70
SE-3	3/8"	5/8"	1/4"	10731	10735	18.50
SE-5	1/2"	7/8"	1/4"	10739	10743	27.20
SE-6	5/8"	1"	1/4"	10747	10751	37.80
SE-7	3/4"	1"	1/4"	10755	10759	50.70

*Indicates solid 1/4" carbide shank 2" O.A.L all others have 1/4" diameter hardened steel shank.

1/8" Shank Diameter

Tool #	Description			EDP #		
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SE-41	1/8"	7/32"	1/8"	10699	10703	\$ 6.80
SE-41L2	1/8"	7/32"	1/8"	10700	10709	12.20
SE-41L3	1/8"	7/32"	1/8"	10711	10713	13.80
SE-51	1/4"	3/8"	1/8"	10715	10719	14.50

Note: L2 is 2" OAL and L3 is 3" OAL

Long Length

Tool #	Description			EDP #		
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SE-1L6	1/4"	3/8"	1/4"	10779	10783	\$ 24.30
SE-3L6	3/8"	5/8"	1/4"	10787	10791	29.50
SE-5L6	1/2"	7/8"	1/4"	10795	10799	43.20

Note: L6 is 6" Long Shank

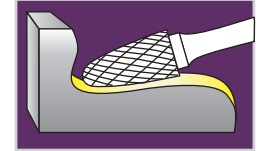
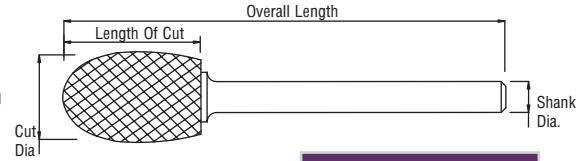
Metric burrs are available in stock

Burrs

Micro Grain Solid Carbide

Shape F

Shape F - Tree Shape With Radius



Regular Length

Tool #	Description			EDP #		List Price
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	
SF-1*	1/4"	5/8"	1/4"	10843	10847	\$ 18.30
SF-11	1/8"	1/2"	1/4"	10819	10823	18.30
SF-3	3/8"	3/4"	1/4"	10851	10855	18.20
SF-4	7/16"	1"	1/4"	10859	10863	25.20
SF-13	1/2"	3/4"	1/4"	10867	10871	26.90
SF-5	1/2"	1"	1/4"	10875	10879	26.90
SF-6	5/8"	1"	1/4"	10883	10887	37.10
SF-7	3/4"	1"	1/4"	10891	10895	48.80
SF-14	3/4"	1-1/4"	1/4"	10899	10903	61.30
SF-15	3/4"	1-1/2"	1/4"	10907	10911	72.00

*Indicates solid 1/4" carbide shank 2" O.A.L all others have 1/4" diameter hardened steel shank.

1/8" Shank Diameter

Tool #	Description			EDP #		List Price
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	
SF-41	1/8"	1/4"	1/8"	10803	10807	\$ 6.80
SF-42	1/8"	1/2"	1/8"	10811	10815	6.80
SF-42L2	1/8"	1/2"	1/8"	10825	10826	12.20
SF-42L3	1/8"	1/2"	1/8"	10821	10822	13.80
SF-51	1/4"	1/2"	1/8"	10835	10839	14.50

Note: L2 is 2" OAL and L3 is 3" OAL

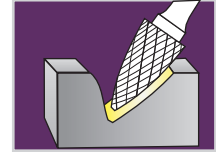
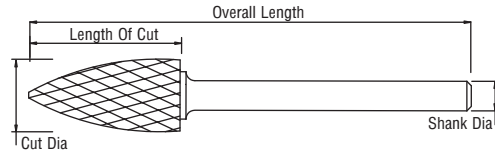
Long Length

Tool #	Description			EDP #		List Price
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	
SF-1L6	1/4"	1/2"	1/4"	10935	10939	\$ 22.90
SF-3L6	3/8"	3/4"	1/4"	10943	10947	28.90
SF-5L6	1/2"	1"	1/4"	10950	10949	42.60

Note: L6 is 6" Long Shank

Metric burrs are available in stock

Shape G - Tree With Pointed End



Regular Length

Tool #	Description			EDP #		List Price
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	
SG-1	1/4"	5/8"	1/4"	10959	10963	\$ 18.30
SG-2	5/16"	3/4"	1/4"	10967	10971	17.50
SG-3	3/8"	3/4"	1/4"	10975	10979	19.40
SG-13	1/2"	3/4"	1/4"	10983	10987	26.40
SG-5	1/2"	1"	1/4"	10991	10995	26.40
SG-6	5/8"	1"	1/4"	10999	11003	36.70
SG-7	3/4"	1"	1/4"	11007	11011	48.80
SG-15	3/4"	1-1/2"	1/4"	11015	11019	72.00

*Indicates solid 1/4" carbide shank 2" O.A.L all others have 1/4" diameter hardened steel shank.

1/8" Shank Diameter

Tool #	Description			EDP #		List Price
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	
SG-41	1/8"	1/4"	1/8"	10951	10955	\$ 6.80
SG-43	1/8"	3/8"	1/8"	10956	10957	6.80
SG-44	1/8"	1/2"	1/8"	10954	10958	6.80
SG-44L2	1/8"	1/2"	1/8"	11017	11018	12.20
SG-44L3	1/8"	1/4"	1/8"	11024	11022	13.80
SG-51	1/4"	1/2"	1/8"	10960	10961	14.50

Note: L2 is 2" OAL and L3 is 3" OAL

Long Length

Tool #	Description			EDP #		List Price
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	
SG-1L6	1/4"	1/2"	1/4"	11023	11027	\$ 22.90
SG-3L6	3/8"	3/4"	1/4"	11031	11035	30.80
SG-5L6	1/2"	1"	1/4"	11039	11043	42.00

Note: L6 is 6" Long Shank

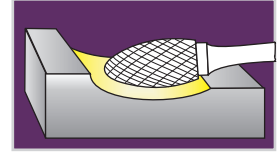
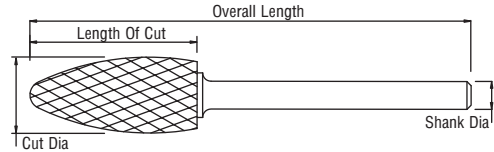
Metric burrs are available in stock

Burrs

Micro Grain Solid Carbide

Shape H

Shape H - Flame



Regular Length

Description				EDP #		
Tool #	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SH-1	1/4"	5/8"	1/4"	11055	11059	\$ 21.60
SH-2	5/16"	3/4"	1/4"	11063	11067	19.10
SH-5	1/2"	1-1/4"	1/4"	11071	11075	38.90
SH-6	5/8"	1-7/16"	1/4"	11079	11083	53.70
SH-7	3/4"	1-5/8"	1/4"	11087	11091	68.10

1/8" Shank Diameter

Description				EDP #		
Tool #	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SH-41	1/8"	1/4"	1/8"	11047	11051	\$ 6.80
SH-41L2	1/8"	1/4"	1/8"	11092	11093	12.30
SH-41L3	1/8"	1/4"	1/8"	11096	11097	13.80

Note: L2 is 2" OAL and L3 is 3" OAL

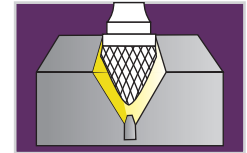
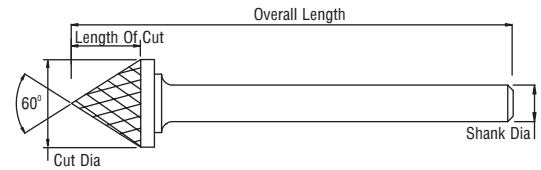
Long Length

Description				EDP #		
Tool #	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SH-2L6	5/16"	3/4"	1/4"	11095	11099	\$ 30.40
SH-5L6	1/2"	1-1/4"	1/4"	11103	11107	61.80

Note: L6 is 6" Long Shank

Metric burrs are available in stock

Shape J - 60° Cone Shape



Regular Length

Tool #	Description			EDP #		
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SJ-1*	1/4"	3/16"	1/4"	11119	11123	\$ 16.20
SJ-3	3/8"	5/16"	1/4"	11127	11131	16.50
SJ-5	1/2"	7/16"	1/4"	11135	11139	20.20
SJ-6	5/8"	9/16"	1/4"	11143	11147	26.90
SJ-7	3/4"	11/16"	1/4"	11151	11155	35.20
SJ-9	1"	15/16"	1/4"	11159	11163	56.50

*Indicates solid 1/4" carbide shank 2" O.A.L all others have 1/4" diameter hardened steel shank.

1/8" Shank Diameter

Tool #	Description			EDP #		
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SJ-42	1/8"	3/32"	1/8"	11111	11115	\$ 6.80

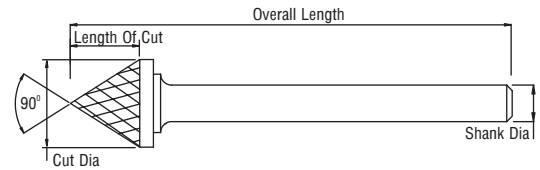
Metric burrs are available in stock

Burrs

Micro Grain Solid Carbide

Shape K

Shape K - 90° Cone Shape



Regular Length

Tool #	Description			EDP #		
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SK-1*	1/4"	1/8"	1/4"	11183	11187	\$ 16.20
SK-3	3/8"	3/16"	1/4"	11191	11195	17.70
SK-5	1/2"	1/4"	1/4"	11199	11203	21.70
SK-6	5/8"	5/16"	1/4"	11207	11211	28.80
SK-7	3/4"	3/8"	1/4"	11215	11219	37.70
SK-9	1"	1/2"	1/4"	11223	11227	60.50

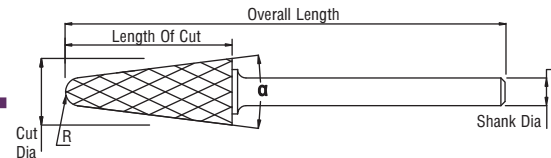
*Indicates solid 1/4" carbide shank 2" Overall length all others have 1/4" diameter hardened steel shank.

1/8" Shank Diameter

Tool #	Description			EDP #		
	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SK-42	1/8"	1/16"	1/8"	11167	11171	\$ 6.80

Metric burrs are available in stock

Shape L - Taper With Radius End



Regular Length - 14° Included Angle

Description				EDP #		
Tool #	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SL-1*	1/4"	5/8"	1/4"	11255	11259	\$ 18.80
SL-2	5/16"	7/8"	1/4"	11263	11267	19.30
SL-3	3/8"	1-1/16"	1/4"	11271	11275	23.20
SL-4	1/2"	1-1/8"	1/4"	11279	11283	28.30
SL-5	5/8"	1-3/16"	1/4"	11287	11291	50.60
SL-7	3/4"	1-1/2"	1/4"	11295	11299	73.50

*Indicates solid 1/4" carbide shank 2" O.A.L all others have 1/4" diameter hardened steel shank.

1/8" Shank Diameter - 8° Included Angle

Description				EDP #		
Tool #	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SL-41	1/8"	3/8"	1/8"	11231	11235	\$ 6.80
SL-42	1/8"	1/2"	1/8"	11239	11243	6.80
SL-42L2	1/8"	1/2"	1/8"	11245	11247	12.20
SL-42L3	1/8"	1/2"	1/8"	11249	11251	13.80

Note: L2 is 2" OAL and L3 is 3" OAL

Long Length - 6" Long Steel Shank

Description				EDP #		
Tool #	Cut Dia.	Length Of Cut	Shank Dia.	Single Cut	Double Cut	List Price
SL-1L6	1/4"	5/8"	1/4"	11315	11319	\$ 23.40
SL-3L6	3/8"	1-1/16"	1/4"	11323	11327	36.20
SL-4L6	1/2"	1-1/8"	1/4"	11331	11335	45.10

Note: L6 is 6" Long Shank

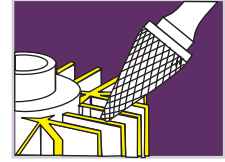
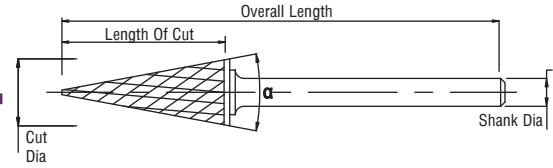
Metric burrs are available in stock

Burrs

Micro Grain Solid Carbide

Shape M

Shape M - Cone Shape



Regular Length

Tool #	Cut Dia.	Description Length Of Cut	Shank Dia.	Included Angle	EDP #		
					Single Cut	Double Cut	List Price
SM-1*	1/4"	1/2"	1/4"	22°	11387	11391	\$ 17.80
SM-2*	1/4"	3/4"	1/4"	14°	11395	11399	18.80
SM-3*	1/4"	1"	1/4"	10°	11403	11407	20.10
SM-4	3/8"	5/8"	1/4"	28°	11411	11415	26.40
SM-5	1/2"	7/8"	1/4"	28°	11419	11423	29.20
SM-6	5/8"	1"	1/4"	31°	11427	11431	38.90

*Indicates solid 1/4" carbide shank 2" O.A.L all others have 1/4" diameter hardened steel shank.

1/8" Shank Diameter

Tool #	Cut Dia.	Description Length Of Cut	Shank Dia.	Included Angle	EDP #		
					Single Cut	Double Cut	List Price
SM-41	1/8"	3/8"	1/8"	12°	11339	11343	\$ 6.80
SM-42	1/8"	7/16"	1/8"	14°	11347	11351	6.80
SM-42L2	1/8"	7/16"	1/8"	14°	11348	11349	12.20
SM-42L3	1/8"	7/16"	1/8"	14°	11356	11357	13.80
SM-43	1/8"	5/8"	1/8"	7°	11355	11359	6.80
SM-51	1/4"	1/2"	1/8"	10°	11371	11375	14.50

Note: L2 is 2" OAL and L3 is 3" OAL

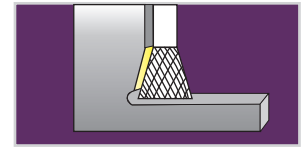
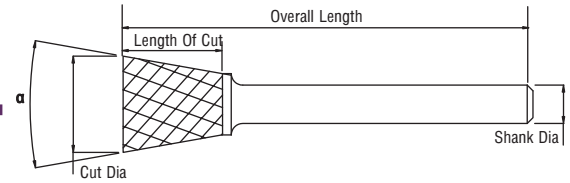
Metric burrs are available in stock

Shape N

Burrs

Micro Grain Solid Carbide

Shape N - Inverted Cone Shape



Regular Length

Tool #	Cut Dia.	Description Length Of Cut	Shank Dia.	Included Angle	EDP #		
					Single Cut	Double Cut	List Price
SN-1*	1/4"	5/16"	1/4"	10°	11467	11471	\$ 18.00
SN-2	3/8"	3/8"	1/4"	13°	11472	11473	20.50
SN-4	1/2"	1/2"	1/4"	28°	11483	11487	29.00
SN-6	5/8"	3/4"	1/4"	18°	11491	11495	37.20
SN-7	3/4 "	5/8"	1/4"	30°	11499	11503	41.80

*Indicates solid 1/4" carbide shank 2" O.A.L all others have 1/4" diameter hardened steel shank.

1/8" Shank Diameter

Tool #	Cut Dia.	Description Length Of Cut	Shank Dia.	Included Angle	EDP #		
					Single Cut	Double Cut	List Price
SN-41	3/32"	1/8"	1/8"	10°	11435	11439	\$ 6.80
SN-42	1/8"	3/16"	1/8"	10°	11443	11447	6.80
SN-51	1/4"	1/4"	1/8"	10°	11459	11463	14.50

Metric burrs are available in stock

Shape A - Cylindrical Without End Cut

Description				EDP #	
Tool #	Cut Dia.	Length Of Cut	Shank Dia.	Aluma Cut	List Price
SA-1NF	1/4"	3/4"	1/4"	10167	\$ 20.60
SA-3NF	3/8"	3/4"	1/4"	10171	24.10
SA-5NF	1/2"	1"	1/4"	10175	35.40
SA-6NF	5/8"	1"	1/4"	10179	43.40
SA-7NF	3/4"	1"	1/4"	10183	59.50

Shape C - Cylindrical With Radius End

Description				EDP #	
Tool #	Cut Dia.	Length Of Cut	Shank Dia.	Aluma Cut	List Price
SC-1NF	1/4"	3/8"	1/4"	10499	\$ 23.00
SC-3NF	3/8"	3/4"	1/4"	10503	24.10
SC-5NF	1/2"	1"	1/4"	10507	35.40
SC-6NF	5/8"	1"	1/4"	10511	53.80
SC-7NF	3/4"	1"	1/4"	10515	73.90

Shape D - Ball End

Description				EDP #	
Tool #	Cut Dia.	Length Of Cut	Shank Dia.	Aluma Cut	List Price
SD-1NF	1/4"	7/32"	1/4"	10655	\$ 22.70
SD-3NF	3/8"	5/16"	1/4"	10659	19.90
SD-5NF	1/2"	7/16"	1/4"	10663	28.50
SD-6NF	5/8"	9/16"	1/4"	10667	51.40
SD-7NF	3/4"	11/16"	1/4"	10671	86.90

Shape E - Oval

Description				EDP #	
Tool #	Cut Dia.	Length Of Cut	Shank Dia.	Aluma Cut	List Price
SE-1NF	1/4"	3/8"	1/4"	10763	\$ 26.70
SE-3NF	3/8"	5/8"	1/4"	10764	26.11
SE-5NF	1/2"	7/8"	1/4"	10767	32.20
SE-6NF	5/8"	1"	1/4"	10771	58.00
SE-7NF	3/4"	1"	1/4"	10775	77.20

Metric burrs are available in stock

Shape F - Tree With Radius End

Tool #	Description			EDP # Aluma Cut	List Price
	Cut Dia.	Length Of Cut	Shank Dia.		
SF-1NF	1/4"	3/4"	1/4"	10915	\$ 23.00
SF-3NF	3/8"	3/4"	1/4"	10919	25.50
SF-5NF	1/2"	1"	1/4"	10923	35.80
SF-6NF	5/8"	1"	1/4"	10927	51.40
SF-7NF	3/4"	1"	1/4"	10931	63.40

Shape L - 14° Included Angle Taper Cone With Radius End

Tool #	Description			EDP # Aluma Cut	List Price
	Cut Dia.	Length Of Cut	Shank Dia.		
SL-3NF	3/8"	1-1/16"	1/4"	11303	\$ 32.70
SL-4NF	1/2"	1-1/8"	1/4"	11305	45.10
SL-5NF	5/8"	1-5/16"	1/4"	11307	72.40
SL-6NF	5/8"	1-1/2"	1/4"	11311	82.10
SL-7NF	3/4"	1-1/2"	1/4"	11314	96.20

New

1/8" & 1/4" Burrs Set

1/8" Burrs Set

Solid Carbide Burrs
10 Piece set in plastic case
Double Cut Order # **00050**
Single Cut Order # **00051**
List Price **\$70⁸⁰**

Description		
Tool #	Shank Dia.	Length Of Cut
SA-43	1/8"	9/16"
SC-42	1/8"	9/16"
SD-42	1/8"	1/8"
SJ-42	1/8"	3/32"
SL-41	1/8"	3/8"
SN-42	1/8"	3/16"
SH-41	1/8"	1/4"
SL-42	1/8"	1/2"
SM-42	1/8"	7/16"
SG-43	1/8"	3/8"

Solid Carbide Burrs
10 Piece set in plastic case
Double Cut Order # **10000**
Single Cut Order # **10001**
List Price **\$70⁸⁰**

Description		
Tool #	Shank Dia.	Length Of Cut
SA-43	1/8"	9/16"
SC-42	1/8"	9/16"
SD-42	1/8"	1/8"
SE-41	1/8"	7/32"
SF-42	1/8"	1/2"
SG-41	1/8"	1/4"
SH-41	1/8"	1/4"
SL-41	1/8"	3/8"
SM-42	1/8"	7/16"
SN-41	3/32"	1/8"

1/4" Burrs Set

Solid Carbide Burrs
8 Piece set in plastic case
Double Cut Order # **10003**
Single Cut Order # **10004**
List Price **\$165⁰⁰**

Description		
Tool #	Shank Dia.	Length Of Cut
SA-1	1/4"	5/8"
SB-1	1/4"	5/8"
SC-1	1/4"	5/8"
SE-1	1/4"	3/8"
SF-1	1/4"	5/8"
SG-1	1/4"	5/8"
SL-1	1/4"	5/8"
SM-1	1/4"	1/2"

New

1/2" Burr Set

1/2" Burr Set

Solid Carbide Burrs
8 Piece set in plastic case
Double Cut Order # **10002**
List Price **\$225⁰⁰**

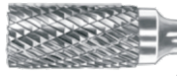
Description		
Tool #	Shank Dia.	Length Of Cut
SA-5	1/4"	1"
SC-5	1/4"	1"
SD-5	1/4"	7/16"
SE-5	1/4"	7/8"
SG-5	1/4"	1"
SH-5	1/4"	1-1/4"
SK-5	1/4"	1/4"
SM-5	1/4"	7/8"

Cut Styles



Single Cut (Right Hand Spiral)

General Purpose for use on cast iron, steel and other ferrous and non-ferrous materials.



Double Cut:

Right and left hand flutes combine to produce super smooth finishes. Design allows for rapid stock.



Alumina Cut:

Right hand spiral design for rapid stock removal. Excellent for use on softer non-ferrous metals.

Suggested Speeds

Diameter	R.P.M.
1/16"	55,000-85,000
3/32"	50,000-60,000
1/8"	35,000-65,000
3/16"	30,000-55,000
1/4"	25,000-50,000
5/16"	18,000-38,000
3/8"	17,000-38,000
7/16"	13,000-37,000
1/2"	14,000-36,000
5/8"	11,000-23,000
3/4"	8,000-19,000
1"	7,000-18,000

* Increase speeds for softer materials

* Decrease speeds for harder materials

* Extra long, 1/4" shanks burrs that are over 6" long and 1/8" shank burrs that are over 2" long should be used at reduced speeds.

Carbide Burrs - Usage

*Most deburring operations are done by hand. To maintain maximum spindle speed, the operator must limit the amount of pressure on the work piece.

*Keep the burr moving at all times so that it will not dig into the work piece.

*Do not allow the steel shank on the burr to engage the work piece. This could cause the tool to overheat and weaken the braze joint.

*Generally, higher speeds will reduce stock removal but will improve surface finish while slower speeds will increase stock removal but lower finish.

Solid Carbide Boring Tools

Features

- Used for boring most ferrous, non-ferrous and non-metallic materials corner cutting edge protected with small radius.



Solid Carbide Boring Tools

Min. Hole Dia.	Description			EDP #	List Price
	Max Depth	Shank Dia.	Overall Length		
.090	1/2"	1/8"	1-1/2"	13000	\$ 19.80
.120	5/8"	1/8"	1-1/2"	13004	19.80
.150	3/4"	3/16"	2"	13008	24.00
.180	3/4"	3/16"	2"	13012	25.80
.210	1"	1/4"	2"	13016	32.00
.240	1"	1/4"	2"	13020	35.44
.275	1-1/4"	5/16"	2-1/2"	13024	41.40
.300	1-1/4"	5/16"	2-1/2"	13028	50.10
.330	1-1/2"	3/8"	2-1/2"	13032	55.84
.360	1-1/2"	3/8"	2-1/2"	13036	58.70

General Tolerances

Dia. Range mm	For shafts				For Holes				Dia. Range mm	For shafts				For Holes			
	h_5	h_6	h_9	h_{11}	H_6	H_7	H_8	H_{11}		h_5	h_6	h_9	h_{11}	H_6	H_7	H_8	H_{11}
<3	0	0	0	0	+6	+10	+14	+60	>80 to 120	0	0	0	0	+22	+35	+54	+220
	-4	-6	-25	-60	0	0	0	0		-15	-22	-87	-220	0	0	0	0
>3 to 6	0	0	0	0	+8	+12	+18	+75	>120 to 180	0	0	0	0	+25	+40	+63	+250
	-5	-8	-30	-75	0	0	0	0		-18	-25	-100	-250	0	0	0	0
>6 to 10	0	0	0	0	+9	+15	+22	+90	>180 to 250	0	0	0	0	+29	+46	+72	+290
	-6	-9	-36	-90	0	0	0	0		-20	-29	-115	-290	0	0	0	0
>10 to 18	0	0	0	0	+11	+18	+27	+110	>250 to 315	0	0	0	0	+32	+52	+81	+320
	-8	-11	-43	-110	0	0	0	0		-23	-32	-130	-320	0	0	0	0
>18 to 30	0	0	0	0	+13	+21	+33	+130	>315 to 400	0	0	0	0	+36	+57	+89	+360
	-9	-13	-52	-130	0	0	0	0		-25	-36	-140	-360	0	0	0	0
>30 to 50	0	0	0	0	+16	+25	+39	+160	>400 to 500	0	0	0	0	+40	+63	+97	+400
	-11	-16	-62	-160	0	0	0	0		-27	-40	-155	-400	0	0	0	0
>50 to 80	0	0	0	0	+19	+30	+46	+190									
	-13	-19	-74	-190	0	0	0	0									

Values Specified are in mm

Tap Chart- Metric Threads

Tap Size	mm per thread	Drill size (mm)	Drill size (inch)	Tap Size	mm per thread	Drill size (mm)	Drill size (inch)
M1.6 X 0.35	0.35	1.25	#55	M14 x 2	2	12	15/32"
M2 X 0.4	0.4	1.6	#52	M14 x 1.5	1.5	12.5	1/2"
M2.5 X 0.45	0.45	2.05	#46	M16 x 2	2	14	35/64"
M3 X 0.5	0.5	2.5	#39	M16 x 1.5	1.5	14.5	37/64"
M3.5 X 0.6	0.6	2.9	#32	M18 x 2.5	2.5	15.5	39/64"
M4 X 0.7	0.7	3.3	#30	M18 x 1.5	1.5	16.5	21/32"
M5 X 0.8	0.8	4.2	#19	M20 x 2.5	2.5	17.5	11/16"
M6 X 1	1	5	#8	M20 x 1.5	1.5	18.5	47/64"
M8 X 1.25	1.25	6.8	H	M22 x 2.5	2.5	19.5	49/64"
M8 X 1	1	7	j	M22 x 1.5	1.5	20.5	13/16"
M10 X 1.5	1.5	8.5	R	M24 x 3	3	21	53/64"
M10 X 1.25	1.25	8.8	11/32	M24 x 2	2	22	7/8"
M12 X 1.75	1.75	10.2	13/32	M27 x 3	3	24	15/16"
M12 x 1.25	1.25	10.8	27/64	M27 x 2	2	25	1"

Decimal Equivalent

IN CH	DECIMAL	WIRE	MM	TAP DRILL SIZES	IN CH	DECIMAL	WIRE	MM	TAP DRILL SIZES	IN CH	DECIMAL	WIRE/LTR	MM	TAP DRILL SIZES	IN CH	DECIMAL	LTR	MM	TAP DRILL SIZES	IN CH	DECIMAL	MM	TAP DRILL SIZES
	.0059	97	.15			.0492		1.25			.1495	25			.2717		6.90	5/16	33/64	.5156		9/16-18	
	.0063	96	.16			.0512		1.30			.1496		3.80		.2720	I		24NS	17-32	.5312		5/8-11	
	.0067	95	.17			.0520	55				.1520	24			.2756		7.00			.5315	13.5		
	.0071	94	.18			.0531		1.35			.1535		3.90		.2770	J		5/16	25/84	.5469			
	.0075	93	.19			.0550	54		#1-64		.1540	23			.2795		7.10	32NS		.5512	14.0		
	.0079	92	.20			.0551		1.40		5/32	.1562				.2810	K			9/16	.5625		5/8-	
	.0083	91	.21			.0571		1.45			.1570	22	#10-32	9/32	.2812					.5709	14.5	18 NF	
	.0087	90	.22			.0591		1.50			.1575		4.00		.2835		7.20		37/64	.5781			
	.0091	89	.23			.0595	53		#1-72		.1590	21			.2854		7.25			.5906	15.0	3/8-18	
	.0094		.24			.0610		1.55			.1610	20			.2874		7.30		19/32	.5938		Pipe	
	.0095	88			1/16	.0625					.1614		4.10		.2900	L			39/64	.6094			
	.0098		.25			.0630		1.60			.1654		4.20		.2913		7.40			.6102	15.5		
	.0100	87				.0635	52				.1660	19			.2950	M			5/8	.6250		11/16-	
	.0102		.26			.0650		1.65			.1673		4.25		.2953		7.50			.6299	16.0	16 NS	
	.0105	86				.0669		1.70			.1693		4.30	19/64	.2969				41/64	.6406			
	.0106		.27			.0670	51		#2-56		.1695	18			.2992		7.60			.6496	16.5		
	.0110	85	.28			.0689		1.75		11/64	.1719				.3020	N			21/32	.6562		3/4-10	
	.0114		.29			.0700	50		#2-64		.1730	17			.3031		7.70			.6693	17.0	NC	
	.0115	84				.0709		1.80			.1732		4.40 #12-24		.3051		7.75		43/64	.6719			
	.0118		.30			.0728		1.85			.1770	16			.3071		7.80		11/16	.6875		3/4-16	
	.0120	83				.0730	49				.1772		4.50 7/32		.3110		7.90 3/8-			.6890	17.5	NF	
	.0125	82				.0748		1.90			.1800	15	-24NS	5/16	.3125		16NC		45/64	.7031			
	.0126		.32			.0760	48		#3-48		.1811		4.60 #12-28		.3150		8.00			.7087	18.0		
	.0130	81				.0768		1.95			.1820	14			.3160	O			23/32	.7188		1/2-14	
	.0134		.34		5/64	.0781					.1850	13	4.70		.3189		8.10			.7283	18.5	Pipe	
	.0135	80				.0785	47				.1870		4.75		.3228		8.20		47/64	.7344			
	.0138		.35			.0787		2.00		3/16	.1875				.3230	P				.7480	19.0		
	.0142		.36			.0807		2.05			.1890		4.80		.3248		8.25		3/4	.7500			
	.0145	79				.0810	46		#3-56		.1890	12			.3268		8.30		49/64	.7656			
	.0150		.38			.0820	45				.1910	11		21/64	.3281					.7677	19.5	7/8-9	
1/64	.0156					.0827		2.10			.1929		4.90 7/32		.3307		8.40 3/8-		25/32	.7812		NC	
	.0157		.40			.0846		2.15			.1935	10	-32NS		.3320	Q	24NF			.7874	20.0		
	.0160	78				.0860	44		#4-40		.1960	9			.3246		8.50		51/64	.7969			
	.0165		.42			.0866	45	2.20			.1969		5.00		.3386		8.60 1/8-27			.8071	20.5		
	.0173		.44			.0886		2.20			.1990	8			.3390	R	Pipe	13/16	.8125		7/8-14		
	.0177		.45			.0890	43				.2008		5.10		.3425		8.70			.8268	21.0	NF	
	.0180	77				.0906		2.30			.2010	7		11/32	.3438				53/64	.8281			
	.0181		.46			.0925		2.35		13/64	.2031				.3445		8.75		27/32	.8438			
	.0189		.48			.0935	42		#4-48		.2040	6	1/4/20		.3465		8.80			.8465	21.5		
	.0197		.50		3/32	.0938					.2047		5.20		.3480	S			55/64	.8594			
	.0200	76				.0945		2.40			.2055	5			.3504		8.90			.8661	22.0		
	.0210	75				.0960	41				.2067		5.25		.3543		9.00		7/8	.8750		1-8NC	
	.0217		.55			.0965		2.45			.2087		5.30		.3580	T				.8858	22.5		
	.0225	74				.0980	40		#5-40		.2090	4			.3583		9.10		57/64	.8906			
	.0236		.60			.0984		2.50			.2126		5.40	23/64	.3594					.9055	23.0		
	.0240	73				.0995	39				.2130	3			.3622		9.20		29/32	.9062			
	.0250	72				.1015	38		#5-44		.2165		5.50		.3642		9.25		59/64	.9219		3/4-14	
	.0256		.65			.1024		2.60		7/32	.2188		1/4/28		.3661		9.30 7/16-			.9252	23.5	Pipe	
	.0260	71				.1040	37				.2205		5.60		.3680	U	14NC		15/16	.9375		1-14	
	.0276		.70			.1063		2.70			.2210	2			.3701		9.40			.9449	24.0	NF	
	.0280	70				.1065	36		#6-32		.2244		5.70		.3740		9.50		61/64	.9531			
	.0292	69				.1083		2.75			.2264		5.75	3/8	.3750					.9646	24.5		
	.0295		.75		7/64	.1094					.2280	1			.3770	V			31/32	.9688			
	.0310	68				.1100	35				.2283		5.80		.3780		9.60			.9843	25.0		
1/32	.0312					.1102		2.80			.2323		5.90		.3819		9.70		63/64	.9844		1 1/8-	
	.0315		.80			.1110	34		#6-40		.2340	A			.3839		9.75		1	1.0000		7NC	
	.0320	67				.1130	33			15/64	.2344				.3858		9.80 7/16-20	1 1/64	1.0039	25.5			
	.0330	66				.1142		2.90			.2362		6.00		.3860	W				1.0156			
	.0335		.85			.1160	32				.2380	B			.3898		9.90			1.0236	26.0		
	.0350	65				.1181		3.00			.2402		6.10	25/64	.3906				1 1/32	1.0312			
	.0354		.90			.1200	31				.2420	C			.3937		10.00			1.0433	26.5		
	.0360	64				.1220		3.10			.2441		6.20		.3970	X			1 3/64	1.0469		1 1/8-	
	.0370	63			1/8	.1250		5/32-			.2460	D			.4040	Y			1 1/16	1.0625		12 NF	
	.0374		.95			.1260		3.20 32NS			.2461		6.25	13/32	.4062					1.0630	27.0		
	.0380	62				.1280		3.25			.2480		6.30		.4130	Z	1/2-13		1 5/64	1.0781			
	.0390	61				.1285	30		5/32	1/4	.2500	E			.4134		10.50			1.0827	27.5		
	.0394		1.00			.1299		3.30 36NS			.2520		6.40	27/64	.4219		1/4-18		1 3/32	1.0938			
	.0400	60				.1339		3.40			.2559		6.50		.4331		11.00	Pipe		1.1024	28.0		
	.0410	59				.1360	29		#8-32		.2570	F		7/16	.4375		1/2-20		1 7/64	1.1094		1 1/4	
	.0413		1.05			.1378		3.50			.2598		6.60		.452								

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12650, Magnolia Avenue, Riverside CA - 92503, USA.
Phone: 1-951-280-4700 Fax: 1-951-280-4710
Email: us@cobracarbide.com

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