

Solid Carbide Saws by ULTRATOOL

Ordering our Series 620 Solid Carbide Saws has never been easier. Size ranges and quantity breaks have been consolidated; simply note the semi-blank EDP# for the diameter of your need and specify the decimal thickness. Pricing inclusive of our in-house SmoothCoat® PVD hardcoating is also listed. All Ultra-Tool® saws are manufactured in our factories featuring 100% CNC generated fluting and relief angles. Available via Ultra's Express Service for fast delivery. Alterations for radii, chamfers, hubs, and angles also available. Special sizes, thicknesses, ID's, keyways, etc. are available upon quotation request.

Series 620 Solid Carbide Saws **ULTRA-Carb®**



Saw Specifications:
Diameter ±.015 Thickness ±.00025
Hole (ID) +.0005/- .0000

Diam	Thickness Range	ID	# Teeth	Blank EDP#	UnCoated Price	Coated Price
3/4	.008 - .125	1/4	18	63001	\$44.10	\$48.10
1"	.010 - .125	3/8	20	62019	\$57.30	\$61.30
1-1/4	.010 - .125	1/2	24	63005	\$61.80	\$65.40
1-1/2	.010 - .125	1/2	36	62029	\$66.50	\$70.50
1-3/4	.010 - .125	1/2	38	63010	\$83.00	\$87.00
2"	.010 - .125	1/2	40	62039	\$97.40	\$102.40
2"	.010 - .125	1"	40	63015	\$97.40	\$102.40
2-1/4	.010 - .125	5/8	44	63020	\$108.80	\$116.80
2-1/2	.010 - .125	1"	48	62049	\$120.30	\$129.30
2-3/4	.010 - .125	1"	60	63025	\$166.00	\$175.00
3"	.010 - .125	1"	72	62059	\$194.70	\$206.70
3"	.126 - .250	1"	72	62064	\$269.10	\$286.10
4"	.020 - .125	1"	80	62069	\$251.90	\$266.90
4"	.126 - .250	1"	80	62074	\$383.60	\$402.60

Metric Sizes

Saw Specifications (Metric):
Diameter ±0.38mm Thickness ±0.006mm
Hole (ID) +0.013/-0.000mm

Diam	Thickness Range	ID	# Teeth	Blank EDP#	UnCoated Price	Coated Price
20.0mm	0.20 - 3.15	5.0	20	63050	\$48.60	\$52.60
25.0mm	0.25 - 3.15	8.0	24	63055	\$58.50	\$61.50
32.0mm	0.25 - 3.15	8.0	30	63060	\$64.20	\$68.20
40.0mm	0.25 - 3.15	10.0	36	63065	\$83.00	\$87.00
50.0mm	0.25 - 3.15	13.0	40	63070	\$97.40	\$102.40
63.0mm	0.25 - 3.15	16.0	48	63075	\$120.30	\$129.30
80.0mm	0.35 - 3.15	22.0	60	63080	\$206.10	\$218.10
100.0mm	0.50 - 3.15	22.0	72	63085	\$251.90	\$266.90

ULTRATOOL Carbide Grinding Tools

Series 290

45° Lead Chamfer & End-Cutting • RH Cut
Reduced Neck Diameter for Clearance
Solid Carbide Construction



Diam	LOC	Shank	Neck Length	OAL	Tool#	EDP#	UnCoated Price	Coated Price
1/16	3/32	1/8	3/8	1-1/2	XA	29001	\$14.00	\$15.70
3/32	3/32	1/8	3/8	1-1/2	XB	29002	\$13.80	\$15.50
1/8	1/8	1/8	1/2	1-1/2	XC	29003	\$13.60	\$15.30
5/32	3/16	3/16	5/8	2"	XD	29004	\$18.00	\$20.20
3/16	3/16	3/16	5/8	2"	XF	29005	\$18.20	\$20.30
7/32	7/32	1/4	3/4	2"	XH	29006	\$20.90	\$24.30
1/4	1/4	1/4	3/4	2"	XE	29007	\$20.70	\$24.10

ULTRATOOL Carbide Boring Bars

Series 471

Solid Carbide Jig Boring Tool
Straight Flute • Straight Shank • RH Cut



Tool #	Min Hole Diam	Max Hole Depth	OAL	Shank Diam	EDP#	UnCoated Price	Coated Price
F-0	.090	1/2	1-1/2	1/8	47100	\$14.40	\$16.10
F-1	.120	5/8	1-1/2	1/8	47101	\$14.40	\$16.10
F-2	.150	3/4	2"	3/16	47102	\$19.80	\$21.90
F-3	.180	1"	2"	3/16	47103	\$19.90	\$22.00
F-4	.210	1-1/4	2-1/2	1/4	47104	\$23.40	\$27.40
F-5	.240	1-1/4	2-1/2	1/4	47105	\$24.00	\$28.00
F-6	.270	1-1/4	2-1/2	5/16	47106	\$32.90	\$37.90
F-7	.300	1-1/4	2-1/2	5/16	47107	\$33.50	\$38.50
F-8	.330	1-1/2	2-1/2	3/8	47108	\$35.70	\$41.00
F-9	.360	1-1/2	2-1/2	3/8	47109	\$36.30	\$41.60

Application Data for ULTRATOOL® Reamers



Spiral flutes produce the best hole finish. Right-hand spiral should be used for blind holes, while left-hand spiral is excellent for thru-hole applications. Straight flute is appropriate for all general reaming requirements.



**Reaming:
Fractional**

Material	SFPM	SFPM	1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	5/8"	3/4"
Steel	UnCoated	SmoothCoat										
1018 / 1020	50 to 125	50 to 150	.0040	.0050	.0050	.0060	.0070	.0080	.0090	.0100	.0100	.0100
4140 / 4340 / P20	40 to 120	40 to 140	.0040	.0040	.0040	.0040	.0050	.0050	.0050	.0060	.0060	.0060
Stainless Steel												
303 / 304 / 316	30 to 120	30 to 140	.0040	.0050	.0050	.0060	.0070	.0080	.0090	.0100	.0100	.0100
410 / 420 / 440C	20 to 80	20 to 100	.0040	.0050	.0050	.0060	.0070	.0080	.0090	.0100	.0100	.0120
15-5/17-4 ≤ 32HRc	40 to 140	40 to 160	.0040	.0040	.0040	.0040	.0050	.0050	.0050	.0060	.0070	.0080
15-5/17-4 ≥ 32HRc	25 to 100	25 to 120	.0020	.0020	.0030	.0030	.0040	.0040	.0050	.0050	.0060	.0060
13-8 / 316L	30 to 120	30 to 140	.0040	.0050	.0050	.0060	.0070	.0080	.0090	.0100	.0100	.0100
Tool Steel												
A2/D2/H13 ≤ 32HRc	30 to 120	30 to 120	.0040	.0040	.0040	.0040	.0050	.0050	.0050	.0060	.0070	.0080
A2/D2/H13 ≥ 32HRc	20 to 80	20 to 100	.0020	.0020	.0030	.0030	.0040	.0040	.0050	.0050	.0060	.0060
Titanium												
6Al-4V	20 to 100	20 to 120	.0020	.0020	.0030	.0030	.0040	.0040	.0060	.0060	.0080	.0100
High Temp Alloys												
Inconel 625	20 to 60	20 to 80	.0020	.0020	.0030	.0030	.0040	.0040	.0050	.0050	.0060	.0060
Inconel 718	20 to 50	20 to 70	.0020	.0020	.0030	.0030	.0040	.0040	.0050	.0050	.0060	.0060
Cast Iron												
Gray Iron ≤ 32HRc	80 to 200	80 to 250	.0060	.0060	.0060	.0060	.0070	.0080	.0100	.0120	.0140	.0150
Ductile Iron	80 to 200	80 to 250	.0060	.0060	.0060	.0060	.0070	.0080	.0100	.0100	.0100	.0120
Non-Ferrous												
6061 T6 Aluminum	100 to 300	100 to 375	.0050	.0050	.0060	.0060	.0070	.0080	.0100	.0120	.0140	.0150
Copper, Brass, Bronze	75 to 200	75 to 250	.0050	.0050	.0060	.0060	.0070	.0080	.0100	.0120	.0140	.0150
Plastic	100 to 350	100 to 350	.0050	.0050	.0060	.0060	.0070	.0080	.0100	.0120	.0140	.0150

Feed Rate: Inches Per Rev (IPR)

Total Stock Removal:
Minimum and Maximum amounts of stock removal should be adhered to for proper reaming action. This is the amount the reamer should be oversized relative to the drilled hole.

Up to 1/16	.003 - .005
1/16 to 1/8	.004 - .008
1/8 to 1/4	.006 - .012
1/4 to 3/8	.008 - .014
3/8 to 1/2	.010 - .015
1/2 to 1"	.012 - .020

All Ultra-Tool® reamer products are manufactured from Ultra-Carb®. Carbide reamers constructed with steel shank are induction-brazed (using controlled-frequency amplification) and slow-cooled in our own factory for maximum strength. All products are manufactured with centers (male, female, or both) for high concentricity characteristics and resharping capabilities. Also, shanks are ground to the next smallest common fractional diameter for effective tool-holding and practicality. Note: Series 411 has oversized shank with clearance neck and does not feature centers.

Reamer Specifications (decimal):
Cutting Diameter: +.0002 / -0
Shank Diameter: ±.0005
LOC: ±.030
OAL: ±.060
Helix (RH & LH): 12°
Lead Angle: 45°

new! Now available with TA coating!

Application Data for ULTRATOOL® Slitting Saws

All Ultra-Tool® Saw products are manufactured from Ultra-Carb®. Use a higher RPM and lower feed rates than in most cutting tool applications. Use light viscosity coolants at most; dry running is acceptable and/or preferred. Concentricity is the single most determining factor in an efficient slotting operation.

Material Group	Speed SFPM	Slitting
Aluminum/Related Alloys	700-1000	
Brass/Bronze	450-750	
Cast Iron (soft)	250-450	
Cast Iron (medium)	150-350	
Cast Iron (hard)	100-200	
Magnesium	800-1200	
Monel/Nickel Alloys	150-225	
Steel-Heat Treated (35-40Rc)	150-250	
Steel-Heat Treated (40-45Rc)	100-200	
Steel-Heat Treated (45+Rc)	75-135	
Steel-Low Carbon	250-425	
Stainless-Soft	200-300	
Stainless-Hard	100-200	
Titanium Alloys	150-275	

new! Now available with standard SmoothCoat!

Saw Specifications:
Diameter: ±.015
Hole (ID): +.0005 / -.0000
Thickness: ±.00025

Feed Rate: Chip Load from .0001 per tooth (hardest materials) to .0015 (easiest machinability).