

**CATEGORY DEFINITION**

**NEW**



Our new line of Norton CNC stock and Express diamond and CBN wheels is comprised of wheel sizes for most CNC machines, and wheel shapes that produce a large range of special geometries for precision WC and HSS Tools.

These superior, pre-engineered wheels have been specifically developed to meet the demanding needs of precision cutting tool manufactures as well as re-sharpeners. The use of the highest quality diamond and cBN abrasives and superior high-temperature bond systems, guarantees high performing wheels. Manufacturing under the strictest quality control protocols ensures the same, consistent, high-performing product. Cutting tool manufactures who use these wheels report much improved dimensional accuracy and superior cutting edges.

If you do not find a wheel in this offering to suit your specific needs, a custom-made wheel can be provided

**APPLICATIONS:** CNC cutting tool manufacturing and reshaping: fluting, end fluting, gashing, and OD relief

**FEATURED PRODUCTS**



**NEW**

**NORTON G-FORCE AND UNIVEL WHEELS  
BEST CHOICE TO ALLOW FOR LIGHTS OUT MANUFACTURING**

**FEATURES**

- Polyimide bond systems with superior form-holding and lower-power requirements compared to premium competitive wheels
- Lead the industry in depth of cut, traverse rates, and form holding
- These diamond and CBN wheels are truly rotary dress-able
- Self-dressing

**BENEFITS**

- Decreased chances of burn and heat damage to the part
- Optimized for wear resistance and form retention
- Capable of very high material removal rates
- Reduce total grinding cost by 30% or more through cycle time reduction and long life
- Allow for lights out manufacturing
- Little or no stick dressing is required
- Maintain a consistently sharp grinding edge



**NEW**

**NORTON/ B610 AND B80 BOND DIAMOND WHEELS  
BETTER CHOICE FOR SHORT-RUNS AND FREQUENT WHEEL PROFILE CHANGES**

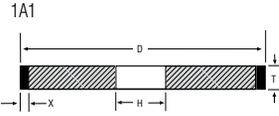
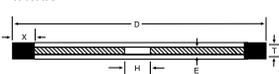
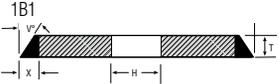
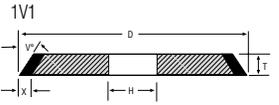
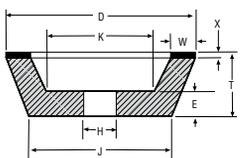
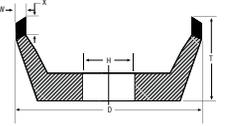
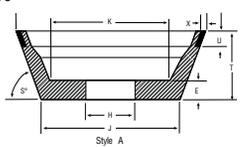
**FEATURES**

- Can be reshaped for numerous short runs
- Precision tolerances
- Great performance/price ratio

**BENEFITS**

- Ideal for reshaping
- Provide good material removal rates and corner holding
- Profiled with off-line conventional methods
- Repeatable part geometry
- Consistent wheel-to-wheel performance
- Ideal choice when premium wheel cannot be cost-justified
- Grind with less heat and pressure – eliminating burning
- Reduced cycle times and less dressing = longer wheel life

**Norton CNC Stock Diamond Wheels For Wc Tools**

		TIER: <b>BEST</b>		BETTER					
		TRADENAME: <b>NORTON G-FORCE / UNIVEL</b>		<b>NORTON B610/B80</b>					
WHEEL SHAPE	APPLICATION	SIZE (D x T x H)	ABR. WIDTH U, W	ABR. DEPTH X	ANGLE V	SPEC.	PART NO.	SPEC.	PART NO.
<b>Norton G-Force</b>									
 <p>1A1</p>	Fluting	4 x 1/2 x 1-1/4	1/2	1/4	—	AD320-UP061	60157663909	A4D180-R115B610	69014118200
		5 x 3/8 x 1-1/4	3/8	1/2	—	AD320-UP061	60157668409	A4D220-R115B610	69014118255
		5 x 1/2 x 1-1/4	1/2	1/2	—	AD320-UP061	60157662240	A4D180-R115B610	69014118202
		6 x 1/2 x 1-1/4	1/2	1/4	—	AD320-UP061	60157682133	A4D180-R115B610	69014118216
 <p>1A1RN</p>	Fluting	5 x 3/8 x 1-1/4	3/8	1/2	—	AD320-UP061	60157663501	A4D220-R115B610	69014118201
 <p>1B1</p>	Gashing	5 x 1/2 x 1-1/4	1/2	3/4	30°	AD320-UP701	66260329600	A4D320-R115B610	69014118207
		5 x 1/2 x 1-1/4	1/2	3/4	45°	AD320-UP531	66260329603	A4D320-R115B610	69014118208
 <p>1V1</p>	Fluting	4 x 3/8 x 1-1/4	3/8	1/4	20°	AD320-UP061	66260316591	A4D180-R115B610	69014118263
		5 x 3/8 x 2	3/8	1/4	20°	AD320-UP061	66260316590	A4D180-R115B610	69014118251
	Gashing/ End Fluting	5 x 3/8 x 2	3/8	1/4	45°	AD320-UP531	69014118026	A4D320-R115B610	69014118245
		5 x 3/8 x 1-1/4	3/8	1/2	45°	AD320-UP531	60157696562	A4D320-R115B610	69014118257
	Fluting	5 x 1/2 x 1-1/4	1/2	1/2	10°	AD320-UP061	66260116723	A4D180-R115B610	69014118204
		5 x 1/2 x 1-1/4	1/2	1/2	20°	AD320-UP061	60157693843	A4D180-R115B610	69014118205
		5 x 1/2 x 1-1/4	1/2	1/2	30°	AD320-UP671	60157693841	A4D180-R115B610	69014118206
	Gashing	5 x 1/2 x 1-1/4	1/2	1/4	45°	AD320-UP531	66260329604	A4D180-R115B610	69014118209
		5 x 1/2 x 1-1/4	1/2	1/4	60°	AD320-UP331	66260329469	A4D180-R115B610	69014118210
	Gashing/ End Fluting	6 x 3/8 x 2	3/8	1/4	45°	AD320-UP531	69014118190	A4D180-R115B610	69014118249
 <p>11A2</p>	OD Relief	4 x 1-1/4 x 1-1/4	1/4	1/4	—	AD320-UP701	69015769315	ASDC320-R100B80	69014118213
		5 x 1-1/2 x 2	1/4	1/4	—	AD320-UP561	69014118401	ASDC320-R100B80	69014118253
 <p>11V5</p>	OD Relief	4 x 1-1/4 x 1-1/4	1/4	1/4	30°	AD320-UP561	69014117838	ASDC320-R100B80	69014118211
		4 x 1-1/4 x 1-1/4	3/8	1/4	10°	AD320-UP561	69014117812	ASDC320-R100B80	69014118212
 <p>11V9</p>	OD Relief	3-3/4 x 1-1/2 x 1-1/4	3/8	1/8	—	10D240-PB125-U	66260322134	ASDC320-R100B80	69014118259
		5 x 1-3/4 x 1-1/4	3/8	1/8	—	10D240-PB125-U	66260118300	ASDC320-R100B80	69014118215
		5 x 1-3/4 x 2	3/8	1/8	—	10D240-PB125-U	69014118037	ASDC320-R100B80	69014118247

**Norton CNC Express Made-To-Order Wheels For Wc and HSS Tools**

WHEEL SHAPE	TOOL MATERIAL	APPLICATION	G-FORCE SPECIFICATION AD = DIAMOND BX = cBN	DIAMETER D	THK. T	HOLE H	ABR. DEPTH X	ANGLE (V) OR RADIUS (R)
	Wc	Fluting	AD320-UP061E	5	7/16" min. to 1/2" max.	1/2" min. to 2" max.	1/2"	90 deg. to 178 deg.
	HSS	Fluting	BX320-UP241E	5				
	Wc	Fluting	AD320-UP061E	5				
	Wc	Fluting	AD320-UP061E	6				
	Wc	Gashing	AD320-UP531E	5				
	HSS	Gashing	BX320-UP531E	5				
	Wc	Fluting	AD320-UP061E	5				
	HSS	Fluting	BX320-UP241E	5				
	Wc	Fluting	AD320-UP061E	6				
	Wc	Fluting	AD320-UP061E	5				
	HSS	Fluting	BX320-UP241E	5				
	Wc	Fluting	AD320-UP061E	5				
	HSS	Fluting	BX320-UP241E	5				
	Wc	Fluting	AD320-UP061E	5				
	HSS	Fluting	BX320-UP241E	5				
	Wc	Fluting	AD320-UP061E	6				
	HSS	Fluting	BX320-UP241E	5				

Note: all of the wheel shapes listed can also be designated to have .010 relief(s) 1 side, or 2 sides on 1A1P and 1A1RN wheels.

**CNC EXPRESS WHEEL SERVICE FOR WC AND HSS TOOLS**

- G-Force Diamond and cBN wheels altered from blank stock
- Available for a large range of special geometries
- 2-week standard lead time for first-time orders (new part numbers)
- 1-week lead-time for repeat orders (existing part numbers)

**HOW TO REQUEST AN EXPRESS WHEEL QUOTE AND ORDER**

Refer to this chart and choose:

- Wheel shape by application
- Diameter "D"
- Thickness "T" from the range of 7/16" to 1/2"
- Hole "H" from the range of 1/2" to 2"
- Angle ("V"), Radius ("R") dimensions from the range provided
- Abrasive depth "X" will always be 1/2" for these CNC wheels
- Specifications required for material and application
- NOTE: Please remember to include the "E" at the end of the specification to indicate Express lead-time is required