

# SUPER II

NEW GENERATION GRINDING WITH  
DIAMOND AND CBN WHEELS

INCREASES PRODUCTIVITY  
IMPROVES SURFACE FINISH  
REDUCES GRINDING COSTS



**SUPER ABRASIVE TOOLINGS**

## New Generation Wheels

Continuous research of two decades has helped us to understand the various intricacies that make Diamond and Cubic Boron Nitride (CBN) work harder, faster and much longer than conventional wheels. **Super II** range of Diamond and CBN wheels incorporate the following features.

- Every wheel is custom-made based on the operating requirements of the client.
- Quality tested Diamond abrasives are selected from a grain size of 300 $\mu$  to as fine as 0.5 $\mu$ .
- A special composition of bond mix is developed for homogenous bonding of abrasive powders, binders and fillers which have diverse densities.
- Formulation, mixing and hot pressing are carried out in state-of-the-art equipment under humidity and temperature controlled atmosphere to avoid any unwanted reactions of material compositions.
- Core materials used include Sintered Aluminium, Aluminium Rods, Copper, Bakelite, Silicon Carbide and Special Grade Steel, which are selected as per requirement.
- O.D. of abrasive section is precisely trued with respect to bore to check both radial and lateral runouts.

## Quality Assurance

- Dimensional checks for precision accuracy within prescribed tolerances.
- Metallographic inspection is carried out on every piece to check the metallurgical structure, the density achieved and to detect any flaws or cracks.
- Every wheel is dynamically balanced and excess weight is removed by a drilling process to ensure smooth operation of the wheel for a long period.
- Spin testing to 1 1/2 times of recommended speed.

## Bonding Systems

1) **Resin Bonding** : Specially developed resin bonding is provided for dry or wet grinding where high metal removal rates, superior surface finish and faster and free cutting action are achieved with minimum heat generation.

2) **'Res+Met' Bonding** is applied for wet grinding of tougher, though free cutting applications. This bonding is ideal for creep and plunge grinding where faster production is combined with long lasting economy. It is a near replacement to the metal bonding system.

3) **Sp. 'POLY MET' Bond** of our innovation for highly specialised applications & new generation work-pieces.

4) **Sp. Bonding** for PCD-PCBN, Ceramic grinding, Ferrite grinding & other speciality materials, on highly sophisticated CNC machines.

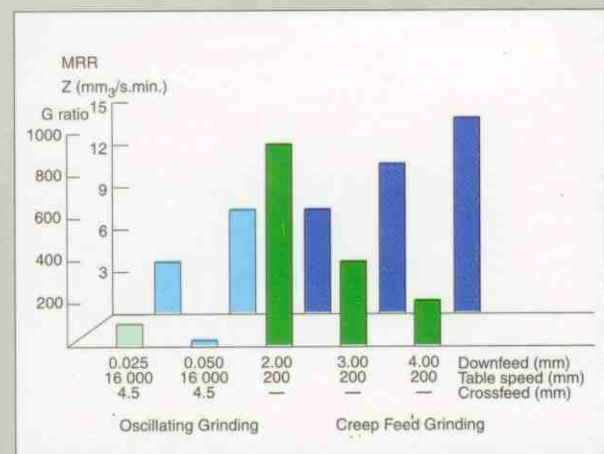
## Super Abrasive Media

**Super II** range include both Diamond as well as Cubic Boron Nitride (CBN), which together can handle a wide range of hard materials, as shown below :

Diamond	CBN
Carbides	High speed steels
Ceramics	Tool and Die steels
Ferrites	Space-age alloy steels
Quartz	Stainless steel
Semiconductors	Chilled cast iron
Carbon	Hard metallic Materials
Exotic nonmetallic Materials	

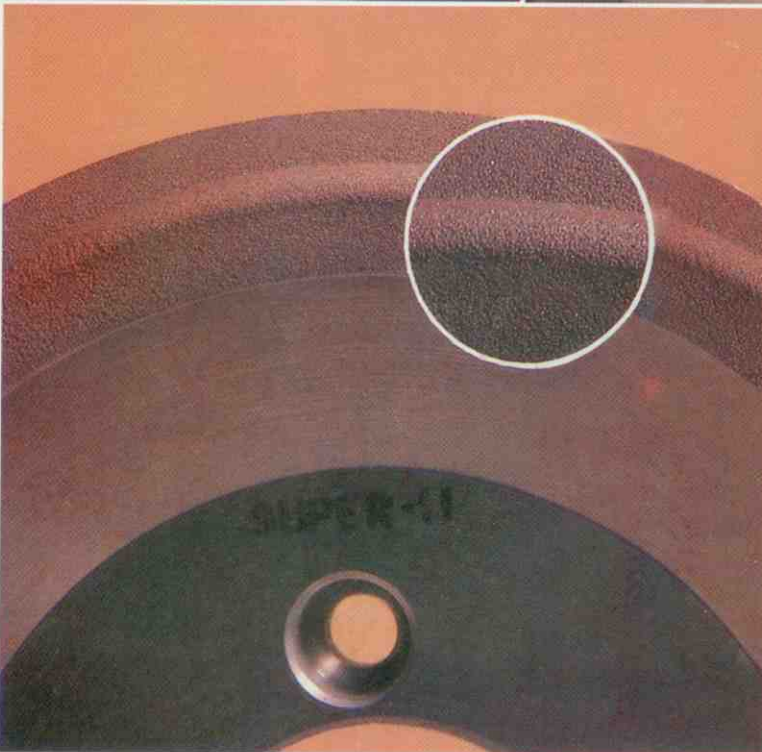
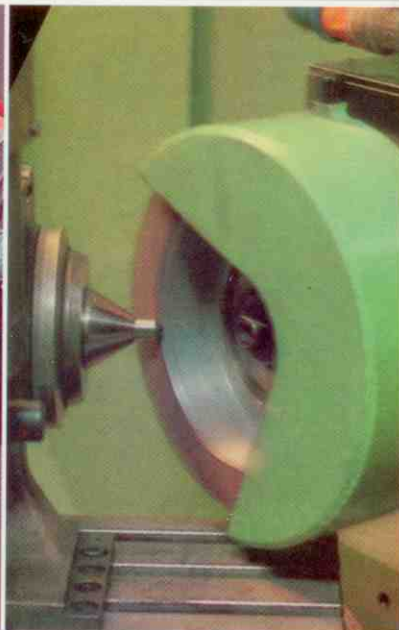
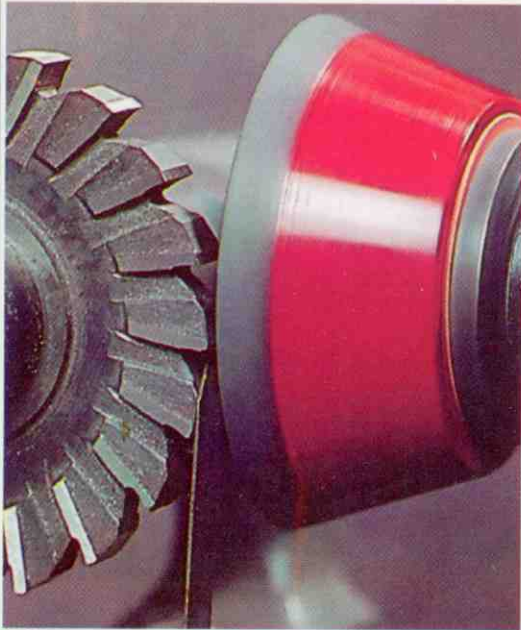
## Creep Feed Grinding

**Super II** range of Diamond and CBN wheels have enhanced material removal capabilities for creep feed grinding. The material removal rate is almost 10 times higher than the conventional grinding operation, while maintaining the same grinding ratio and the required tolerances.



# SUPER II

Try Our "Super II" Series and run your own cost-effectiveness test.



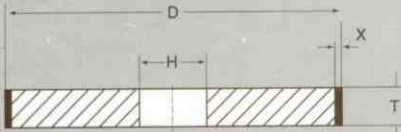
# SUPER II



The technocrats of Super Abrasive Toolings have several years manufacturing experience with a leading Diamond/CBN wheel manufacturer in the U.S.A. During last two decades, we have produced thousands of custom-designed solutions in Diamond and CBN grinding applications for handling a wide variety of hard materials. Today we have fully self contained state-of-the-art systems for manufacturing and quality control. Technical data on every new design is preserved in our data bank. We have a growing clientele throughout India and overseas. Almost 50% of our production is exported to Europe, S. E. Asia, U.S.A., Japan and Far East countries.

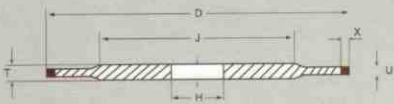
	 <p><b>SUPER ABRASIVE TOOLINGS</b></p> <p>MFGS. AND EXPORTERS OF DIAMOND AND CBN GRINDING WHEELS</p> <p>E-mail : <a href="mailto:superwhl@vsnl.com">superwhl@vsnl.com</a></p>	
<p>OFFICE 705, COTTON EXCHANGE BLDG., KALBADEVI ROAD, MUMBAI - 400 002 (INDIA) TEL. : +91 22 2240 2894 / 1645 FAX : +91 22 2240 9042</p>		<p>WORKS : 3, VARDHAMAN INDUSTRIAL ESATATE, 75, VILLAGE ROAD, OPP WMI CRANES BHANDUP (W), MUMBAI - 400 078 (INDIA) TEL. : +91 22 2566 5117 FAX : +91 22 2566 5116</p>

## Basic Selection Data

**1A1**


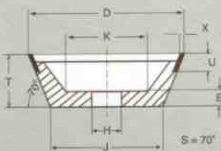
X = 3, 6.

D	T																																	
19	3	4	5	6	8	10	12																											
25	3	4	5	6	8	10	12																											
32	3	4	5	6	8	10	12																											
38	3	4	5	6	8	10	12																											
50/2"	3	4	5	6	8	10	12																											
75/3"	3	4	5	6	8	10	12																											
100/4"	3	4	5	6	8	10	12																											
125/5"	3	4	5	6	8	10	12	15																										
150/6"	3	4	5	6	8	10	12	15	20																									
175/7"										6	8	10	12	15	20																			
200/8"																6	8	10	12	15	20													
250/10"																						10	12	15	20	25								
300																										10	12	15	20	25				
350																														12	15	20	25	
400																															12	15	20	25
450																															12	15	20	25
500																																15	20	25

**14A1**


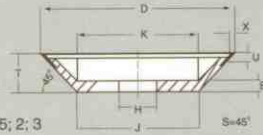
X = 3, 6.

D	U	T	J
75/3"	1 2	6 8	50
100/4"	1 2 3	6 8	70
125/5"	2 3	6 8	100
150/6"	2 3	10 12	120
175/7"	3 6	10 12	140
200/8"	3 6 8	12 15	160
250/10"	6 10	12 15 20	200
300	6 10	15 20	250

**11V9**


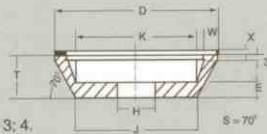
X = 1.5; 2; 3

D	T	U	E	K	J
76	30	10	10	40	53
95	38	10	10	55	65
100	38	10	10	55	75
127	40	11	10	75	96

**12V9**


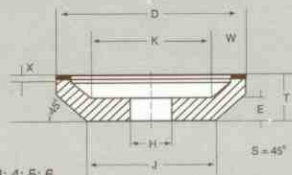
X = 1.5; 2; 3

D	T	U	E	K	J
75	20	6	10	45	35
100/4"	20	6	10	65	60
125/5"	25	6	10	80	75

**11A2**


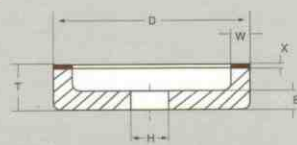
X = 2; 3; 4.

D	T-X	W				E	K	J	
75/3"	20	3	4	5	6	10	10	48	63
100/4"	33	5	6	10	12	10	55	68	
125/5"	23	5	6	10	12	10	98	110	

**12A2**


X = 2; 3; 4; 5; 6.

D	T-X	W				E	K	J	
75/3"	20	3	4	5	6	10	9	37	41
100/4"	23	5	6	10			10	54	56
125/5"	23	5	6	10			10	79	81
150/6"	23	6	10	15			10	94	106

**6A2**


X = 2; 3; 4; 6.

D	T-X	W				E			
50/2"	20	3	5			10			
75/3"	20	3	4	5	6	10			
100/4"	23	5	6	10	12	15	10		
125/5"	23	5	6	10	12	15	20	25	10
150/6"	23	6	10	12	15	20	25	10	
175/7"	25	6	10	15	20	25	13		
200/8"	25	10	15	20	25	13			
250	25	10	15	20	25	13			

Note : 1. Bore diameter (H) as per customers' requirements.  
 2. Special shapes, sizes and specifications are available on request.

**9A3**

X = 2; 3; 4

D	T-2X	W			E
100/4"	22	6	8	10	10
150/6"	22 31	6	8	10 12	14
175/7"	22 31	6	8	10 12	14
200/8"	30	8	10	12	18

**6A9**

X = 1.5; 2; 3

D	T	U	E	K
75/3"	25	6	10	60
100/4"	30	6 10	10	80
125/5"	30	6 10	10	110
150/6"	35	6 10	10	135

**1V1**

X = 2; 3; 4.

D	T	V				
50/2"	4 5 6 8 10	5 <sup>0</sup>	10 <sup>0</sup>	15 <sup>0</sup>	20 <sup>0</sup>	30 <sup>0</sup>
63/2.5"	5 6 8 10	5 <sup>0</sup>	10 <sup>0</sup>	15 <sup>0</sup>	20 <sup>0</sup>	30 <sup>0</sup>
75/3"	5 6 8 10	5 <sup>0</sup>	10 <sup>0</sup>	15 <sup>0</sup>	20 <sup>0</sup>	30 <sup>0</sup>
100/4"	5 6 8 12	5 <sup>0</sup>	10 <sup>0</sup>	15 <sup>0</sup>	20 <sup>0</sup>	30 <sup>0</sup>
125/5"	6 10 12	5 <sup>0</sup>	10 <sup>0</sup>	15 <sup>0</sup>	20 <sup>0</sup>	30 <sup>0</sup>
150/6"	6 10 12 15	5 <sup>0</sup>	10 <sup>0</sup>	15 <sup>0</sup>	20 <sup>0</sup>	30 <sup>0</sup>

**4A2**

X = 1; 1.5; 2; 3.

D	T-X	W				J
100/4"	7.5	3	4	5	6 10	50
125/5"	10.5	3	4	5	6 10	55
150/6"	13.5	3	4	5	6 10	55

**Hand Hones**

L2	W	X	L
25	10	1, 5, 2	125/150

**IFF1**

X=2; 3

D	R	T
50/2"	1 to 6	2R
75/3"	1 to 6	2R
100/4"	1 to 6	2R
125/5"	1 to 6	2R
150/6"	1 to 6	2R

**4 BT9**

X = 1, 1.5; 2

D	T	W	J
75/3"	8	6, 10	37
100/4"	10	6, 10	50
125/5"	12	10	65

## Marketing Codes

**SD 150 R 100 B D1 1/8 PA**

**SUPERABRASIVES**

- ND - Natural Diamond
- SD - Uncoated Synthetic Diamond
- ASD - 56% Nickel Coated Synthetic Diamond
- CSD - 50% Copper Coated Synthetic Diamond
- SSD - Synthetic Diamond for Carbide and Steel
- SD3 - 30% Nickel Coated Synthetic Diamond
- CBN - Cubic Boron Nitride (60% Nickel Coated)
- MSD - Metal Bond Synthetic Diamond

**GRIT SIZE**

46	100	180	320	600
60	120	220	400	800
80	150	240	500	1000

**GRADE**

J.L - Soft	N.P - Medium	R.S.T - Hard
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**CONCENTRATION**

25	50	75	100	125
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**BOND TYPE**

B - Resin	M - Metal
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**BOND MODIFICATION**

D1 - 9 - Dry	X230	} Electrolytic
W1 - 9 - Wet	XBC	
C - Copper	E	

**DEPTH OF SUPERABRASIVES**

1/16	1/8	1/4	1/2
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**CORE MATERIAL**

AB - Abrasive	AL - Metal Aluminium
BP - Black Plastic	PA - Plastic Aluminium
PC - Plastic Copper	ST - Steel