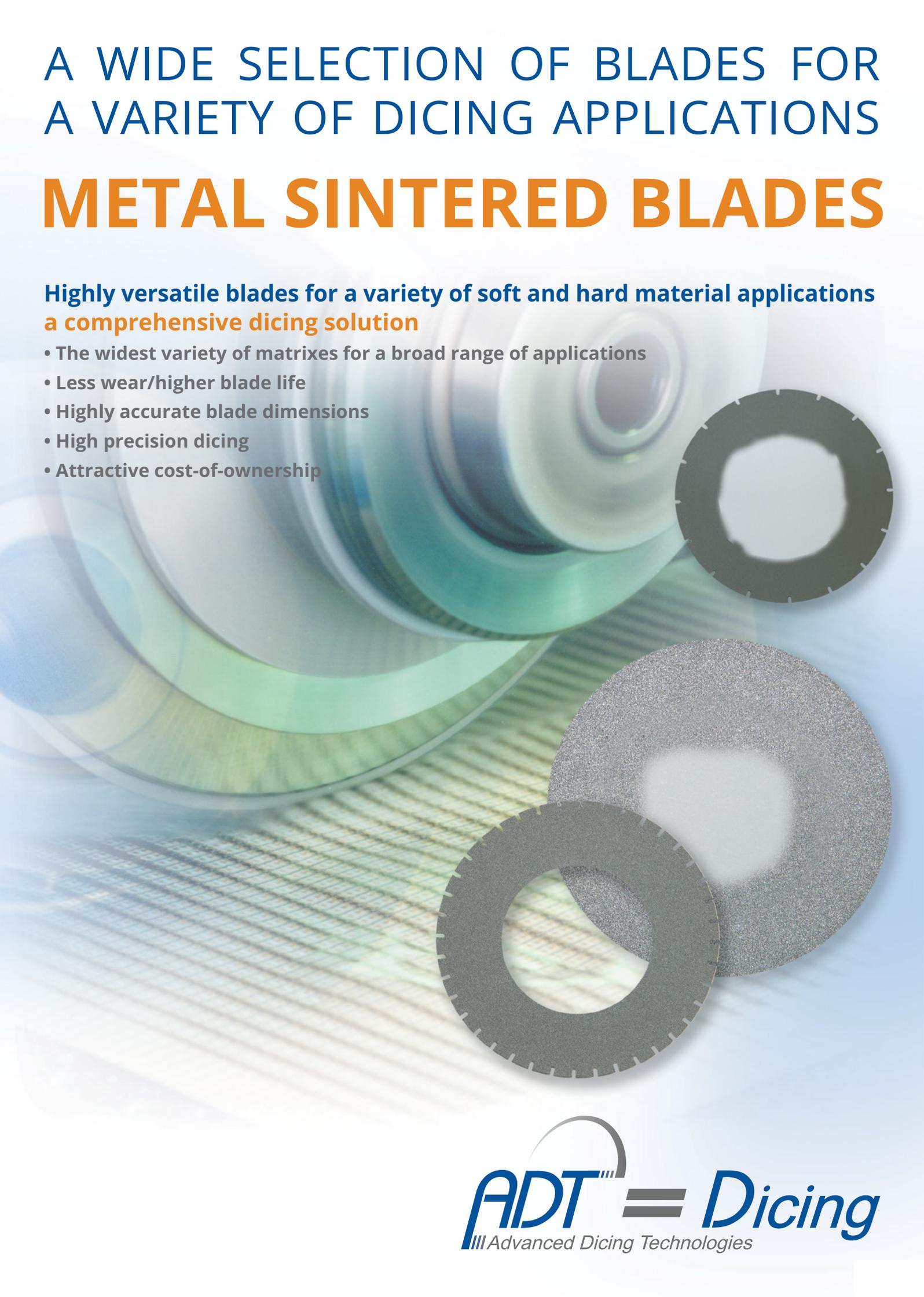


A WIDE SELECTION OF BLADES FOR A VARIETY OF DICING APPLICATIONS

METAL SINTERED BLADES

Highly versatile blades for a variety of soft and hard material applications
a comprehensive dicing solution

- The widest variety of matrixes for a broad range of applications
- Less wear/higher blade life
- Highly accurate blade dimensions
- High precision dicing
- Attractive cost-of-ownership



ADT = *Dicing*
Advanced Dicing Technologies

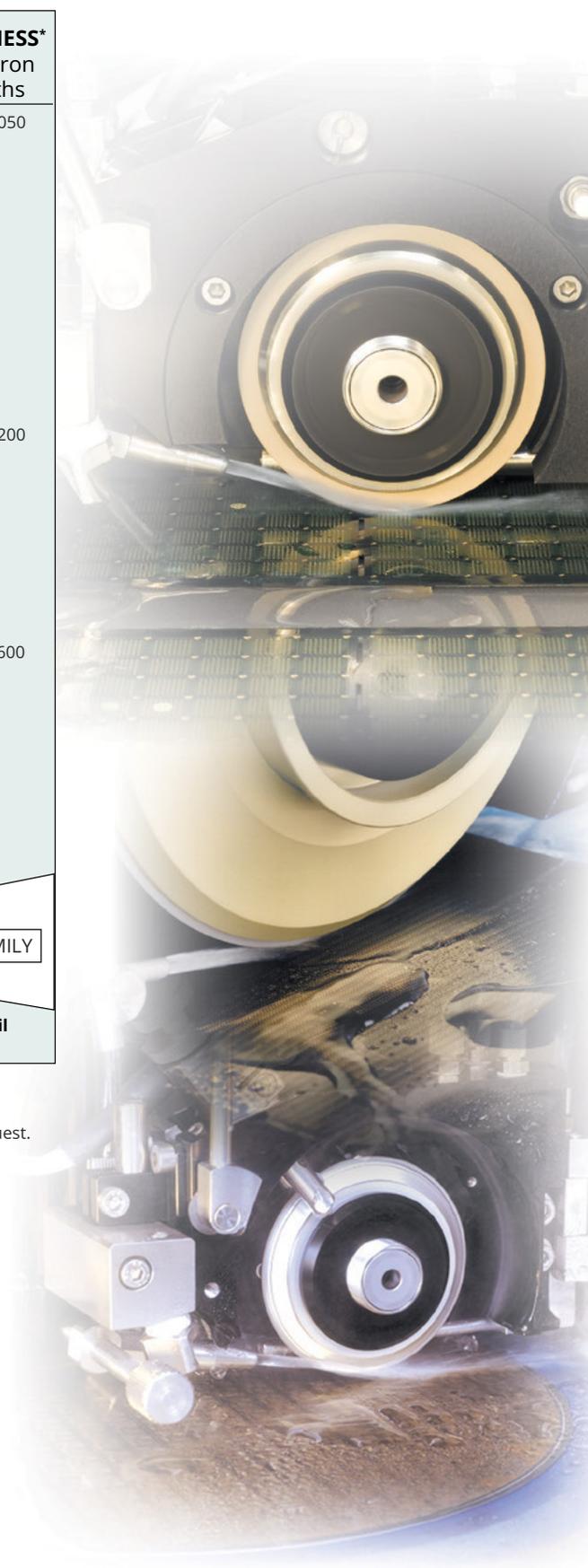
METAL SINTERED BLADES PART NUMBER DESCRIPTION

THICKNESS TOLERANCE*	EDGE GEOMETRY**	O.D.	I.D.	GRIT SIZE (µm)	THICKNESS* M=micron I=tenths
2 = ±.0001" 3 = ±.0002" 4 = ±.0005" B = ±.0003"	0 = Standards N = Non Standard SERRATED: A = x16 slots (for 2" blades) x60 slots (for 4" blades) B = x32 slots (for 2" blades)	2 = 4.8" 3 = 4.7" 4 = 4.6" 5 = 4.5" 6 = 4.4" 7 = 4.3" 8 = 4.256" 9 = 4.0" A = 3.0" B = 2.5" C = 2.25" D = 2.188" E = 2.0" F = 58 mm H = 77 mm I = 60 mm K = 54 mm L = 82 mm M = 56 mm N = 75 mm P = 52 mm S = 2.75" T = 78 mm Z = 74 mm W = 79 mm	1 = 3.5" 2 = 88.82 mm 6 = 40 mm	OA = 3-6 02 = 1-2 03 = 2-4 07 = 6-8 10 = 10 70 = 70	(050) = 050 (200) = 200 (600) = 600
EXAMPLE PART NUMBER	450 3 0-5 2	10-	120-I	XX	PRODUCT FAMILY
±.0002"	STANDARD	4.5" O.D.	88.82" I.D.	10 µm GRIT	12 mil

* Depends on diamond grit size

** Depends on blade thickness and diamond grit size

Other thickness options, diameters, edge geometries and diamond grit size are available upon request.



A WIDE SELECTION OF ANNULAR BLADES

Our blade selection is comprised of three product families distinguished by the type of binder: Resin-bond Blades, Nickel-bond Blades and Metal-bond (Sintered) Blades. Nickel-bond and Metal-bond (Sintered) Blades are characterized by long blade life and endurance, while Resin-bond Blades wear off faster and create less heat & friction. Resin-bond Blades are therefore best suited for hard and brittle materials such as alumina, glass and quartz, whereas Nickel-bond and Metal-bond (Sintered) Blades are an excellent choice for softer materials/substrates such as: PCB, Silicon and BGA.

40 YEARS OF EXPERIENCE IN TAILORING SOLUTIONS TO SPECIFIC APPLICATIONS

ADT's Dicing Saws, Blades and Peripheral Equipment manifest a wealth of dicing know-how and experience accumulated over three decades. We offer our customers a comprehensive solution - a unique blend of research, development, process mastery and skill.



STATE-OF-THE-ART MANUFACTURING TECHNOLOGY

Our blades are composed of abrasive materials embedded in a resin or metal matrix. Resin-bond Blades are cured under pressure and high temperature, Metal-bond Blades are sintered and Nickel bond Blades are manufactured using a tightly controlled electroforming process.

THE HIGHEST STANDARDS OF QUALITY ASSURANCE & PROCESS CONTROL

Strict monitoring at each critical stage of the production process insures that each ADT blade meets the desired specifications and dimensional tolerances. Our blades are tested extensively on the latest platforms, simulating the customer's operating conditions and process parameters. **A 100% final inspection is conducted on all products leaving the factory.**

ATTRACTIVE COST-OF-OWNERSHIP

By continuously lowering the cost of manufacturing, improving the quality and longevity of our products and maintaining a competitive, premium pricing policy, we lower the total cost-of-ownership and add value to your dicing operation.

METAL SINTERED BLADES

HIGHLY VERSATILE BLADES FOR A VARIETY OF SOFT AND HARD MATERIAL APPLICATIONS

In a unique, close-mold sintering process, diamond grit size, diamond concentration and metal binder are optimized to meet the precision and blade life requirements of your specific application. The metal binder provides a very stable, stress-free blade matrix and can be custom tailored to meet the required hardness and load resistance for dicing a variety of applications.

With slower wear rate than Resin but faster than Nickel, **Metal-bond (Sintered) Blades** are best suited for retaining package shape and size in applications such as:

Application	Recommended Grit Size		
BGA FR4 and Resin	35 μ m, 40 μ m, 45 μ m, 50 μ m, 55 μ m		
Magnetic Heads TiC	6-8 μ m, 10 μ m, 13 μ m		
Optical Sensors, Communication Glass	10 μ m, 15 μ m, 17 μ m, 20 μ m		
MEC Alumina, LTCC	3-6 μ m, 10 μ m, 13 μ m		
QFN Copper + Epoxy Molding	40 μ m, 45 μ m, 50 μ m		

NEW TECHNOLOGY FOR SINTERED BLADES - NOVUS

NEW!

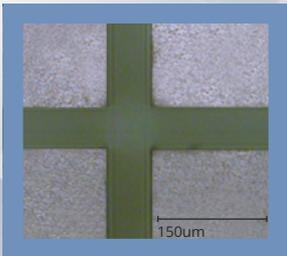
Thin blade for glass "NOVUS" G

Keeping our commitments to constantly improve our products and our customers' CoO, ADT is introducing the latest technology for manufacturing thin blades at the range of 50-100 μ m thickness.

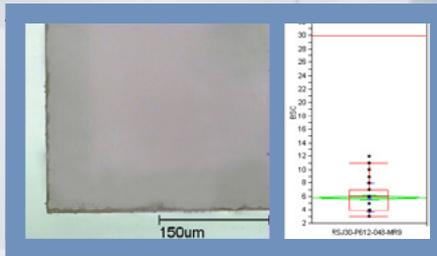
This new technology is designed to meet the strict requirements of perpendicularity, quality and package size at high feed rate.

These thin blades family is designed for Glass and soft Ceramic applications.

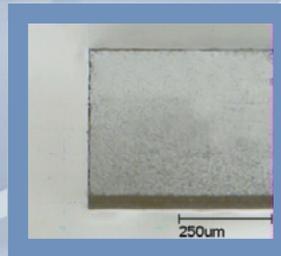
Dicing results of 300mm \varnothing Image Sensor wafer with 37 μ m blade thickness at cut speed of 6mm/sec:



TSC



BSC



Side view

NEW!

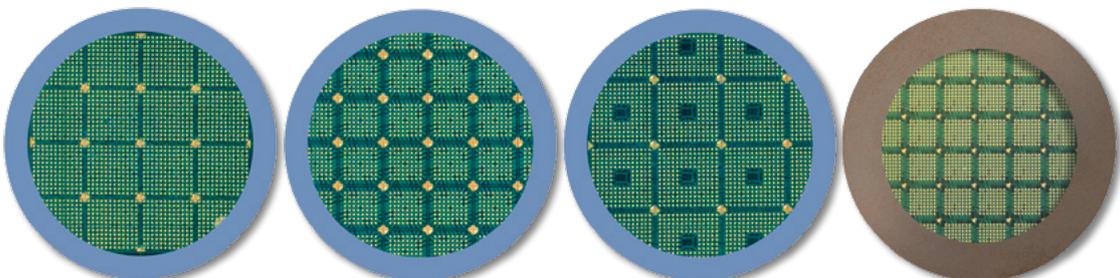
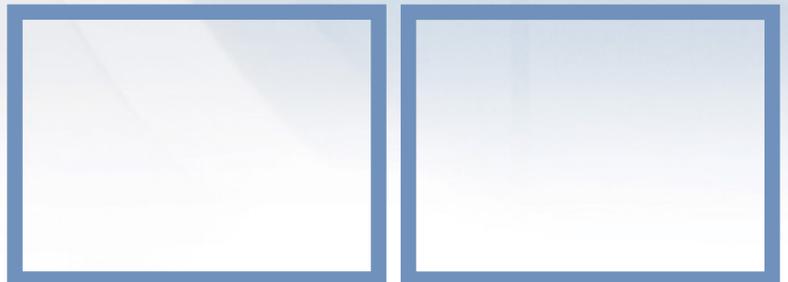
BGA application "NOVUS" B

As part of ADT commitment for ongoing improvement, we would like to introduce our new matrix "NOVUS" for various BGA applications.

The unique proprietary of matrix composition, provides a significant lower radial wear, maintaining a stable package size.

These improvements provide:

- Exceptionally long blade life
- Superior cut quality
- Attractive cost-of-ownership



METAL - SINTERED BLADES STANDARD SIZES

BLADE I.D.		BLADE O.D.	
inches	mm	inches (mm)	
1.575	40.0	2.000 (50.8)	2.250 (57.2)
		2.047 (52.0)	2.283 (58.0)
		2.126 (54.0)	2.362 (60.0)
		2.188 (55.6)	2.500 (63.5)
		2.204 (56.0)	2.750 (69.9)
1.575	40.0	2.913 (74.0)	3.031 (77.0)
		2.953 (75.0)	3.071 (78.0)
		2.972 (75.5)	3.110 (79.0)
		3.000 (76.2)	3.228 (82.0)
3.000	76.2	4.000 (101.6)	4.400 (111.8)
		4.256 (108.1)	4.500 (114.3)
		4.300 (109.2)	4.600 (116.8)
3.500	88.9	4.256 (108.1)	4.500 (116.8)
		4.300 (109.2)	4.700 (119.4)
3.000	88.82	4.400 (111.8)	4.800 (121.9)
		4.500 (114.3)	5.000 (127.0)
THICKNESS		.0030" .0040" .0050" .0080" .0600"	
STANDARD TOLERANCE			
TIGHT TOLERANCE			
GRIT SIZE		2-4µm -----> 3-6µm -----> 106µm	
		2-4µm -----> 17µm -----> 20µm -----> 25µm	
		2-4µm -----> 30µm -----> 50µm -----> 70µm	

1. Locate your desired blade diameter (O.D. and I.D.) in any one of the gray shaded bars at the top of the chart. The horizontal length of the shaded bar, in comparison to the red bar indicates the range of thickness in which blades in the gray bar are available. For example, 4" O.D. blades are only available (as standard) in thickness range from .0080" to .0600".

2. Make sure that the desired blade diameter is available in the desired thickness.

3. All of the colored options bars below the red bar indicate the range of thickness, where that option is available. For example, blades with 50µm grit size are only available (as standard) in thickness range from .0080" to .0600".

* Blade thickness options ranging from .0030" to .0080" are available depending on matrix type, and diamond grit size.

After you have determined (using the chart above) that your blades' O.D., I.D., thickness and grit size are available, please refer to the Metal Sintered Blades Part Number Description table for ordering information.

Please note: Other diameters, grit sizes and thickness options are available upon request.



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