

**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 matrices 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

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.

30 years of experience in tailoring solutions to specific applications

ADT's Dicing Saws, Laser Scriber System, Annular 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.**

A highly efficient customer support structure

By utilizing a tiered, global customer support structure we insure efficient support and fast response time to our customers' needs.

Tier 1: Headquarters and Factory-based support

Including customer support, application development centers and training

Tier 2: Regional support

Including technical support, application support, sales representation and training

Tier 3: Field support

Including service, process support and local sales

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		
PBGA FR4 and Resin	40 μm , 45 μm , 50 μm , 55 μm		
Magnetic Heads TiC	3-6 μm , 10 μm , 17 μm		
Optical Sensors, Communication Glass	20 μm , 30 μm , 45 μm		
LTCC Soft Alumina	20 μm , 25 μm , 30 μm , 35 μm		
QFN Copper + Epoxy Molding	70 μm , 80 μm		

New



"FAST" and Easy Blade Selection

There is nothing trivial about choosing the right blade composition for your process. The task requires taking into consideration, thickness, geometry, diamond concentration, binder hardness and many more variables. With "FAST", our Sample Selection Assistant, you can enjoy the benefit of our 30 years of process experience. Our "FAST" & friendly assistant will walk you through the selection process taking your particular requirements into consideration and producing an educated ADT recommendation for a **first trial, sample blade, part number**. Based on the submitted information, a sample blade will be shipped to your address. The "FAST" assistant is now available through the ADT Website. Please visit: www.adt-dicing.com. In addition, as always, our engineers are available to assess your needs and assist you in the blade selection process. For further assistance please contact your local sales representative. Contact information is available on the ADT website.

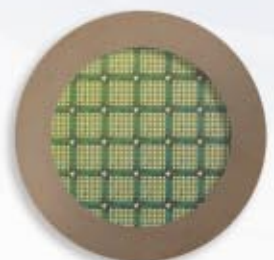
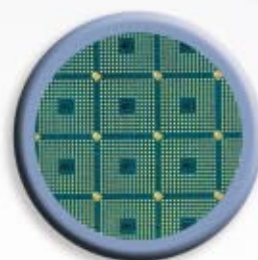
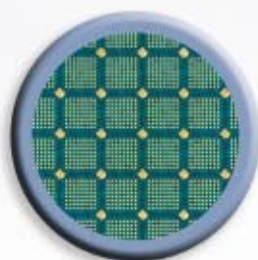
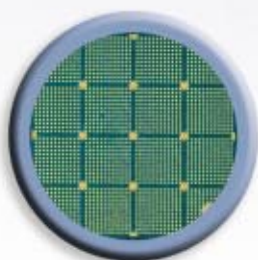
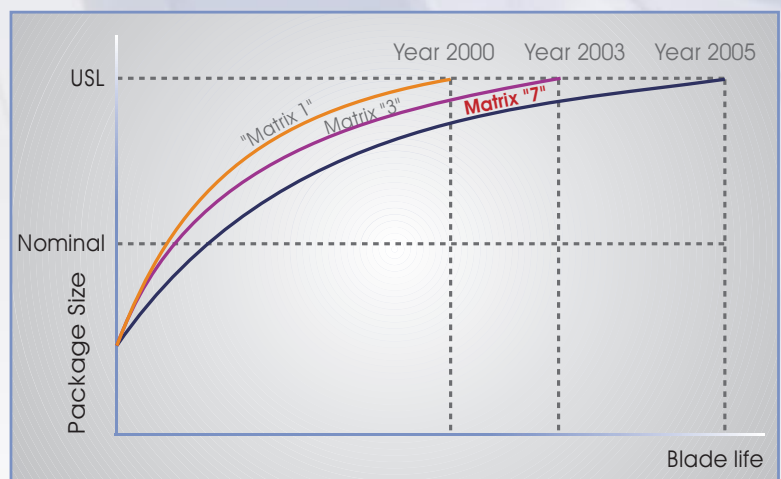
Special Offerings

"Matrix 7" for dicing tape-less applications

To retain package size and shape in singulating tape-less BGA applications, ADT has developed a special new matrix- "Matrix 7". The unique proprietary composite of the matrix provides higher, uniform radial wear and lower side wear thereby preserving package size and dimensions.

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

Evolution of matrices for tape-less BGA



Metal Sintered Blades Part Number Description

THICKNESS TOLERANCE*	EDGE GEOMETRY**	GRIT O.D.	I.D.	SIZE μm	THICKNESS*	
					M= μm	I=tenths
2= ± 0.0001 "	0 =Standard 180° A =Standard serration x16 x40 x60 depending on blade O.D. N =Non Standard	1=5.0"	1=3.5"	0A =3-6	(060) = 060 ↓ (200) = 200 ↓ (600) = 600	
3= ± 0.0002 "		2=4.8"	2=88.82 mm	0B =4-6		
4= ± 0.0005 "		3=4.7"	3=3.0"	02 =1-2		
5= ± 0.0010 "		4=4.6"	4=2.75"	03 =2-4		
B = ± 0.0003 "		5=4.5"	5=2.5"	07 =6-8		
		6=4.4"	6=40 mm	10 =10		
		7=4.3"	A =55 mm			
		8=4.256"	B =52 mm			
		9=4.0"	C =2.751"			
		A =3.0"				
		B =2.5"				
		C =2.25"				
		D =2.188"				
		E =2.0"				
		F =58mm				
		G =4.34"				
		H =77 mm				
		I =60 mm				
		K =54 mm				
		L =82 mm				
	M =56 mm					
	N =75 mm					
	P =52 mm					
	R =75.5 mm					
	S =2.75"					
	T =78 mm					
	Z =74 mm					
	W =79 mm					
	U =77.5 mm					
				70 = 70		

EXAMPLE PART NUMBER	4 S 0 3 0	5 2 1 0	1 2 0	1	XX	product family
± 0.0002 "	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 sizes are available upon request.

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	2.193	(74.0)	3.031	(77.0)
1.772	45.0	2.953	(75.0)	3.071	(78.0)
2.047	52.0	2.972	(75.5)	3.110	(79.0)
2.165	55.0	3.000	(76.2)	3.228	(82.0)
2.750	69.8	4.000	(101.6)	4.400	(111.8)
		4.256	(108.1)	4.500	(114.3)
		4.300	(109.2)	4.600	(116.8)
3.000	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)
3.000	76.2	4.256	(108.1)	4.500	(116.8)
		4.300	(109.2)	4.700	(119.4)
		4.400	(111.8)	4.800	(121.9)
		4.500	(114.3)	5.000	(127.0)
THICKNESS		.0030" .0040" .0080" * .0600"			
STANDARD TOLERANCE		±.0002"			
TIGHT TOLERANCE		±.0001"			
GRIT SIZE		2-4 µm 3-6 µm 10 µm 17 µm 30 µm 50 µm 70 µm			

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 and tolerance range from .0080" to .0600".

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

3. All of the colored option bars below the red bar indicate the range of thickness, where that option is available. For example, blades with 50 µm 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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