

**A WIDE SELECTION OF BLADES FOR  
A VARIETY OF DICING APPLICATIONS**

# Resin-bond Blades

**The best choice for hard and brittle material applications**

**A Comprehensive Dicing Solution**

- Self-sharpening matrix to expose new diamonds
- Superior cut quality
- Best performing matrix for hard, brittle and composite materials
- The widest variety of combinations for your most challenging applications
- 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.

# Resin-bond Blades

## For Hard and Brittle Materials

ADT's **Resin-bond Blades** are manufactured through a unique proprietary molding process. When cutting hard and brittle materials such as alumina, glass, quartz and ferrite, the edge of the blade wears out at a controlled rate exposing new diamonds to constantly sharpen the blade and thus achieve highly accurate kerf, outstanding yield and exceptional blade life.

Phenolic resin as binder allows for blade wear management rendering Resin-bond Blades an excellent choice for hard and brittle materials such as:

Application	Recommended Grit Size		
<b>QFN</b> Copper+Epoxy Molding	45 $\mu\text{m}$ , 53 $\mu\text{m}$ , 63 $\mu\text{m}$ , 75 $\mu\text{m}$ , 88 $\mu\text{m}$ , 105 $\mu\text{m}$		
<b>Hybrid Substrates and Ceramic Packages</b> Alumina	30 $\mu\text{m}$ , 45 $\mu\text{m}$ , 53 $\mu\text{m}$ , 63 $\mu\text{m}$ , 88 $\mu\text{m}$		
<b>SAW Devices</b> LiTaO <sub>3</sub> & LiNbO <sub>3</sub>	15 $\mu\text{m}$ , 20 $\mu\text{m}$ , 30 $\mu\text{m}$		
<b>SAW Devices</b> Quartz	30 $\mu\text{m}$ , 45 $\mu\text{m}$		
<b>Tape Heads</b> Ferrite	6 $\mu\text{m}$ , 9 $\mu\text{m}$		
<b>Communication</b> Glass+Silicon	20 $\mu\text{m}$ , 25 $\mu\text{m}$ , 30 $\mu\text{m}$		
<b>Optical Devices</b> Glass	3 $\mu\text{m}$ , 6 $\mu\text{m}$ , 9 $\mu\text{m}$		
<b>Fiber Optics</b> Glass	30 $\mu\text{m}$ , 45 $\mu\text{m}$		

New



## "FAST" and Easy Blade Selection

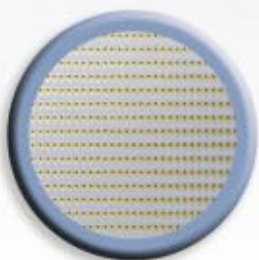
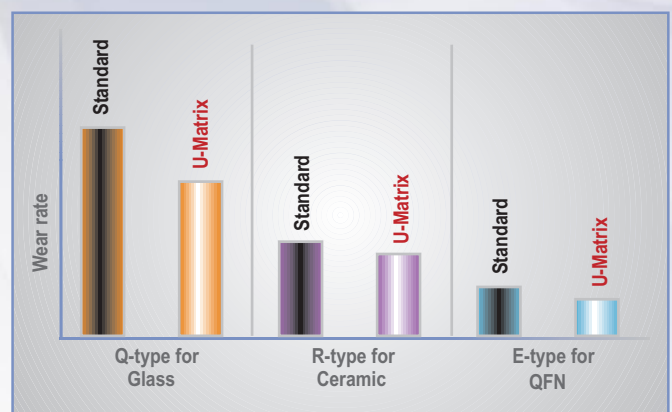
There is nothing trivial about choosing the right blade composition for your process. The task requires taking into consideration, thickness, geometry, diamond concentration, binder hardness and many more variables. With "FAST", our Sample Selection Assistant, you can enjoy the benefit of our 30 years 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](http://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

### Extended-life Resin-bond Blades for hard material applications

As part of our on-going effort to improve blade life properties and cut quality, ADT has recently introduced a new family of Resin Blades with extended blade life. This family, based upon a new resin type designated by the letter "U" in the part number, is characterized by lower blade wear leading to a significant increase in blade life. This increase is typically on the order of 20%-30% compared to conventional phenolic Resin Blades, depending on the specific application being diced and the process parameters. The extended life is seen throughout the complete range of applications diced by Resin Blades including QFN, glass, alumina, etc. Moreover, this extended life does not come at the expense of cut quality.

- Increased blade life
- Improved cost-of-ownership



# Resin-bond Blades Part Number Description

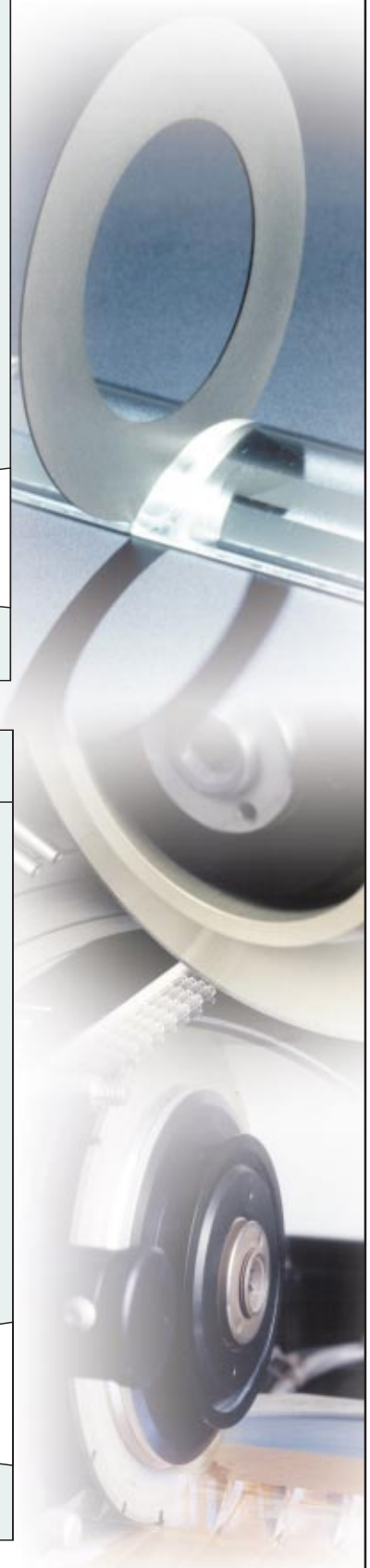
EDGE TYPE**	O.D. & I.D.		GRIT SIZE ( $\mu\text{m}$ )	THICKNESS (mil) *
1=Serrated, 16 slots 2=Shaped edge 3=Fine/Coarse 4=Blade I.D.3.5" (88.9 mm) 5=Serrated, 8 slots 6=Serrated, 4 slots 7=Fiber reinforced 8=CBN	1=2.188" x 40 mm 2=4.256" x 88.82mm 3=3.0" x 40 mm 4=4.5" x 88.82mm 5=5.0" x 88.82mm 6=4.6" x 88.82mm 7=4.7" x 88.82mm 8=2.25" x 40 mm 9=2.25" x 40 mm A=53 mm x 40 mm B=56 mm x 40 mm C=56 mm x 40 mm D=52 mm x 40 mm E=54 mm x 40 mm	F=60mm x 40 mm G=4.4" x 88.82 mm H=58 mm x 40 mm K=4.45" x 88.82 mm J=57 mm x 40 mm M=50 mm x 40 mm N=52.5 mm x 40 mm P=78 mm x 40 mm R=64 mm x 40 mm S=66 mm x 40 mm T=74 mm x 40 mm U=76.4 mm x 40 mm Q=4.8" x 88.82 mm W=72 mm x 40 mm	(003)=3 (006)=6 (009)=9 (015)=15 (020)=20 (025)=25 (030)=30 (035)=35 (045)=45 (053)=53 (063)=63 (075)=75 (088)=88 (105)=105 (125)=125 (150)=150 (200)=200	(003)=3 ↓ (100)=100
EXAMPLE PART NUMBER	X 5 7 7 7 - 4 0 0 6 - 0 1 0 - X X X product family			
Serrated 8 slots	4.5" O.D. 88.82 I.D.		6 $\mu\text{m}$ GRIT	10 mil

EDGE TYPE**	O.D. & I.D.	GRIT SIZE ( $\mu\text{m}$ )	THICKNESS (mil) *
1=Serrated, 16 slots 2=Shaped edge 3=Fine/Coarse 4=Blade I.D.3.5" (88.9 mm) 5=Serrated, 8 slots 6=Serrated, 4 slots 7=Fiber reinforced 8=CBN	0=2" x 1" 2=4.3" x 3" 3=3" x 55 mm 4=4.5" x 2.75" 5=5" x 3" 6=4.6" x 3" 8=2.25" x 1.5" 9=4.25" x 2.75" A=2.188" x 39.92 mm B=52 mm x 1" E=78 mm x 52 mm F=78.2 mm x 52 mm G=4" x 2.75"	(003)=3 (006)=6 (009)=9 (015)=15 (020)=20 (025)=25 (030)=30 (035)=35 (045)=45 (053)=53 (063)=63 (075)=75 (088)=88 (105)=105 (125)=125 (150)=150 (200)=200	(003)=3 ↓ (100)=100
EXAMPLE PART NUMBER	X 1 7 6 7 - 5 0 2 0 - 0 2 0 - X X X product family		
Serrate 16 slots	5" O.D. 3" I.D.	20 $\mu\text{m}$ GRIT	20 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.



# Resin-bond Blades Standard Sizes

BLADE I.D.		BLADE O.D.		
inches	mm	inches (mm)		
1.000	25.4	2.000	(50.8)	
1.500	38.1	2.250	(57.1)	
1.575	40.0	2.188	(55.6)	
		2.205	(56.0)	
		2.250	(57.1)	
		2.362	(60.0)	
		3.000	(76.2)	
2.750	69.8	4.400	(101.6)	
		4.500	(114.3)	
3.000	76.2	4.300	(109.2)	
		4.600	(116.8)	
		5.000 (127.0)		
3.497	88.82	4.256	(108.1)	
		4.600	(116.8)	
		4.700	(119.4)	
		5.000 (127.0)		
3.500	88.9	4.256	(108.1)	
		4.600	(116.8)	
<b>THICKNESS</b>				
		.0030" .0040" .0050" .0060" .0070" .0080" .0090" .0100" .0110" .0150" .0160" .0180" .0200" .0300" .0400" .0500" .1000"		
<b>GRIT SIZE</b>	3, 6, 9, 15, 20, 25, 30, 35 μm			
	45 μm			
	53 μm			
	63 μm			
	75, 88 μm			
	105, 125 μm			
	200 μm			
<b>COMPOSITION</b>	Coarse/Fine Fiber Reinforced			
<b>GROOVED</b>	Special Side Grooved Blades			

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, 5" O.D. blades are only available (as standard) in thickness range from .0150" to .1000".
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 63 μm grit size are only available (as standard) in thickness range from .0060" to .1000".

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 Resin-bond Blades Part Number Description table for ordering information.

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



**Headquarters**  
**Advanced Dicing Technologies Ltd.**  
 Advanced Technology Center, Haifa 31905,  
 Israel  
 Tel: 972-4-8545222  
 Fax: 972-4-8550001  
 Email: sales@adt-co.com  
[www.adt-co.com](http://www.adt-co.com)

**USA Subsidiary**  
**Advanced Dicing Technologies Inc.**  
 143 Witmer Road, Horsham, PA 19044,  
 USA  
 Toll Free: 800-604-4950  
 Tel: 215-773-9155  
 Fax: 215-773-9844  
 Email: us-support@adt-co.com

**China RO**  
 3000 Longdong Ave., Shanghai 201203,  
 China  
 Zhangjiang Semiconductor Industry  
 Park, building no. 7, room no. 107  
 Tel: 8621-6879-0858  
 Fax: 8621-6879-0868  
 Email: china\_support@adt-co.com