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

Accelonix
keeping you ahead.

ADT = Dicing
Advanced Dicing Technologies

Resin-bond Blades Part Number Description

EDGE TYPE	O.D. & I.D.	GRIT SIZE** (μm)	THICKNESS* (mil)
1=Serrated, 16 slots **2**=Shaped edge **3**=Fine/Coarse **4**=Blade I.D.3.5" (88.9) **5**=Serrated, 8 slots **6**=Serrated, 4 slots	**1** = 2.188" x 40mm **2** = 4.256" x 88.82mm **3** = 3.0" x 40mm **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 40mm **9** = 2.5" x 40mm **A** = 53mm x 40mm **B** = 51mm x 40mm **C** = 56mm x 40mm **D** = 52mm x 40mm **E** = 54mm x 40mm **F** = 60mm x 40mm **G** = 4.4" x 88.82mm **H** = 58mm x 40mm **K** = 4.45" x 88.82mm **J** = 57mm x 40mm **M** = 50mm x 40mm **N** = 52.5mm x 40mm **P** = 78mm x 40mm **R** = 64mm x 40mm **S** = 66mm x 40mm **T** = 74mm x 40mm **U** = 76.4mm x 40mm **Q** = 4.8" x 88.82mm **W** = 72mm x 40mm **L** = 80mm x 40mm **V** = 55mm x 40mm **X** = 59mm x 40mm **Y** = 77mm x 40mm **Z** = 75mm x 40mm	**(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 **(010)** = 10 **(811)** = 11.8 **(512)** = 12.5 **(020)** = 20 **(099)** = 99

EXAMPLE PART NUMBER: **X5 777 - 4 006 - 010 - XXX** (product family)

Serrated 8 slots	4.5" O.D. 88.82 I.D.	6μm GRIT	10 mil

EDGE TYPE	O.D. & I.D.	GRIT SIZE** (μm)	THICKNESS* (mil)
1=Serrated, 16 slots **2**=Shaped edge **3**=Fine/Coarse **4**=Blade I.D.3.5" (88.9) **5**=Serrated, 8 slots **6**=Serrated, 4 slots	**0** = 2" x 1" **2** = 4.3" x 3" **3** = 3" x 55mm **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 39.92mm **B** = 52mm x 1" **E** = 78mm x 52mm **F** = 78.2mm x 52mm **G** = 4" x 2.75" **C** = 3" x 52mm **D** = 37mm x 1" **H** = 80mm x 52mm **M** = 82mm x 52mm **Y** = 77mm x 52mm	**(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 **(010)** = 10 **(811)** = 11.8 **(512)** = 12.5 **(020)** = 20 **(099)** = 99

EXAMPLE PART NUMBER: **X1 767 - 5 020 - 020 - XXX** (product family)

Serrated 16 slots	5" O.D. 3" I.D.	20μm GRIT	20 mil

* Depends on diamond grit size
** Depends on blade thickness
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.

30 years of experience in tailoring solutions to specific applications

ADT's Dicing Saws, the NextStep 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.

"FAST" and Easy Blade Selection

There is nothing trivial about choosing the right blade composition for your process. The task requires taking into consideration: geometry, diamond size & concentration, binder hardness and many more variables. With our Selection Tool, you can enjoy the benefit of our 30 years of process experience.

Our "FAST" will walk you through the selection process taking your particular requirements into consideration and producing an educated ADT recommendation for a first trial, part number.

In addition, as always, our engineers are available to assess your needs and assist you in the blade selection process.

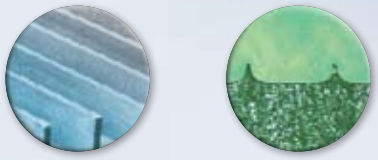
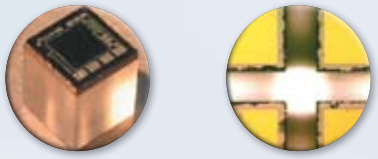
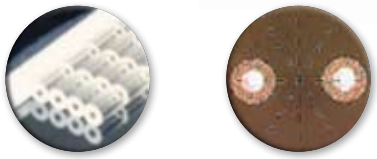
Contact information is available on ADT website.

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

ADT's Resin-bond Blades are manufactured through a unique proprietary molding process. When cutting hard and brittle materials, 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.

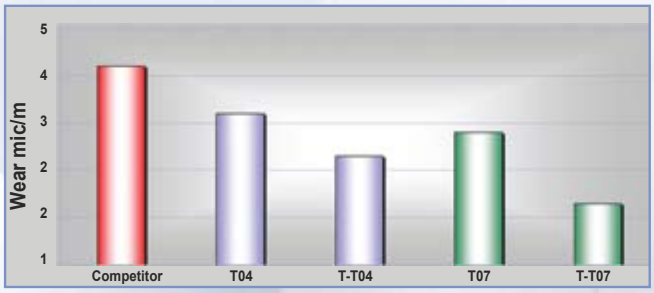
Application	Recommended Grit Size	
QFN Copper+Epoxy Molding	45μm, 53μm, 63μm 75μm, 88μm, 105μm	
Hybrid substrates and Ceramic Packages Alumina	30μm, 45μm, 53μm 63μm, 88μm	
SAW Devices LiTaO3 & LiNbO3	15μm, 20μm, 30μm	
SAW Devices Quartz	25μm, 30μm, 35μm, 45μm	
Tape Heads Ferrite	6μm, 9μm	
Communication Glass+Silicon	20μm, 25μm, 30μm	
Optical Devices Glass	3μm, 6μm, 9μm	
Fiber Optics Glass	25μm, 30μm, 35μm, 45μm	
Optical Splitters Quartz	25μm, 30μm, 35μm, 45μm	

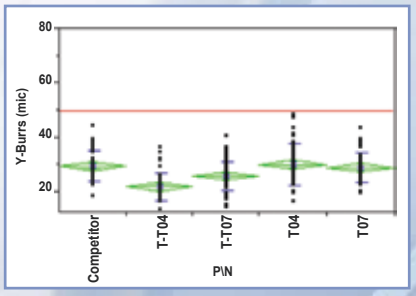
NEW! Resin-bond Generation

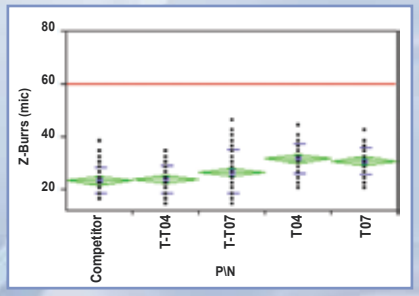
Keeping our commitments to constantly improve our products and our customers' CoO, ADT has released their new arsenal of Blades to support the new developments in the market.

The new products for QFN package singulation, Ceramic substrates and Quartz applications provide best support to the tightest quality specifications, higher UPH and extended blade life requirements in today's competitive market.

QFN Package Singulation – "T" series

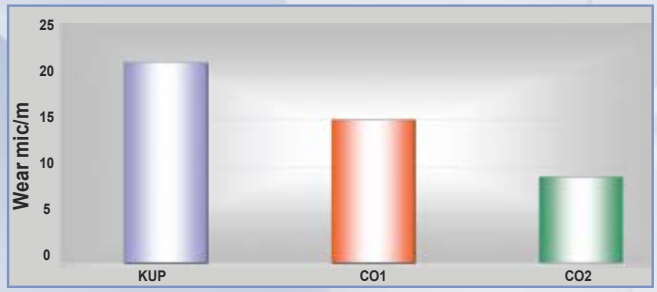


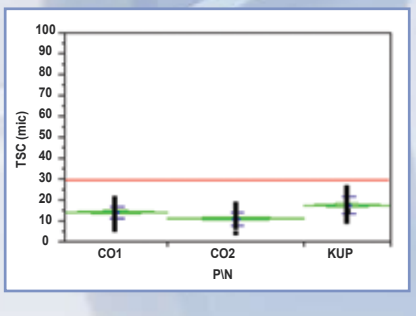


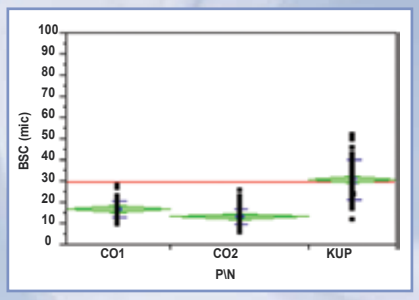


• High throughput - Feed rate of 75 mm/sec

Ceramic substrates – "C" series

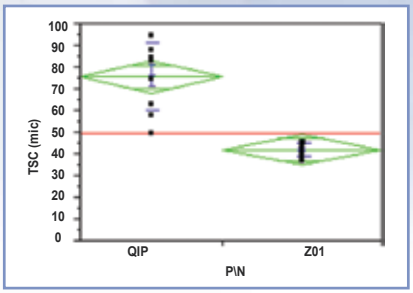


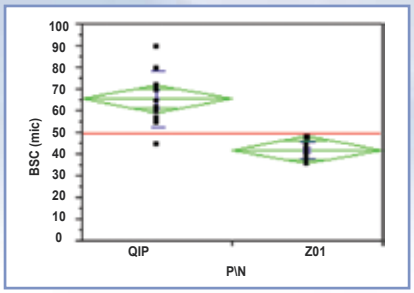




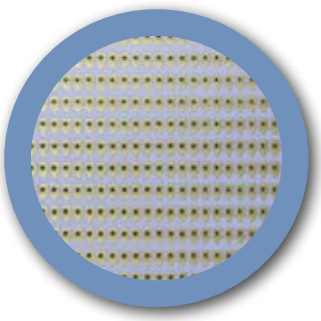
•High throughput - Feed rate of 15 mm/sec

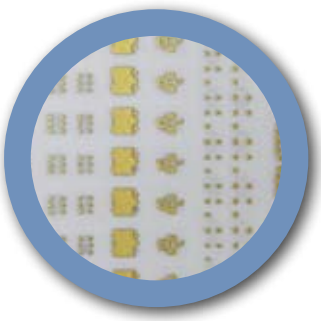
Quartz applications – "Z" series

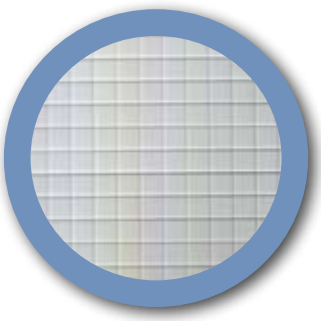


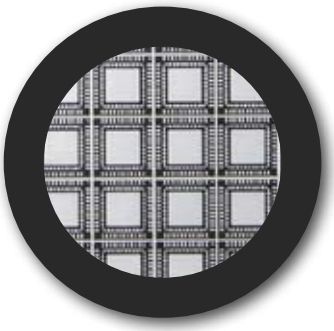


• High throughput - Feed rate of 8 mm/sec









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	2.000 (50.8) up to 3.000 (76.2)
2.750	69.8	4.400 (101.6) 4.500 (114.3)
3.000	76.2	4.400 (101.6) 4.500 (114.3) 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)
THICKNESS		.0030" .0040" .0050" .0060" .0070" .0080" .0090" .0100" .0110" .0150" .0160" .0180" .0200" .0300" .0400" .0500" .1000"
GRIT SIZE		3µm, 6µm, 9µm, 15µm, 20µm, 25µm, 30µm, 35µm 3µm ------→ 45µm 3µm ------→ 53µm 3µm ------→ 63µm 3µm ------→ 75µm, 88µm, 3µm ------→ 105µm, 125µm, 3µm ►- 150µm, 200µm, 250µm
GROOVED		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 avalable (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 options 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.

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