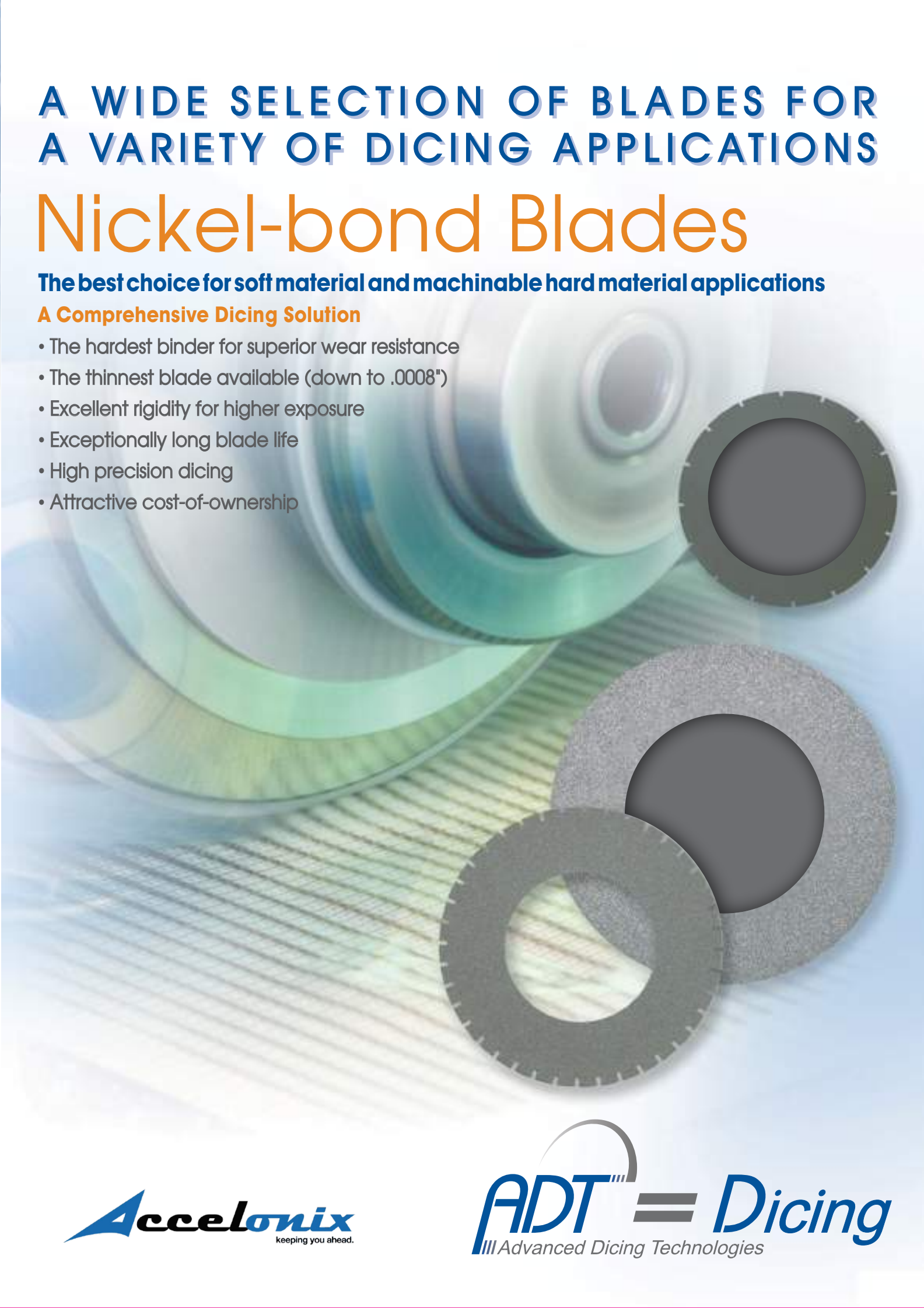
A WIDE SELECTION OF BLADES FOR A VARIETY OF DICING APPLICATIONS

Nickel-bond Blades

The best choice for soft material and machinable hard material applications

A Comprehensive Dicing Solution

- The hardest binder for superior wear resistance
- The thinnest blade available (down to .0008")
- Excellent rigidity for higher exposure
- Exceptionally long blade life
- High precision dicing
- Attractive cost-of-ownership



Accelonix
keeping you ahead.

ADT = Dicing
Advanced Dicing Technologies

A WIDE SELECTION OF BL

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, 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 stracture 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.

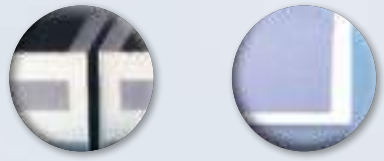
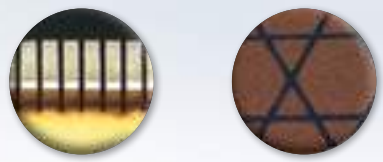
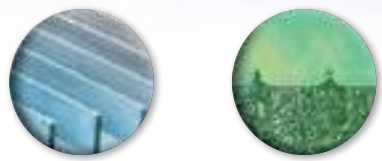
Nickel- bond

Nickel-bond Blades

For soft material and machinable hard material applications

ADT's **Annular Nickel Blades** are produced using a state-of-the-art, tightly controlled electroforming process which guarantees a uniform distribution of diamonds througoutt the Nickel layer. This process not only allows for blades to be produced to very tight tolerances, but also permits optimization of grit size, hardness and geometry to meet the particular requirements of your application.

The Nickel binder provides longer life and lower wear rate and together with the abrasive makes Nickel-bond Blades a perfect choice for softer application such as:

Application	Recommended Grit Size	
PCB (LED Packages) FR4 and BT Resin	10 μm, 13 μm, 17 μm	
BGA FR4 and Epoxy Molding	30 μm, 50 μm	
Multi-Layer Capacitos Green Ceramic	30 μm, 50 μm	
Ultrasound Sensors, Micro-positioners PZT	6-8 μm, 10μm	
Tape Heads Ferrite	3-6 μm, 10 μm, 13 μm	
Magnetic Heads TiC	3-6 μm, 10 μm, 13 μm	

"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 Web Selection Tool, you can enjoy the benefit of our over 30 years of process experience.
Our "FAST" & friendly assistance tool will walk you through the selection process taking your particular requirements into consideration and producing an educated ADT recommendation for a part number.
We invite you to 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. Contact information is available on ADT website.

New "P" type blade for dicing PZT Ultrasound Sensors

To meet the demanding requirements of this specific application, ADT has developed the new "P" type of thin nickel blades specifically designed for ultrasound PZT sensor applications.
This new type has a unique hardness and stiffness characteristics.
The diamond concentration is optimized to minimize blade loading in order to provide superior cut perpendicularity. These blades are available with different diamond grit sizes ranging from 3-6mic up to 10mic depending on the application requirements.
All blades can be ordered with different outer diameters to perform an optimized blade exposure in order to meet tight kerf size requirements.

Offering:

- Kerf accuracy
- Kerf perpendicularity
- Superior quality
- High throughput

PZT Cutting Results

Nickel-bond Blades Part Number Description

I.D.	O.D.	GRIT SIZE (μm)	EDGE GEOMETRY**	O.D. SHAPE	THICKNESS (mil)*	THICKNESS TOLERANCE*
0 = 88.82 mm **1** = 40 mm **3** = 2.75" **4** = 3.5" (88.9 mm) **5** = 3" **8** = 55 mm **9** = 52 mm	**1** = 4.256" **2** = 2.188" **L** = 75 mm **3** = 3" **H** = 77 mm **4** = 4.6" **5** = 5" **7** = 4.4" **8** = 4.8" **9** = 4.5" **0** = 4.34"	**(1)** = 2-4 **(2)** = 3-6 **(3)** = 10 **(4)** = 17 **(5)** = 30 **(6)** = 50 **(9)** = 10-15 **(B)** = 6-8	**0** = Standard **1** = Serrated	**1** = Edge Grounded	**(008)** = 0.8 ↓ **(150)** = 15.0 **STEEL CORE** ↓ **(400)** = 40.0	**A** = ±.0001"** **B** = ±.0002"** **C** = ±.0003" **D** = ±.0005" **F** = ±.0010"

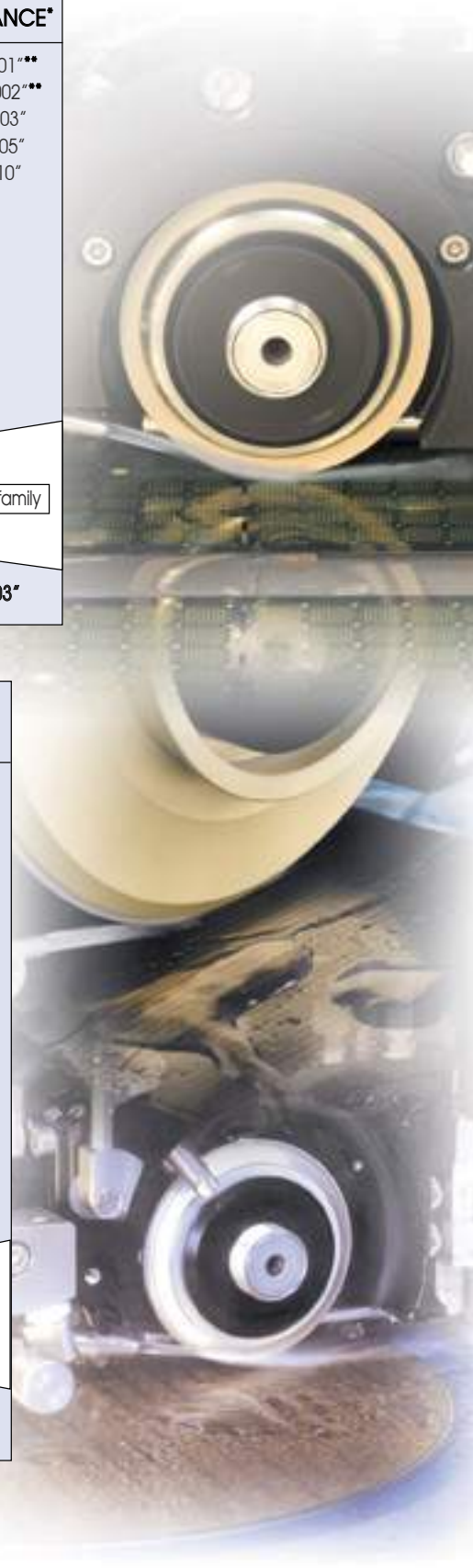
EXAMPLE PART NUMBER **X4776-8201-** **-C** **XX** product family

3.5" I.D.	4.8" O.D.	3-6μm GRIT	STANDARD	EDGE GROUNDED	7 mil	±.0003"

I.D.***	O.D.	GRIT SIZE (μm)	EDGE GEOMETRY**	THICKNESS (mil)*	THICKNESS TOLERANCE*
Special 2" Nickel Blade Designator 40 mm I.D. Only	**0** = 55 mm **1** = 50.1 mm **2** = 50.2 mm **3** = 50.4 mm **4** = 50.6 mm **5** = 50.8 mm **6** = 51 mm **7** = 51.2 mm **8** = 51.4 mm **9** = 52 mm **A** = 58 mm **B** = 56 mm **C** = 54 mm **D** = 60 mm **E** = 50.5 mm **F** = 51.5 mm **M** = 2.25"	**(1)** = 2-4 **(2)** = 3-6 **(3)** = 10 **(4)** = 17 **(5)** = 30 **(6)** = 50 **(9)** = 10-15 **(B)** = 6-8	**0** = Standard **1** = Serrated	**(008)** = 0.8 ↓ **(150)** = 15.0 **STEEL CORE** ↓ **(400)** = 40.0	**A** = ±.0001"** **B** = ±.0002"** **C** = ±.0003" **D** = ±.0005" **F** = ±.0010"

EXAMPLE PART NUMBER **4B776-3231-045-B** **XX** product family

40 mm I.D.	50.2 mm O.D.	10 μm GRIT	EDGE GROUNDED	4.5 mil	±.0002"



* Depends on diamond grit size

** Depends on blade thickness and diamond grit size

*** All special 2" Nickel Blades have an I.D. of 40 mm

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

Nickel-bond Blades Standard Sizes

BLADE I.D.		BLADE O.D.
inches	mm	inches (mm)
1.000	25.4	2.204 (56)
1.575	40.0	1.972 (50.1), 1.976 (50.2), 1.984 (50.4), 1.992 (50.6), 2.000 (50.8), 2.008 (51.0), 2.016 (51.2), 2.024 (51.4), 2.047 (52.0), 2.126 (54.0), 2.165 (55.0), 2.188 (55.6), 2.204 (56.0), 2.260 (57.15), 2.362 (60.0)
1.575 2.165	40.0 55.0	2.953 (75.0), 3.000 (76.2), 3.031 (77.0)
2.750	69.8	4.400 (111.8), 4.500 (114.3)
3.497 3.500	88.82 88.9	4.256 (108.1), 4.340 (110.2), 4.400 (111.8), 4.500 (114.3), 4.600 (116.8), 4.800 (121.9), 5.000 (127.0)
THICKNESS		.0010" .0012" .0015" .0030" .0040" .0050" .0070" .0090" .0110" .0130" .0150" .0400"
GRIT SIZE		2-4 µm, 3-6 µm, 6-8 µm 10 µm, 10-15 µm, 17 µm 30 µm, 50 µm STEEL CORE: 10 µm, 30 µm, 50 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, 5" O.D. blades are only avalable (as standard) in thickness range from .0070" to .0130"

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 17 µm grit size are only available (as standard) in thickness range from .0015" to .0130".

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

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

Design: STUDIO BAHIR

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