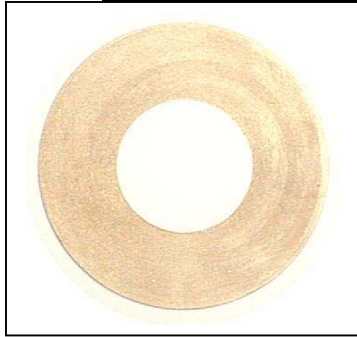




Diamond Dicing Blades 1A8 SMART CUT™ technology



SMART CUT™ series (metal bonded) dicing blades are the highest overall performance blades available today. Manufactured utilizing **SMART CUT™ technology**, and fully solid diamond and bond from the periphery to the hole. Providing unparalleled performance on a large variety of materials. Dicing Blades are available on a large variety of Grit Sizes (Mesh). Slotted Blades (1A8S) are also available Dicing Blades can be regrind and lapped. All blades can be custom made to fit your specifications & requirements.

Standard Tolerances: Outside Diameter (OD): +.010/-.010 Inside Diameter: +.001/-.000 Thickness: +.0005/-.0005 Special Tolerances are available upon request

Applications:

- CBGAs
- Hybrid Substrates
- Ceramic Packages
- Integrated Circuits
- Ultrasound Sensors
- Multi-Layer Capacitors
- Micro-positioners
- Tape Heads for VTRs
- Magnetic Heads for Disks
- PBGAs
- PCBs
- Saw Devices and Ink Jet Print Heads

Dicing Saws Used On:

- + Disco Dicing Saws, + K & S Dicing Saws, + Micro Automation Dicing Saws, + Surface Grinders, + other dicing saws

Item No.	Outside Diameter	Thickness	Diamond Depth	Arbor Size
23-4840S	2-3/16"	.003"	5/32"	1-7/8"
23-4841S	2-3/16"	.004"	5/32"	1-7/8"
23-4842S	2-3/16"	.005"	5/32"	1-7/8"
23-4843S	2-3/16"	.006"	5/32"	1-7/8"
23-4844S	2-3/16"	.010"	5/32"	1-7/8"
23-4845S	2-3/16"	.015"	5/32"	1-7/8"
23-4846S	2-3/16"	.020"	5/32"	1-7/8"
23-4847S	3.0"	.008"	23/32"	40 mm
23-4848S	3.0"	.010"	23/32"	40 mm
23-4849S	3.0"	.012"	23/32"	40 mm
23-4850S	3.0"	.015"	23/32"	40 mm
23-4851S	3.0"	.018"	23/32"	40 mm
23-4852S	3.0"	.020"	23/32"	40 mm
23-4853S	3.0"	.008"	7/8"	1-1/4"
23-4854S	3.0"	.010"	7/8"	1-1/4"
23-4855S	3.0"	.012"	7/8"	1-1/4"
23-4856S	3.0"	.015"	7/8"	1-1/4"
23-4857S	3.0"	.018"	7/8"	1-1/4"
23-4858S	3.0"	.020"	7/8"	1-1/4"
23-4859S	3-1/8"	.005"	1/4"	2.614"
23-4860S	3-1/8"	.006"	1/4"	2.614"
23-4861S	3-1/8"	.008"	1/4"	2.614"
23-4862S	3-1/8"	.010"	1/4"	2.614"
23-4863S	3-1/8"	.015"	1/4"	2.614"
23-4864S	3-1/8"	.020"	1/4"	2.614"

ADVANTAGES:

- + More Universal
- + Super Long Life
- + More Durable
- + Saves Material
- + No Contamination
- + Minimal Maintenance
- + Electro conductive
- + Less Heat Generation
- + More Consistency
- + SAVE MONEY!!!**



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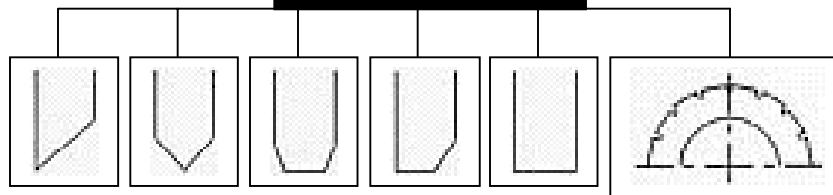
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DICING BLADES



23-4865S	3-5/8"	.005"	1/2"	2.614"
23-4866S	3-5/8"	.008"	1/2"	2.614"
23-4867S	3-5/8"	.010"	1/2"	2.614"
23-4868S	3-5/8"	.015"	1/2"	2.614"
23-4869S	3-5/8"	.020"	1/2"	2.614"
23-4870S	4.0"	.006"	1-3/8"	1-1/4"
23-4871S	4.0"	.010"	1-3/8"	1-1/4"
23-4872S	4.0"	.015"	1-3/8"	1-1/4"
23-4873S	4.0"	.020"	1-3/8"	1-1/4"
23-4874S	4.0"	.025"	1-3/8"	1-1/4"
23-4875S	4.0"	.030"	1-3/8"	1-1/4"
23-4876S	4-1/4"	.006"	5/8"	2-3/4"
23-4877S	4-1/4"	.010"	5/8"	2-3/4"
23-4878S	4-1/4"	.015"	5/8"	2-3/4"
23-4879S	4-1/4"	.020"	5/8"	2-3/4"
23-4880S	4-1/4"	.025"	5/8"	2-3/4"
23-4881S	4-1/4"	.030"	5/8"	2-3/4"
23-4882S	4-1/4"	.006"	3/4"	2-3/4"
23-4883S	4-1/4"	.010"	3/4"	2-3/4"
23-4884S	4-1/4"	.015"	3/4"	2-3/4"
23-4885S	4-1/4"	.020"	3/4"	2-3/4"
23-4886S	4-1/4"	.025"	3/4"	2-3/4"
23-4887S	4-1/4"	.030"	3/4"	2-3/4"
23-4888S	4-1/2"	.006"	7/8"	2-3/4"
23-4889S	4-1/2"	.010"	7/8"	2-3/4"
23-4890S	4-1/2"	.015"	7/8"	2-3/4"
23-4891S	4-1/2"	.020"	7/8"	2-3/4"
23-4892S	4-1/2"	.025"	7/8"	2-3/4"
23-4893S	4-1/2"	.030"	7/8"	2-3/4"
23-4894S	5.0"	.006"	3/8"	4-1/4"
23-4895S	5.0"	.010"	3/8"	4-1/4"
23-4896S	5.0"	.015"	3/8"	4-1/4"
23-4897S	5.0"	.020"	3/8"	4-1/4"
23-4898S	5.0"	.025"	3/8"	4-1/4"
23-4899S	5.0"	.030"	3/8"	4-1/4"

DICING ANGLES





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Other sizes and specifications are available upon request

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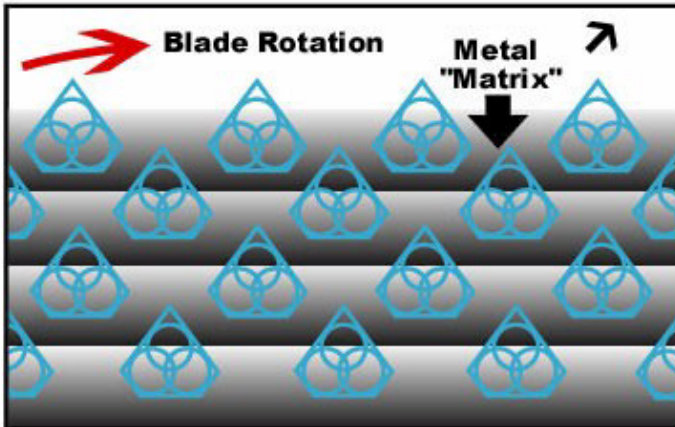
23-4900S	6.0"	.006"	3/8"	5-1/4"
23-4901S	6.0"	.010"	3/8"	5-1/4"
23-4902S	6.0"	.015"	3/8"	5-1/4"
23-4903S	6.0"	.020"	3/8"	5-1/4"
23-4904S	6.0"	.025"	3/8"	5-1/4"
23-4905S	6.0"	.030"	3/8"	5-1/4"

MATERIALS USED ON:

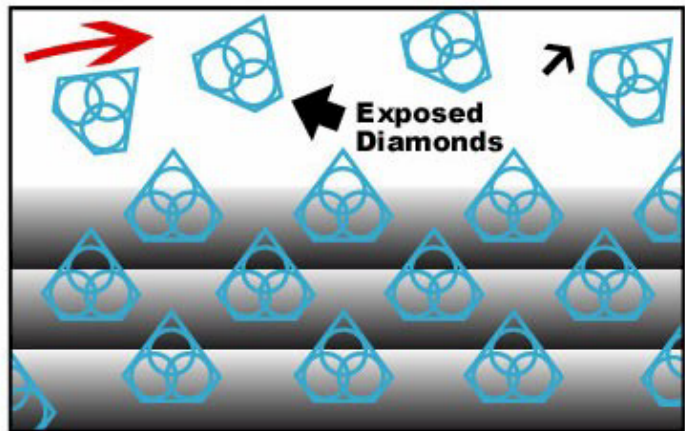
Alsmag	Alumina	Alumina soft unfired	B4C(Boron carbide)	Barium Titanate,	Bismuth Telluride	BK-7(Glass)	Bismuth Telluride	Boron Nitride - hard	Boron Nitride-soft
Cadmium Telluride	Carbide	Ferrite	Flasde	FR4 and Resin	G-10	Gallium Arsenide	Gallium Phosphide	Garnet	Germanium
GGG	Glass & Quartz	Glass Passivated Silicon	Green Ceramic	Kovar	LiTaO3 & LiNbo	Lithium Niobate	Nitride Passivated Silicon	Passive Silicon	Pyrex
PZT	Ruby	Sapphire	Silicon	Silicon on Sapphire	Tic	Titanium	and many other materials		

How Smart Cut Works?

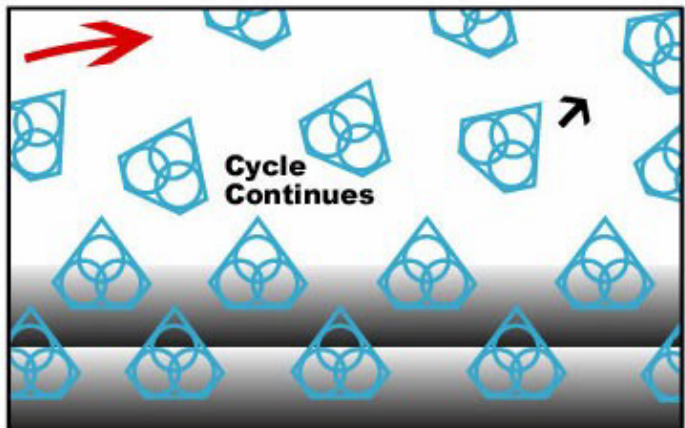
The sharpest and finest quality DeBeers diamonds that go into a Smart Cut Diamond Bond, immediately penetrate into the material, grinding and polishing as they cut.



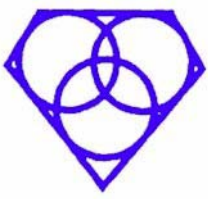
Diamonds are activated only at the exposed layer. As diamonds layer begin to wear out, diamonds in a new diamond layer are immediately activated, substituting the already used up diamond layer. The Smart Cut Diamond Bond makes sure every diamond is in the right place and at the right time, working where you need it most.



The newly exposed diamonds don't effect diamonds already working on the material. Unlike many other diamond bonds, diamonds in a Smart Cut remain sharp and grow sharper with each cut. Prolonging product life and consistent performance.



This advanced formulated open diamond bond design insures minimal chipping, fast cut, constant speed of cut, minimal cutting noise, and most important of all minimal loss of precious material.



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BENEFITS / ADVANTAGES

SMART CUT™ technology, is a breakthrough: in manufacturing fully impregnated diamond dicing blades. We are able position and orient diamonds in the metal matrix to allow every diamond to participate in the cutting action. **SMART CUT™** technology will redefine the standard in cutting.

maximum cutting performance – each diamond works like a small horse. Diamonds come in contact with the material in the right place and at the right time, working where you need them most. You get the maximum use out of diamond and bond.

no glazing – blade requires minimal dressing, the bond renews itself.

faster cutting action – Dicing Blades manufactured utilizing this technology are much more aggressive than your ordinary blades. They cut faster, still leaving behind a smooth finish as you would expect from a resin bond.

longer lasting - dicing blades manufactured utilizing SMART CUT technology, will outlast other metal (sintered), resin, and nickel bonded blades. Fully impregnated diamond dicing blades are more sturdy than blades manufactured with conventional technologies. Unlike many other resin or metal bonded blades, these blades will not dull and maintain its firm shape and roundness all the way through the blades life.

superior coolant system – these dicing blades are completely impregnated with diamonds. Diamonds absorb excessive heat and tension generated by repeated use, promoting consistency in cut cleanness and smoothness. You will notice the difference in the quality of the cut these blades leave behind.

There are other advantages of utilizing diamond dicing blades manufactured with the **SMART CUT** technology. The company feels, you will find it a significant breakthrough in the cutting field.

- **More than 10 times the cutting life of a resinoid blade**

- **Minimal chipping of critical edges**

- **Strength enough for even the toughest materials including ceramics, pyrex, sapphire and alumina.**

- **Typical cutting rates of 0.025" ceramic of 0.04" per second up to 0.1" per second at 20k rpm, 30 micron grit size, 0.006" thick.**

PROPER USAGE RECOMMENDATIONS

Feed Rate: 1/4" to 1/2" per minute. Start with 2mm per minute, and gradually increase. Start off slow, increase gradually, check how blade is performing with every RPM. Adjust as needed.

Recommended RPM's: 7,000 to 8,5000

Infeed per pass: 0.00050" with blade with smaller than 22 microns. 0.0001" with blade diamond larger than 35 microns.

Material Mounting Method: glass and wax. Alternative is very thick UV tape. Glass and wax is preferable

Coolant: water soluble synthetic coolant

Dressing: special dressing mechanism to automatically dress blade. This should be done constantly for maximum performance.

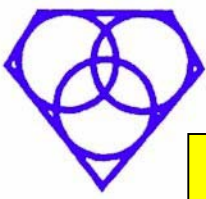
Exposure: 10 times blade thickness.

Blades over 4.5" OD - Maximum Exposure:

80/100 mil. Recommended Starting Speed:

4,000 rpm. Feed Rate: .04" per minute.

Gradually increase every three cuts, until RPM reaches five times the starting speed.



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SMART CUT™ series High Precision Diamond Blades & Saws, insure the highest standards for cut quality and accuracy from material is being cut, to reducing secondary steps after the cutting completion.



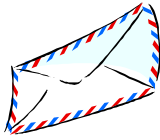
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UKAM Industrial Superhard Tools in order to insure processing of the order. UKAM Industrial Superhard Tools will calculate and fax or e-mail the subtotal of the merchandise and comparison shipping charges when the order is prepared to be shipped. Buyer should then choose the preferred means of shipping, add shipping costs to the subtotal of estimate and notify UKAM Industrial Superhard Tools by phone, fax, or e-mail, regarding preferred shipping and chosen method of payment.

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- Over 4,000 Precision Diamond Blades in stock
- Over 1,000 Diamond Drills & Drilling Accessories in stock
- Hundreds of Diamond Dicing Blades in stock

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Manufacturers Direct Prices

SMART CUT precision diamond products offer the best value & performance. In most cases UKAM Industrial Superhard Tools can meet and beat a competitors price on products of same quality & performance. If you are not using one of our products, chances are you are paying too much.

Research and Development

UKAM Industrial Superhard Tools has over 50 years of experience in manufacturing, research, and development of new and advanced technologies to keep up with your increasing challenges.



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Technical Support

We are committed to helping you improve and optimize your cutting and drilling operation to the outmost level of efficiency. If you have a special application, that requires a custom solution. Send us a piece of your material, and we will analyze it in our laboratory and design a bond formulation for your particular requirement.

You can rely on us and our group of authorized application engineers to assist you in your cutting requirements, answer any questions, and provide you with the personal attention you deserve. Please, feel free to contact our Technical Support Team at Phone: (661) 257-2288 from Monday to Friday 8:00 to 6:00 p.m. PST.

Incredible Value

UKAM Industrial Superhard Tools offers you real value and savings. Our Precision Diamond Products manufactured utilizing **SMART CUT** technology will

- save you money
- save you time
- save you material
- improve overall performance

Try a precision Diamond Product with SMART CUT technology TODAY!!!

Custom Manufacturing

Can't find what you are looking for? Let us know. We can manufacture it for you or redesign our products to better fit your needs, standards, specifications, and requests.

New Generation & Technology

UKAM Industrial Superhard Tools is a LEADER in developing new products. We are constantly engaged in Research & Development to better meet your needs and expectations. And continue to raise standards for the whole industry. With UKAM you can rest assured you're getting the latest, cutting edge products you deserve.