



*Your cutting process partner*

*Cutting Process Development • Diamond Blades • Hubs • Arbors • Spacers • Dressing Boards*



*Slicing Solutions*

[www.itiblades.com](http://www.itiblades.com)

*As your cutting process partner, ITI provides:*

**PROCESS DEVELOPMENT AND CONSULTING**

- 25 years experience making diamond blades
- Complete in-house test cutting facility
- No equipment bias - we work with all brands of equipment

**TOP QUALITY CUSTOMIZED PRODUCTS AT VERY COMPETITIVE PRICES**

**EXTREMELY SHORT LEAD TIMES**

- 5 to 7 working days for standard formulations

*ITI can customize all of the following diamond blade parameters:*

**OD** - 12.7 mm (0.5 inch) to 200 mm (8.0 inch)

**ID** - As small as 6 mm (0.25 inch)

**Thickness** - As thin as 0.060 mm (0.0023 inch).

Thickness of the blade is generally at least 6 times the abrasive size, but in some cases can be as low as 3 times abrasive size.

**Thickness Tolerances** - Within  $\pm 0.00125$  mm (0.000050 inch)

**Abrasive Size and Type** - Larger abrasives tend to have greater chipping, while smaller sizes may tend to load up (requiring dressing). Abrasive friability has a large impact on the blade cutting performance depending on the material being cut.

**Abrasive Concentration** - Concentration is the percentage by volume of abrasives in the blade. Higher concentrations require more spindle power and have potentially higher stock removal rates and feed rates. Lower concentrations have less of a tendency to load up.

**Bond Types** - Thousands of bonds are available for both resin and sintered metal blades. This allows ITI to develop the optimum blade performance for your specific application.

**Special Features**

1A8 and 1A1

Slots - number, shape and size

Relief grinding

Conductive (All resin blades can be made conductive)

## Diamond Blade Reference Information

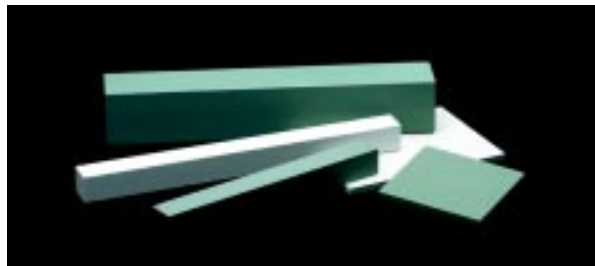
### HOW TO START

Contact our technical application specialists to discuss your cut objectives and challenges. We will work with you to develop the optimum blade configuration for your specific application based on our extensive development experience.

BOND TYPES	RESIN	SINTERED METAL	ELECTROFORMED NICKEL
<b>Typical Application</b>	Glass & Quartz Ferrite LiNbO3 Silicon Fused Silica Electronic Ceramics	FR4/BT Resin Alumina Glass Copper & PCB AlTiC Green Ceramic	Green Ceramic Silicon AlTiC
<b>Characteristics</b>	Resin blades are generally more forgiving and free cutting, making it easier to obtain a quality cut. These are a good choice when life of the blade is not a major factor.	Sintered blades are more rigid, providing for long life, very straight cuts and larger exposures. Special bonds are available from ITI which minimize chipping in brittle materials.	Electroformed nickel blades are extremely stiff and rigid. As a result, these can have a larger aspect ratio for thinner blades or deeper cuts.
<b>Bonds</b>	Phenolic Resin Fiber Reinforced Resin	Copper Bronze Cobalt Nickel	Nickel
<b>Abrasive Sizes</b>	3 to 151 micron	3 to 126 micron	3 to 70 micron
<b>Abrasive Types</b>	Coated and Uncoated Synthetic Diamond or CBN	Natural Diamond, Coated and Uncoated Synthetic Diamond or CBN	Uncoated Synthetic Diamond
<b>Abrasive Concentration</b>	25 to 200 Con	25 to 200 Con	100 to 250 Con
<b>Minimum Blade Thickness</b>	0.060 mm (.0023")	0.060 mm (.0023")	0.025 mm (.001")
<b>Typical Aspect Ratio*</b>	10:1	20:1	40:1

\* The aspect ratio (the distance the blade protrudes past its spacer or support hub compared to the thickness of the blade) determines the maximum depth of cut possible for a given thickness.

## Additional products



### **DRESSING BOARDS AND STICKS**

ITI has a wide range of dressing boards and dressing sticks. Dressing boards can be coated for vacuum retention or uncoated for tape frame application. These are fabricated to your dimensions, suitable for your equipment and application, with various mesh sizes and hardnesses in silicon carbide and alumina oxide.



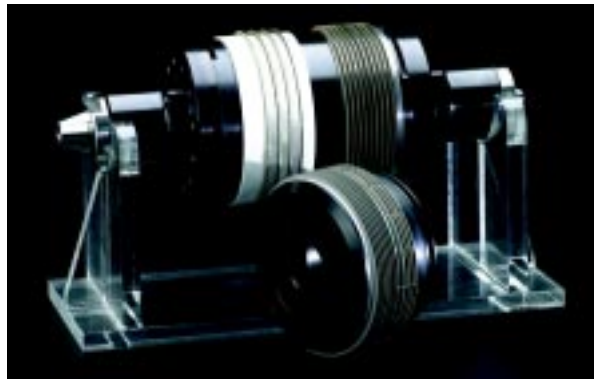
### **ESS (ERODABLE SPACER SYSTEM)**

This exclusive spacer technology can significantly increase the life of the diamond blade. It allows greater use of your diamond blade and improved handling of ultra thin diamond blades. As the diamond blade wears from normal cutting, the spacers can be eroded during the dressing process to maintain the desired minimum blade exposure.



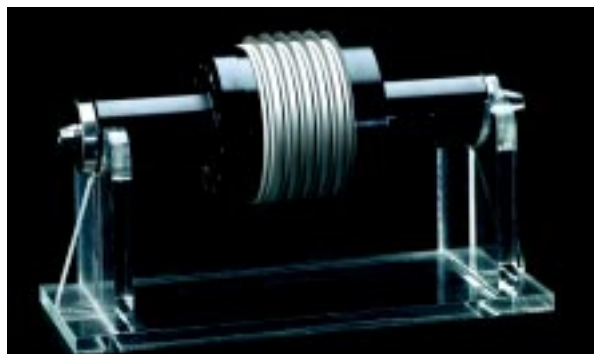
### **SPACERS**

ITI produces precision spacers for gang and hub assemblies. Available materials include ceramic, titanium, tungsten carbide, anodized aluminum, steel and graphite.



### **COMPLETE GANG ARBOR AND HUB MODULE ASSEMBLIES**

ITI produces complete assemblies designed for all major saw machines. Multiple diameters and thicknesses can be included on the same arbor. We also provide services such as restacking and truing.



### **PPSS (PRECISION PITCH SPACER SYSTEM)**

Time required for stacking the PPSS system is less than half that of conventional systems. There is no need to maintain costly inventories of incrementally sized spacers or diamond blades to achieve required pitch dimension and tolerance.

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