



DIAMOND WAFERING BLADES

PSI Wafering Blades are used in the Metallographic Lab to cut small sections of very hard or fragile materials. The machines used for this application typically operate at lower speeds than the larger abrasive cut off machines. Some of the new equipment on the market are capable of operating speeds approaching 5,000 rpm. As with any metallographic sectioning, liquid lubrication with coolant is critical to successful operation. PSI offers three different wafering blade products in a variety of sizes from 3" to 12" diameter. Proper selection of the appropriate blade is dependent on the material to be sectioned. Relative hardness of the material is the most easily determined specification and a good starting reference.

Diamond Wafering Blades are the most commonly used product on the lower speed sectioning equipment. Because of the particle hardness, diamond will work well on many materials of varying hardness, except soft ferrous materials. This exception eliminates a large number of materials of interest. Diamond Wafering blades are available in two concentrations of diamond particles. The high concentration blade is typically used on metallic materials, including very hard ceramics, boron carbide, plasma spray coatings, silicon and similar materials. The low concentration blade is more effective on more brittle materials, including glass, minerals, ferrites (magnets), porcelain, steatite, gems, marble, soft and medium hard ceramics and carbides (tungsten, tantalum, titanium and columbium.) When a metallographer encounters a material with mixed properties, the high concentration diamond blade is the first choice.

Cubic Boron Nitride Wafering Blades are designed for use on ferrous and super alloy materials. CBN is a synthetic material with a hardness as close to diamond as available. Because CBN is not carbon based, a carbon-carbon interaction found with diamond on ferrous materials does not occur. CBN Blades have proven effective on iron and cobalt based alloys, high speed steels, hard carbon and hard stainless steels, nickel and lead based alloys, and abrasion resistant ferrous materials. PSI now offers two types of CBN Blades, one for rapid sectioning but shorter life, and one for slower sectioning but much longer life. The difference in the two is the hardness of the bond securing the diamond particles.

PSI stocks all of the items shown below plus many others. Because PSI works very closely with the manufacturer, all of the standard specifications can be altered to fit special metallographic applications. The most frequently altered specification is arbor hole size. Please contact us to discuss your specific need.



ORDER INFORMATION

| PART # | DESCRIPTION | PART # | DESCRIPTION |
|-----------------------|--------------------------------|----------------------|--------------------------------|
| PSI-140-3 | Diamond Blade, HC, 3x.006x1/2" | PSI-141-3 | Diamond Blade, LC, 3x.006x1/2" |
| PSI-140-4 | Diamond Blade, HC, 4x.012x1/2" | PSI-141-4 | Diamond Blade, LC, 4x.012x1/2" |
| PSI-140-5 | Diamond Blade, HC, 5x.015x1/2" | PSI-141-5 | Diamond Blade, LC, 5x.015x1/2" |
| PSI-140-6 | Diamond Blade, HC, 6x.020x1/2" | PSI-141-6 | Diamond Blade, LC, 6x.020x1/2" |
| PSI-140-7 | Diamond Blade, HC, 7x.025x1/2" | PSI-141-7 | Diamond Blade, LC, 7x.025x1/2" |
| PSI-144-4 | CBN Blade, 4x.012x1/2" | PSI-151-WHT | Dressing Stick, .5x.5x6in, SiC |
| PSI-144-5 | CBN Blade, 5x.015x1/2" | PSI-150-4 | Cutting Oil, 1 gallon |
| HC=High Concentration | | LC=Low Concentration | |