



## DIAMOND COMPOUND

PSI Diamond Compound is used in the polishing operation on many materials. Manufactured to PSI specifications, all diamond powders used in PSI compounds are graded to meet the stringent standards of both the American National Standards Institute (ANSI) and the Federation Europeenne Des Fabricants a les Produits Abrasifs (FEPA). The virgin diamond powder particles are graded in a Micronizing Laboratory to the specified particle range utilizing fully automated, electronically monitored grading equipment, the specified particle size range may vary from as tight as 1 to .25 micron in the .1 micron compound to as large as 30 to 50 micron in the 45 micron compound.



Particle size distribution analysis is an integral part of the quality assurance program for all powders used in PSI Diamond Compound. A computerized particle analyzer is used to measure and record graphically the particle size distribution of all diamond powders used. This quality control data is available to our customers on all shipments of PSI Diamond Compounds and Suspensions.

PSI offers a choice of two kinds of diamonds in compound form: monocrystalline and natural. Monocrystalline Diamond Powder is a product of high pressure, high temperature technology. The resulting product is single crystal in structure, blocky in shape and very strong. This blocky shape and high particle strength results in a diamond particle that "cuts" rapidly and consistently over a long polishing cycle. The natural diamond powder is mined, crushed from boart and ball-milled. This yields sharp, strong particles which will provide a better finish than other diamond types of the same grade. The natural particles are subject to cleavage action which maintains sharp working edges for long periods but continues to reduce the average particle size over time.

Both the natural and monocrystalline products are available in a choice of standard and heavy concentration. The heavy concentration compound contains about 30% more diamond particles by weight than the standard concentration. This results in a faster cutting or polishing action, which can be beneficial in a laboratory environment but especially in field work.

All PSI Diamond Compounds are color coded for easy grade identification. Standard packaging includes 18 and 5 gram syringes. Special orders for 100 gram bulk jars are available. The vehicle in which the diamond powders are carried is a compound soluble in either oil or water based systems. This insures that PSI Diamond Compound will be compatible with solubility requirements in the laboratory.

To compliment PSI Diamond Compound, three diamond extenders are available in two sizes, 1 quart and 1 gallon. For most applications, the standard universally soluble product is most popular. Where there is a question of water reactivity, the oil soluble extender is the correct choice. For those who prefer the blue alcohol soluble product, it also is available.

COLOR/GRADE CHART		
Micron	Color	Particle Range
45 $\mu$	Purple	30-50 $\mu$
30 $\mu$	Mahogany	20-40 $\mu$
15 $\mu$	Brown	12-22 $\mu$
9 $\mu$	Red	8-12 $\mu$
6 $\mu$	Yellow	4-8 $\mu$
3 $\mu$	Green	2-4 $\mu$
1 $\mu$	Blue	0-2 $\mu$
.5 $\mu$	Turquoise	0-1 $\mu$
.25 $\mu$	Gray	0-.5 $\mu$
.1 $\mu$	Charcoal	0-.25 $\mu$