PRECISION SURFACES INTERNATIONAL, INC.
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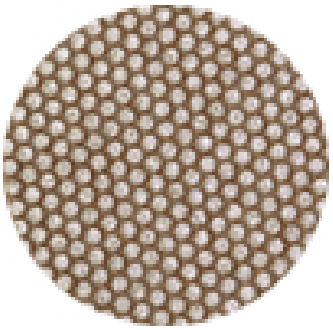
PSI

PRODUCT DATA SHEET

DIAMOND SPOT DISCS

Diamond Spot Discs, manufactured by the 3M Company, are a product available for the Material Scientist from PSI. Available in metal bond, these Pressure Sensitive Adhesive (PSA) or magnetic backed discs come in 8"(203mm), 10"(254mm) and 12"(305mm) diameters. Diamond Spot Discs are available for immediate delivery from stock at PSI in the micron grades and sizes shown below.



This metal bonded product consists of spots of diamond electroplated through a color coded nylon mesh substrate. This method of application gives long life for the Diamond Spot Disc, providing an aggressive abrasion rate, removing material rapidly. Available grades include 6 through 250 micron.

Of great importance to the material scientist are sample flatness and edge retention. Experience has shown that specimens finished on Diamond Spot Discs exhibit excellent flatness. The flatness obtained is dependent on the flatness of the substrate on which it is used. Because the fixed diamonds are much harder than the specimen and mounting material, Diamond Spot Discs cut both at the same rate. This characteristic produces specimen edges with sharp, distinct edges.

The Diamond Spot geometry provides three major advantages over traditional Diamond Discs; coolant flow, swarf removal and cost. Because the Diamond Spots are raised above the mesh backing, coolant moves freely between the specimen and plate surface. This feature can be critical for heat sensitive materials. This also allows a path for swarf (abraded material) to flow away from the grinding/polishing surface, reducing random scratches. Diamond Spot Discs are also up to 35% less expensive than full faced Diamond Discs.

Diamond Spot Discs will prove most effective on hard non-ferrous metals and on some very hard ferrous metals. Softer ferrous materials (softer than Rc55) do not grind well with diamond products, and can be processed more economically with silicon carbide or aluminum oxide abrasives. Applications also include engineered materials of types whose hardness exceeds Rc60, including ceramics, carbides, zirconia alloys and other hard materials. Other successes include high cobalt super alloys, high speed steels and titanium.

AVAILABLE GRADES COMPARISON CHART

MICRON	ANSI(U.S.)	FEPA(EUROPEAN)
250	60	P60
125	120	P120
75	200	P200
40	320	P360
20	500	P1000
10	1200	P2000
6	1500	P2500

The PSA backing allows easy application to popular polishing/grinding equipment. These discs will perform equally well on hand held specimens, as well as those prepared on automatic and semi-automatic equipment. Hand pressure or machine force settings should be low to allow optimum performance and disc life.

Trial Diamond Spot Discs are covered by PSI's no risk trial policy. After discussing you application, place an order with PSI for the Diamond Spot Discs you believe will do your job. If they do not perform to your satisfaction, PSI will refund the cost of the discs.