Polishing Lubricants

Lubricants are used to enhance the polishing performance of diamond suspensions, compounds, sprays and films. They reduce friction and increase the life of polishing cloths. All 16 and 32 oz. bottles include trigger sprayer and flip-top for dispensing. Applied manually or with automatic dispensing systems.

BlueLube™ & PurpleLube™

Water-free, alcohol based lubricants are excellent for increased stock removal, when water cannot be tolerated or when used with alcohol based diamond suspensions.

BlueLube™ is a low viscosity denatured alcohol based polishing lubricant.

PurpleLube™ is a low viscosity ethanol based polishing lubricant formulated to minimize alcohol scent.

NEW!

BlueLube	Description	PurpleLube
90-206010	16 oz. (480 mL)	90-205010
90-206005	32 oz. (950 mL)	90-205005
90-206000	128 oz. (3.8 L)	90-205000
90-205995	5 Gallon (19 L)	90-204995

RedLube™

A high viscosity propylene glycol based lubricant used for metallographic preparation of soft and/or ductile materials.

Item	Description
90-207010	16 oz. (480 mL)
90-207005	32 oz. (950 mL)
90-207000	128 oz. (3.8 L)
90-206995	5 Gallon (19 L)

GreenLube™

A medium viscosity hexylene glycol based lubricant used for general metallographic preparation.

Item	Description
90-209010	16 oz. (480 mL)
90-209005	32 oz. (950 mL)
90-209000	128 oz. (3.8 L)
90-208995	5 Gallon (19 L)

Diamond Aerosol Spray

A non-CFC, 5-ounce (150 mL) aerosol spray consisting of polycrystalline diamond mixed with a liquid carrier. The carrier quickly evaporates after application, leaving a uniform layer of diamond particles on the cloth. It can be used with any lubricant and is water soluble.

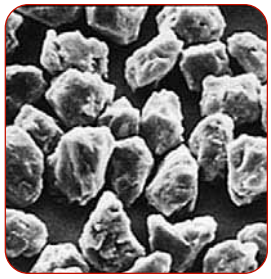
Item	Description
90-173000	0.25 Micron
90-173005	1 Micron
90-173010	3 Micron
90-173015	6 Micron
90-173020	9 Micron
90-173025	15 Micron

Diamond Polishing

Diamond is preferred for most polishing applications when compared with other abrasives. Although diamond is more costly per unit, the amount required to polish is substantially less by a greater factor than the difference in price in most cases. Diamond also cuts faster, requiring less time to achieve an improved surface finish and produce a more accurate representation of microstructure with fewer artifacts (smearing, scratches, etc.). All products are precision graded (using Swiss micronizing standards) for high performance.

Diamond Compounds

Allied diamond compounds are specifically formulated for metallographic sample preparation and offer a higher concentration of diamond compared with suspensions. They are water soluble and compatible with glycol or alcohol based lubricants. Diamond compounds are typically used as a stand alone product or as a “base” before applying diamond suspension to polishing cloths.



Polycrystalline Diamond

Monocrystalline Diamond

Polycrystalline Diamond has many more cutting surfaces per particle, resulting in higher removal rates. As it cuts, it breaks down in its original shape, allowing for finer finishes in less time than when using monocrystalline diamond. Because polycrystalline has no cleavage planes, it cannot splinter like monocrystalline diamond. It causes less sub-surface deformation, and is excellent when polishing samples composed of different materials/hardness.

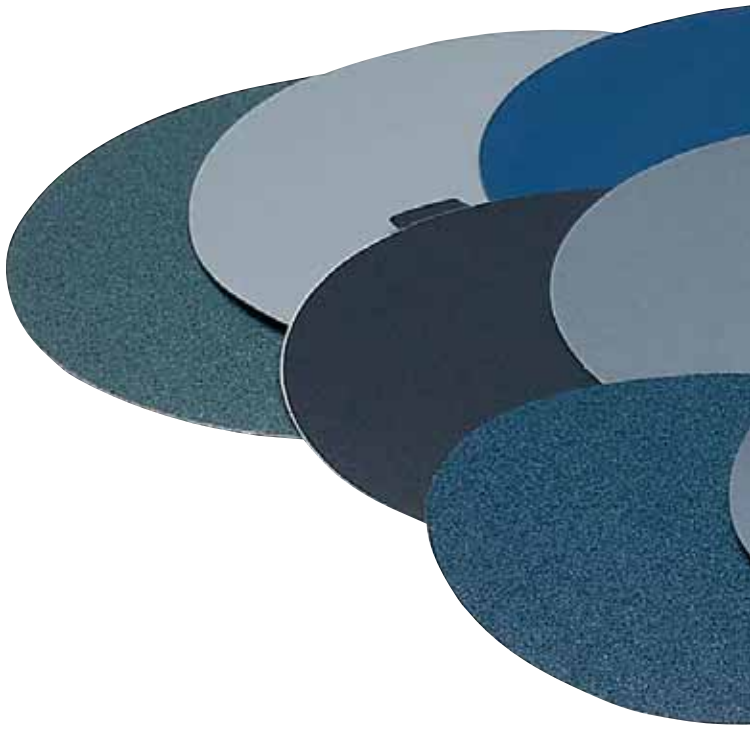
Monocrystalline Diamond provides a cost effective means for good stock removal and finish. It has a slightly irregular shape with multiple cutting edges, and is recommended for general applications where polycrystalline’s features are not required.

Polycrystalline			Monocrystalline	
5 Gram	18 Gram	Micron (µm)	5 Gram	18 Gram
90-21055-S	90-20995-S	0.05	-	-
90-21060-S	90-21000-S	0.10	-	-
90-21065-S	90-21005-S	0.25	90-21065	90-21005
90-21070-S	90-21010-S	0.50	90-21070	90-21010
90-21075-S	90-21015-S	1	90-21075	90-21015
90-21080-S	90-21020-S	3	90-21080	90-21020
90-21085-S	90-21025-S	6	90-21085	90-21025
90-21090-S	90-21030-S	9	90-21090	90-21030
90-21095-S	90-21035-S	15	90-21095	90-21035
90-21100-S	90-21040-S	30	90-21100	90-21040
-	-	45	90-21105	90-21045

Silicon Carbide Abrasive Discs

Designed for metallographic applications to coarse and fine grind a wide variety of materials. They feature superior mineral grading, a unique resin top coat, and a latex additive in the paper. This combination resists water penetration, creating a durable, long-lasting disc with uniform cutting characteristics that minimizes sample distortion and deformation.

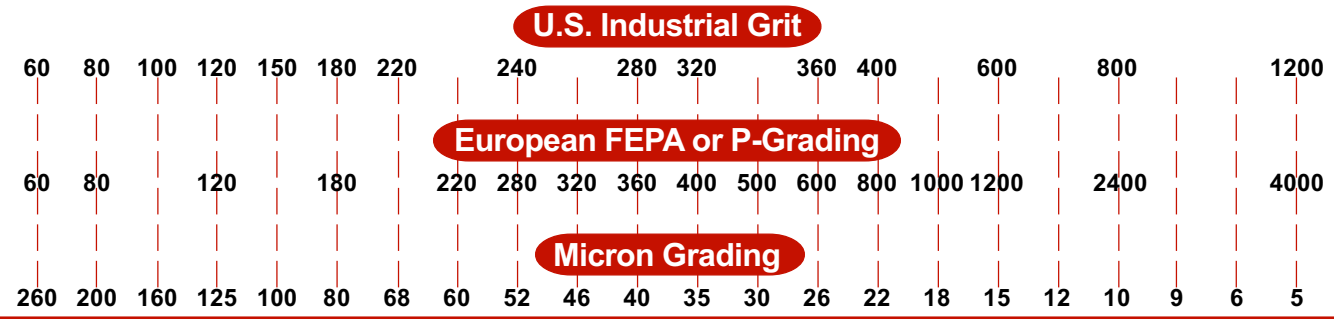
Allied's silicon carbide abrasive discs are made with high quality C weight backing and are recommended for general laboratory requirements.



Features:

- Premium resin bonding system retains abrasive for sustained material removal and longer wear rates
- Durable C weight backing with latex additive for superior water resistance
- Special adhesive backing allows effortless removal of the disc from platen without adhesive transfer
- Pull tabs on all adhesive back discs for easy removal of adhesive liner

Abrasive Grade Comparison Chart



Plain Back Discs (Pk/100)

Grit (FEPA)	8" (~200 mm)	10" (~250 mm)	12" (~300 mm)
60 (P-60)	50-10000	50-11000	50-10145
80 (P-80)	50-10001	50-11003	50-10146
120 (P-120)	50-10005	50-11005	50-10150
180 (P-180)	50-10010	50-11010	50-10155
240 (P-280)	50-10015	50-11015	50-10160
320 (P-400)	50-10020	50-11020	50-10165
400 (P-800)	50-10025	50-11025	50-10170
600 (P-1200)	50-10030	50-11030	50-10175
600 Fine*	50-10029	50-11029	50-10174
800 (P-2400)	50-10035	50-11035	50-10176
1200 (P-4000)	50-10040	50-11040	50-10177
1200 Fine**	50-10041	50-11041	50-10178
Assortment	ASSORT-P/B	-	-

(Includes 25 each 180, 320, 600, 1200 Grit)

*Why use 600 Fine Grit?

- Minimizes "loading" when preparing samples cold mounted in epoxy or acrylic
- Provides finer surface finish which may reduce overall polishing time

**Why use 1200 Fine Grit?

- When continued material removal is desired, following intermediate grinding steps (typically after 600 grit)
- Recommended for pre-diamond polishing, softer materials that smear, and step grinding for failure analysis

Note: As compared to 1200 (P-4000) grit, which is sputter coated and "polishes" more than "cuts", fine grit 1200 is electrostatically coated and "cuts" more than "polishes"

12" (300 mm)

Application/Material	Abrasive	Bond	Thickness Inch (mm)	Unit	Item
Tool Steels/Rc 60+	Al_2O_3	Rubber/Resin	.090" (2.3)	Pk/10	80-30000
		Resin	.070" (1.8)		80-30001
Hardened Steels/ Super Alloys Rc 45-60		Resin	.070" (1.8)		80-30008
		Rubber	.062" (1.6)		80-30010
			.040" (1.0)		80-30015
Carbon Steels/ Medium Hard Steels Rc 30-45		Resin	.070" (1.8)		80-30023
		Rubber	.062" (1.6)		80-30025
			.040" (1.0)		80-30030
Soft/Annealed Steels		Resin	.080" (2.0)		80-30035
Tough Non-Ferrous/ Titanium Alloys	SiC	Resin	.065" (1.7)	NEW!	80-30045
			.040" (1.0)		80-30052
		Rubber	.062" (1.6)		80-30050
			.040" (1.0)		80-30055
Soft Non-Ferrous/Al/Cu Alloys		Rubber/Resin	.090" (2.3)		80-30060
Ceramics/Composites	Diamond	Metal	.062" (1.6)	Each	60-30065
Carbides/Fragile Non-Metallics		Resin	.062" (1.6)		60-30070
Hardened Steels/Rc 60+	CBN	Resin	.062" (1.6)		60-30075

14" (350 mm)

Application/Material	Abrasive	Bond	Thickness Inch (mm)	Unit	Item
Tool Steels/Rc 60+	Al_2O_3	Resin	.110" (2.8)	Pk/10	80-10001
Hardened Steels/ Super Alloys Rc 45-60		Resin	.110" (2.8)		80-10002
		Rubber	.062" (1.6)		80-10010
Carbon Steels/ Medium Hard Steels Rc 30-45		Resin	.080" (2.0)		80-10015
		Rubber	.062" (1.6)		80-10020
Soft/Annealed Steels		Resin	.080" (2.0)		80-10025
Tough Non-Ferrous/ Titanium Alloys	SiC	Rubber	.062" (1.6)		80-10030
		Resin	.075" (1.9)	NEW!	80-10045
Soft Non-Ferrous/Al/Cu Alloys		Rubber/Resin	.090" (2.3)		80-10035
Ceramics/Composites	Diamond	Metal	.062" (1.6)	Each	60-10040
Carbides/Fragile Non-Metallics		Resin	.062" (1.6)		60-10045
Hardened Steels/Rc 60+	CBN	Resin	.062" (1.6)		60-10046