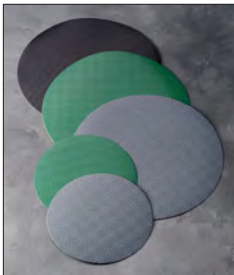


**Tips, Tricks & Techniques:**

- In selecting a grinding surface, choose the finest abrasive that will efficiently achieve planarity
- To choose which type of grinding surfaces consider:
  - CarbiMet® 2 if you process many types of materials. Use 1-2 minutes.
  - Apex® DGD or DGD Color for very hard materials, fewer grinding steps, controlled material removal and less change over. If material or mount media is gummy, dress.
  - FibrMet® or UltraPrep® Lapping Films for small fragile specimens, electronics and fiber optics
- Polishing cloths typically last 20 cycles
- Diamond suspensions contain enough lubricant that they do not require an extender
- Diamond pastes should be used with MetaDi® Fluid or another extender

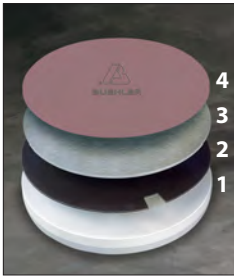
**Apex® CGD (Coarse Grinding Disc)**



**Apex® CGD:** aggressive metal bonded diamond discs designed for continuous use and high material removal rates on hard to grind materials. Excellent results with: tool steels, tungsten carbide, hard ceramics and titanium. Apex® CGD is a consumable of choice for Zaxis controlled material removal.

Color/Micron	Quantity	8" (203mm)	10" (254mm)	12" (305mm)
Grey (320µm)	1	41-10006	41-10009	41-10012
Green (240µm)	1	41-10007	41-10010	41-10013
Black (125µm)	1	41-10008	41-10011	41-10014

## Apex® Quick-Change Magnetic System

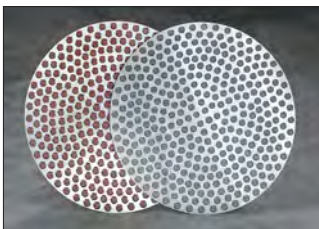


**Apex® Quick-Change Magnetic System** is a patented magnetic-based system used in conjunction with either abrasive surfaces or polishing cloths. Apex® consists of two components. The first is the Apex® M reusable, long-life magnetic disc. With a pressure sensitive adhesive (PSA) backing on one side, the Apex® M disc can be used on any conventional platen. The second component is the Apex® B bimetallic plate and is used between the Apex® M disc and any PSA backed abrasive surface, polishing cloth or other consumable of choice.

Platen (1), Apex M (2),  
Apex B (3) & Apex DGD (4)

Type	Quantity	SO - Special Order Items may have lead times and minimum orders		
		8" (203mm)	10" (254mm)	12" (305mm)
Apex® M Discs - PSA Backed Magnetic Discs	1	41-2739-608-001	41-2739-610-001	41-2739-612-001
Apex® B Bimetallic Plates	1	41-2739-208-001	41-2739-210-001	41-2739-212-001
Apex® MagoDisc - Aluminum Platen with MagnoFix Installed	1	16-2071	16-2571	16-3071 <sup>SO</sup>
Apex® MagnoFix - PSA Backed Magnetic Disc	1	16-2070	16-2570 <sup>SO</sup>	16-3070 <sup>SO</sup>
Apex® MagnoMet Metallic Plate	5	16-2072	16-2572	16-3072
Apex® MagnoPad Teflon® Coated Metallic Plate	5	16-2073	16-2573	16-3073

## ApexHercules® Rigid Grinding Discs



**ApexHercules® Rigid Grinding Discs** are a series of engineered surfaces that are used with MetaDi® and MetaDi® Supreme Diamond Suspensions to grind specimens. These discs improve efficiency by reducing steps while providing superb specimen flatness and edge retention. ApexHercules® RGD's provide long life, are corrosion resistant and attach directly to Apex® M, MagnoDisc and MagnoFix.

Type	Quantity	SO - Special Order Items may have lead times and minimum orders		
		8" (203mm)	10" (254mm)	12" (305mm)
ApexHercules® H (for materials ≥ HRC20, HV236)	1	41-2740-308-001	41-2740-310-001	41-2740-312-001
ApexHercules® S (for materials < HRC20, HV236)	1	41-2740-408-001	41-2740-410-001	41-2740-412-001

**Apex® Diamond Grinding Discs (DGD)**

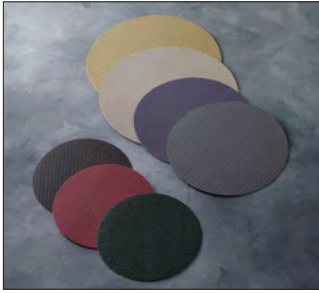


**Apex® Diamond Grinding Discs (DGD)** provide long wear, resin-bonded, fixed abrasive surfaces for your every application. These discs provide high removal rates and superb edge retention and flatness.

- Durable enough for the initial grind of an unmounted specimen, yet available down to 0.5 micron
- Just add water and use
- Excellent for hard materials, ceramic, glass, TSC and more
- The consumable of choice for Zaxis Macro Material Removal System
- Can be dressed with 15-6190 Dressing Stick

Micron	Quantity	8" (203mm)	10" (254mm)	12" (305mm)
165	1	41-5008	41-5010	40-5012
125	1	41-5108	41-5110	41-5112
70	1	41-5208	41-5210	41-5212
45	1	41-5308	41-5310	41-5312
30	1	41-5408	41-5410	41-5412
15	1	41-5508	41-5510	41-5512
9	1	41-5608	41-5610	41-5612
6	1	41-5708	41-5710	41-5712
3	1	41-5808	41-5810	41-5812
0.5	1	41-5908	41-5910	41-5912

### Apex® Diamond Grinding Discs (DGD)



**Apex® DGD Color** provides long wear, resin-bonded, fixed abrasive surfaces for your every application. These discs provide high material removal rates and excellent edge retention and flatness.

- Bonding characteristics allow these discs to be used on a wide variety of materials, including softer materials such as brass and copper.
- Just add water and use
- The consumable of choice for Zaxis Macro Material Removal System
- Can be dressed with 15-6190 Dressing Stick

SO - Special Order Items may have lead times and minimum orders

Color (Micron)	Quantity	8" (203mm)	10" (254mm)	12" (305mm)
Green (240)	1	41-3308	41-3310	41-3312
Black (125)	1	41-3408	41-3410	41-3412
Red (75)	1	41-3508	41-3510 <sup>SO</sup>	41-3512
Purple (55)	1	41-3608	41-3610	41-3612
Yellow (35)	1	41-3708	41-3710	41-3712
White (15)	1	41-3808	41-3810 <sup>SO</sup>	41-3812
Blue (8)	1	41-3908	41-3910 <sup>SO</sup>	41-3912

Grinding/Polishing

### ReVēl Discs – new possibilities with new technology.

This item has been designated as a green product.



Type	Quantity	8" (203mm)	10" (254mm)	12" (305mm)
ReVēl A	5	41-10044	41-10045	41-10046
ReVēl B	5	41-10047	41-10048	41-10049

#### Preparation Methods featuring NEW ReVēl Discs:

Material	Surface	Time
Ferrous Materials 60 HRC	CarbiMet® 2, 320 grit	Until plane
	ReVēl A	2 minutes
	ChemoMet® with MasterMet®	4 minutes, 20 seconds
Ferrous Materials 50 HRC	CarbiMet® 2, 320 grit	Until plane
	ReVēl A	2 minutes
	ChemoMet® with MasterMet®	4 minutes, 20 seconds
Nickel Based Alloys	CarbiMet® 2,400 grit	Until plane
	ReVēl B	2 minutes
	ChemoMet® with MasterMet®	4 minutes, 20 seconds
Tungsten Carbide	Apex® DGD Yellow	Until plane
	ReVēl A	2 minutes

**New SumMet™ Bundles**, contain enough supplies to prepare **100** specimen holders

<b>Consists of:</b>	<b>Material</b>	<b>8" (203mm)</b>	<b>10" (254mm)</b>	<b>12" (305mm)</b>
CarbiMet® 2 (320/P400) Abrasive Discs, UltraPad™, TriDent™ and MicroCloth® Polishing Cloths, 9µm and 3µm MetaDi® Supreme Diamond Suspension, MasterPrep® Final Polishing Suspension	<b>Fe &amp; Ni</b>	<b>42-10017</b>	<b>42-10018</b>	<b>42-10019</b>
CarbiMet® 2 (320/P400) Abrasive Discs, UltraPad™, TriDent™, TexMet® and MasterTex® Polishing Cloths, 9µm, 3µm, 1µm MetaDi® Supreme Diamond Paste, MetaDi® Fluid and MasterMet® Final Polishing Suspension	<b>Al &amp; Cu</b>	<b>42-10020</b>	<b>42-10021</b>	<b>42-10022</b>
CarbiMet® 2 (240/P280) Abrasive Discs, UltraPol™ and ChemoMet® Polishing Cloths, 9µm MetaDi® Supreme Diamond Suspension, and MasterMet® Final Polishing Suspension	<b>Ti</b>	<b>42-10023</b>	<b>42-10024</b>	<b>42-10025</b>
CarbiMet® 2 (240/P280) and (600/P1200) Abrasive Discs, TexMet® and MicroCloth® Polishing Cloths, 3µm MetaDi® Supreme Diamond Paste, MetaDi® Fluid and MasterPrep® Final Polishing Suspension	<b>Electronic &amp; Polymer</b>	<b>42-10026</b>	<b>42-10027</b>	<b>42-10028</b>
Apex® DGD Red Disc, UltraPol™, TexMet® and ChemoMet® Polishing Cloths, 9µm and 3µm MetaDi® Diamond Supreme and MasterMet® Final Polishing Suspension	<b>Ceramic &amp; Refractory</b>	<b>42-10029</b>	<b>42-10030</b>	<b>42-10031</b>



**Bundle for Ferrous and Nickel material**



**Bundle for Aluminum and Copper material**



**Bundle for Titanium material**



**Bundle for Electronic and Polymer material**



**Bundle for Ceramic and Refractory material**

**UltraPrep™ Resin-Bonded Diamond Discs**

SO - Special Order Items may have lead times and minimum orders

Diamond Size	Box Code (all discs grey in color)	Quantity	8" (203mm)	
			8" (203mm)	12" (305mm)
30 micron	Orange	1	15-6330 <sup>SO</sup>	15-6430 <sup>SO</sup>
9 micron	Blue	1	15-6309 <sup>SO</sup>	15-6409 <sup>SO</sup>
3 micron	Yellow	1	15-6303 <sup>SO</sup>	15-6403 <sup>SO</sup>

**UltraPrep™ Metal-Bonded Diamond Discs**

Diamond Size	Box Code	Quantity	8" (203mm)		
			2 7/8" (73mm)	8" (203mm)	12" (305mm)
125 micron	Black	1	69-1599	15-6199	15-6299
70 micron	Red	1	69-1571	15-6170	15-6270
45 micron	Yellow	1	69-1545	15-6145	15-6245
15 micron	White	1	69-1515	15-6115	15-6215
9 micron	Blue	1	69-1509	15-6109	15-6209
6 micron	Light Purple	1	69-1506	15-6106	15-6206



**UltraPrep™ Metal Bonded  
Diamond Discs, PSA Backed**

**CarbiMet® 2 Abrasive Discs, Plain Backed**



**CarbiMet® 2 Abrasive Discs** are a premium line of SiC grinding papers designed for superior grinding performance on all types of specimens. These discs are designed for wet or dry grinding; however wet grinding should induce less deformation in specimens. The tightly held abrasive grain sizing gives CarbiMet 2 Abrasive Discs the rapid material removal and uniform finish needed to reduce rough and final polishing times. The uniformity and consistency of these discs make them an excellent choice for use with automatic grinding and polishing systems. CarbiMet 2 Discs utilize premium "C" weight paper.

This item has been designated as a green product.



Grit ANSI (FEPA)	Abrasive Size(µm)	Quantity	8" (203mm)	10" (254mm)	12" (305mm)
<b>60 (P60)</b>	269.0	100	<b>30-5108-060-102</b>	<b>30-5125-1-060-102</b>	<b>30-5121-060-102</b>
<b>120 (P120)</b>	127.0	100	<b>30-5108-120-102</b>	<b>30-5125-1-120-102</b>	<b>30-5121-120-102</b>
<b>180 (P180)</b>	78.0	100	<b>30-5108-180-102</b>	<b>30-5125-1-180-102</b>	<b>30-5121-180-102</b>
<b>240 (P280)</b>	52.2	100	<b>30-5108-240-102</b>	<b>30-5125-1-240-102</b>	<b>30-5121-240-102</b>
<b>320 (P400)</b>	35.0	100	<b>30-5108-320-102</b>	<b>30-5125-1-320-102</b>	<b>30-5121-320-102</b>
<b>400 (P800)</b>	21.8	100	<b>30-5108-400-102</b>	<b>30-5125-1-400-102</b>	<b>30-5121-400-102</b>
<b>600 (P1200)</b>	15.3	100	<b>30-5108-600-102</b>	<b>30-5125-1-600-102</b>	<b>30-5121-600-102</b>
<b>800 (P1500) MicroCut® Disc</b>	12.6	100	<b>30-5538-800-100</b>	<b>30-5125-1-800-100</b>	<b>30-5542-800-100</b>
<b>1200 (P2500) MicroCut® Disc</b>	8.4	100	<b>30-5538-012-100</b>	<b>30-5125-1-012-100</b>	<b>30-5542-012-100</b>
<b>Assorted (60-600) (P60-P1200)</b>		70	<b>30-5108-102</b>	<b>30-5125-1-102</b>	<b>30-5121-102</b>

*Note: The Assorted packages have 10 each of various grit sizes.*

**CarbiMet® 2 Abrasive Discs, PSA Backed**

This item has been designated as a green product.



Grit ANSI (FEPA)	Abrasive Size(µm)	Quantity	Disc Size			
			2 7/8" (73mm)	8" (203mm)	10" (254mm)	12" (305mm)
60 (P60)	269.0	100				30-5112-060-102
120 (P120)	127.0	100	30-5170-120-102	30-5118-120-102	30-5125-3-120-102	30-5112-120-102
180 (P180)	78.0	100	30-5170-180-102	30-5118-180-102	30-5125-3-180-102	30-5112-180-102
240 (P280)	52.2	100	30-5170-240-102	30-5118-240-102	30-5125-3-240-102	30-5112-240-102
320 (P400)	35.0	100	30-5170-320-102	30-5118-320-102	30-5125-3-320-102	30-5112-320-102
400 (P800)	21.8	100	30-5170-400-102	30-5118-400-102	30-5125-3-400-102	30-5112-400-102
600 (P1200)	15.3	100	30-5170-600-102	30-5118-600-102	30-5125-3-600-102	30-5112-600-102
800 (P1500) MicroCut® Discs	12.6	100	30-5170-800-100	30-5528-800-100	30-5125-3-800-100	30-5532-800-100
1200 (P2500) MicroCut® Discs	8.4	100	30-5170-012-100	30-5528-012-100	30-5125-3-012-100	30-5532-012-100
Assorted** (120-600) (P120-P1200)		60	30-5178-182	30-5118-102	30-5125-3-102	30-5112-102

*Note: The Assorted packages have 10 each of various grit sizes.  
 \*\* The 2 7/8" Assorted package (30-5178-182) has 10 each of 180, 240, 320, 400 and 600 grits. 12" (305mm) assorted package has a quantity of 70.*

Grinding/Polishing



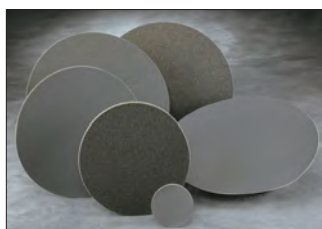
**ZirMet® Abrasive Discs**



**ZirMet® Abrasive Discs** are polyester-backed discs coated with a zirconia alumina abrasive. They provide maximum material removal with minimum heat generation and sample deformation, and are intended primarily for heavy stock removal in the initial grinding stages.

Grit ANSI (FEPA)	Abrasive Size (µm)	Quantity	12" (305mm)
<b>60 (P60)</b>	269.0	25	<b>15-5132-060-025</b>
<b>120 (P120)</b>	127.0	25	<b>15-5132-120-025</b>
<b>180 (P180)</b>	78.0	25	<b>15-5132-180-025</b>
<b>220 (P240)</b>	58.5	25	<b>15-5132-220-025</b>

**BuehlerMet® II Abrasive Discs, Plain Backed**



The **BuehlerMet® II line of SiC Abrasive Discs** has been developed for less critical laboratory grinding of metallographic and petrographic samples. These papers utilize a plain commercial "C" weight paper backing with a uniformly graded abrasive coating for consistent cutting performance. BuehlerMet® II discs can be used wet or dry and are suitable for manual or automated grinding applications.

This item has been designated as a green product.

Grit ANSI (FEPA)	Abrasive Size (µm)	Quantity	8" (203mm)	10" (254mm)	12" (305mm)
<b>60 (P60)</b>	269.0	100	<b>30-5308-060-102</b>	<b>30-5310-060-102</b>	<b>30-5321-060-102</b>
<b>120 (P120)</b>	127.0	100	<b>30-5308-120-102</b>	<b>30-5310-120-102</b>	<b>30-5321-120-102</b>
<b>180 (P180)</b>	78.0	100	<b>30-5308-180-102</b>	<b>30-5310-180-102</b>	<b>30-5321-180-102</b>
<b>240 (P280)</b>	52.2	100	<b>30-5308-240-102</b>	<b>30-5310-240-102</b>	<b>30-5321-240-102</b>
<b>320 (P400)</b>	35.0	100	<b>30-5308-320-102</b>	<b>30-5310-320-102</b>	<b>30-5321-320-102</b>
<b>400 (P800)</b>	21.8	100	<b>30-5308-400-102</b>	<b>30-5310-400-102</b>	<b>30-5321-400-102</b>
<b>600 (P1200)</b>	15.3	100	<b>30-5308-600-102</b>	<b>30-5310-600-102</b>	<b>30-5321-600-102</b>
<b>Assorted (60-600) (P60-P1200)</b>		70	<b>30-5308-102</b>	<b>30-5310-102</b>	<b>30-5321-102</b>

**BuehlerMet® II Abrasive Discs, PSA Backed**

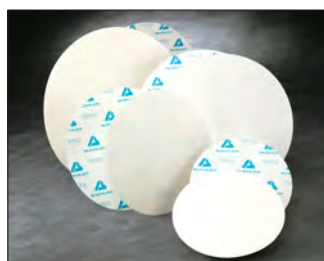
This item has been designated as a green product.



Grit ANSI (FEPA)	Abrasive Size(µm)	Quantity	8" (203mm)	10" (254mm)	12" (305mm)
60 (P60)	269.0	100	30-5318-060-102	30-5328-060-102	30-5312-060-102
120 (P120)	127.0	100	30-5318-120-102	30-5328-120-102	30-5312-120-102
180 (P180)	78.0	100	30-5318-180-102	30-5328-180-102	30-5312-180-102
240 (P280)	52.2	100	30-5318-240-102	30-5328-240-102	30-5312-240-102
320 (P400)	35.0	100	30-5318-320-102	30-5328-320-102	30-5312-320-102
400 (P800)	21.8	100	30-5318-400-102	30-5328-400-102	30-5312-400-102
600 (P1200)	15.3	100	30-5318-600-102	30-5328-600-102	30-5312-600-102
Assorted (60-600) (P60-P1200)		70	30-5318-102	30-5328-102	30-5312-102

Grinding/Polishing

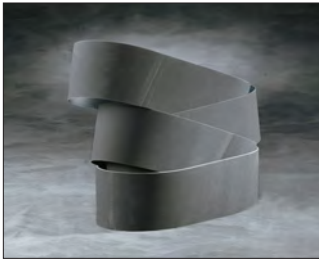
**MetGrip® Liners**



**MetGrip® Liners.** Double-sided PSA backed film for holding plain backed papers on platen. MetGrip Liners should be applied with the Buehler logo side against the platen. Plain backed paper should be applied to the plain liner side. Each liner lasts approximately 10 uses.

Description	Quantity	8" (203mm)	10" (254mm)	12" (305mm)
MetGrip® Liners	10	30-8508	30-8510	30-8512

**CarbiMet® & CarbiMet® 2 Belts, Rolls & Strips and ZirMet® Belts**



**CarbiMet® MetSplice® Belts**

**Buehler MetSplice® Belts** are recommended for general coarse and fine grinding applications where a uniform surface finish is required. The specially designed biased-but splice eliminates the typical belt bump found in conventional belts. This design results in a true running belt which delivers flat uniformly ground specimens.

**Buehler CarbiMet® 2 Rolls and Strips** are for use on HandiMet® 2 and HandiMet® 1 manual polishers.

50 - Special Order Items may have lead times and minimum orders		Abrasive Size (µm)	CarbiMet® MetSplice® Belts 4" x 36" (102 x 914mm), Qty. 10	CarbiMet® 2 Abrasive Rolls for HandiMet® 2 3 7/8" x 60" (87mm x 18.3m), Qty. 1	CarbiMet® 2 Abrasive Strips for HandiMet® 1, 3" x 11" (76.2mm x 279mm), Qty. 100	ZirMet® MetSplice® Abrasive Belts 3" x 11" (102mm x 914mm), Qty. 5
Grit ANSI (FEPA)						
50 (P50)	326.0	16-5200-050-010				
60 (P60)	269.0					16-5400-060-005
80 (P80)	201.0	16-5200-080-010				
120 (P120)	127.0	16-5200-120-010				16-5400-120-005
180 (P180)	78.0	16-5200-180-010				16-5400-180-005*SO
220 (P240)	58.5					16-5400-220-005*SO
240 (P280)	52.2	16-5200-240-010	30-5143-240-002	30-5160-240-102		
320 (P400)	35.0	16-5200-320-010	30-5143-320-002	30-5160-320-102		
400 (P800)	21.8	16-5200-400-010	30-5143-400-002	30-5160-400-102		
600 (P1200)	15.3	16-5200-600-010	30-5143-600-002	30-5160-600-102		
Assorted (240/P280 - 600/P1200)				30-5160-102		

\*The Assorted package (30-5160-102) has a quantity of 40, 10 each of 240, 320, 400 and 600 grits.

**FibrMet® Abrasive Discs**



**FibrMet® Discs, 8 (203mm)**

**FibrMet® Abrasive Discs** are formulated for fine grinding applications where diamond is not required. FibrMet products contain either aluminum oxide or silicon carbide abrasive, resin-bonded to a uniform and durable 3 mil polyester backing. Their fine size distribution and superb abrasive characteristics make them the best choice for grinding epoxy beads, glass ferrules, and glass or polymer fibers. Buehler offers FibrMet Abrasive Discs in both pressure-sensitive adhesives (PSA) and plain backed versions, depending on diameter.

Micron	Color	Material	Quantity	SO - Special Order Items may have lead times and minimum orders			
				4" (102mm) PSA Backed	8" (203mm) PSA Backed	8" (203mm) Plain Backed	12" (305mm) PSA Backed
0.05	Off White	Al <sub>2</sub> O <sub>3</sub>	50	69-3110 <sup>*SO</sup>	69-3175 <sup>*SO</sup>	69-3275	
0.3	White	Al <sub>2</sub> O <sub>3</sub>	50	69-3104*	69-3174*	69-3274 <sup>*SO</sup>	69-3124*
1	Green	Al <sub>2</sub> O <sub>3</sub>	50	69-3103*	69-3173		69-3123*
3	Pink	Al <sub>2</sub> O <sub>3</sub>	50	69-3102*	69-3172*	69-3272	69-3122*
3	Grey	SiC	50	69-3912 <sup>*SO</sup>			
9	Light Blue	Al <sub>2</sub> O <sub>3</sub>	50	69-3101*	69-3171	69-3271	69-3121*
12	Yellow	Al <sub>2</sub> O <sub>3</sub>	50	69-3100*	69-3170		69-3120*
15	Grey	SiC	50	69-3107*			

\*Bulk packs of 1000 discs are available in these sizes. Add "000" to the end of the catalog number to order these sizes in quantities of 1000.

Grinding/Polishing

**UltraPrep™ Diamond Lapping Films**

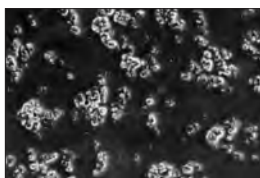


**UltraPrep™ Diamond Lapping Film Discs, Type A, 8" (203mm) PSA backed**

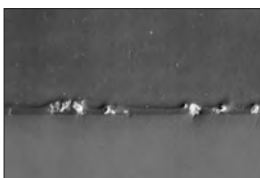
**UltraPrep™ Diamond Lapping Film Products** are formulated for fine grinding of hard materials such as ceramic and glass ferrules. Diamond particles are resin bonded to a uniform and durable 3 mil polyester backing. Their consistency, fine size distribution, and super-abrasive characteristics make UltraPrep Diamond Lapping Films the best choice for grinding ceramic ferrules. Buehler offers UltraPrep Type A and UltraPrep Type B Diamond Lapping Films in both pressure-sensitive adhesive (PSA) and plain backed versions. (Dependant on specific diameter).

**UltraPrep™ Diamond Lapping Film, Type B (Interrupted)**

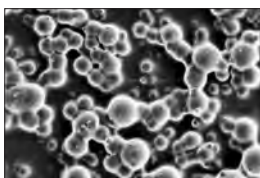
- A more aggressive, longer-life film in which the diamond particles are spaced to allow improved fluid flow and abrasive action
- Polishing swarf flows between these particles, allowing the polishing process to continue unaffected
- Ideal for use on composite materials, non-ferrous materials, and materials where embedding of abrasive particles is a concern



**SEM image, UltraPrep™, Type A surface**



**SEM image Cross-section of UltraPrep™, Type A**



**SEM image, UltraPrep™, Type B Surface**



**SEM image of a Cross-section of UltraPrep™, Type B**

SO - Special Order Items may have lead times and minimum orders								
Micron	Color	Quantity	2 7/8" (73mm) Type A, PSA Backed	4" (102mm) Type A, PSA Backed	8" (203mm), Type A, PSA Backed	8" (203mm), Type A, Plain Backed	8" (203mm), Type B, PSA Backed	8" (203mm), Type B, Plain Backed
0.1	Light Gray	5	69-1791 <sup>*SO</sup>	69-3118 <sup>*SO</sup>	15-6791	15-6792		
0.5	White	5	69-1795 <sup>*SO</sup>	69-3117 <sup>*SO</sup>	15-6795	15-6796	15-6495 <sup>*SO</sup>	15-6496 <sup>*SO</sup>
1	Lavender	5	69-1801 <sup>*SO</sup>	69-3116	15-6801	15-6802	15-6501 <sup>*SO</sup>	15-6502 <sup>*SO</sup>
3	Pink	5	69-1803 <sup>*SO</sup>	69-3115	15-6803	15-6804	15-6503	15-6504 <sup>*SO</sup>
6	Brown	5	69-1806 <sup>*SO</sup>	69-3114	15-6806	15-6807	15-6506 <sup>*SO</sup>	
9	Blue	5	69-1809	69-3113	15-6809	15-6810	15-6509 <sup>*SO</sup>	15-6510 <sup>*SO</sup>
15	Orange/Brown	5	69-1815 <sup>*SO</sup>	69-3112	15-6815	15-6816		
30	Green	5	69-1830	69-3111 <sup>*SO</sup>	15-6830	15-6831		

**Silicon Carbide and Aluminum Oxide Abrasive Powders**



**Silicon Carbide Powder, 5 lb.**



**Aluminum Oxide Abrasive Powder, 5 lb.**

**Silicon carbide and aluminum oxide abrasive powders** are available in various particle sizes. These may, at times, be preferred for fine grinding of samples on various surfaces such as cast iron, tin, lead or cloth covered wheels. The powders are generally used in distilled water mixtures that vary in consistency from a thin liquid to a paste-like compound depending upon the powder-to-water ratio.

Grit Size ANSI (FEPA)	Size (µm)	Quantity	Silicon Carbide (SiC)	Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )
120 (P120)	127.0	5 lb. (2.3kg)	40-6400-120-080	
240 (P280)	52.2	5 lb. (2.3kg)	40-6405-240-080	
320 (P400)	35.0	5 lb. (2.3kg)	40-6407-320-080	
400 (P600)	25.8	5 lb. (2.3kg)	40-6410-400-080	40-6425-400-080
600 (P1200)	15.3	5 lb. (2.3kg)	40-6415-600-080	40-6430-600-080
1000 (P2000)	10.3	5 lb. (2.3kg)	40-6418-000-080	

**Aluminum Oxide Abrasive Powders**

Particle Size	Quantity	Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )
12.5 micron	5 lb. (2.3kg)	40-6612-125-080
9.5 micron	5 lb. (2.3kg)	40-6609-095-080
5.0 micron	5 lb. (2.3kg)	40-6605-050-080
3.0 micron	5 lb. (2.3kg)	40-6603-030-080

Grinding/Polishing

**Premium Polishing Cloths & Pads**

	<b>Cloth</b>	<b>Usage Guide</b>	<b>Recommended Micron Size</b>	<b>Abrasive Type</b>	<b>Applications</b>
<b>COARSE</b>	<b>UltraPad™</b>	Used to replace multiple SiC grinding steps	6µm & Up	Diamond	Ferrous materials and thermal spray coating
	<b>UltraPol™</b>	Excellent surface finish, used to retain flatness in medium to hard specimens	6µm & Up	Diamond	Minerals, coals, ceramics, inclusion retention in steels, and refractory metals
	<b>Nylon</b>	Used to retain flatness and hard phases	6µm & Up	Diamond	Ferrous materials, sintered carbides and cast irons
	<b>TexMet® P</b>	Used for material removal and flatness of hard specimens	6µm & Up	Diamond	Ceramics, carbides, petrographic, hard metals, glass, and metal matrix composites
<b>INTERMEDIATE</b>	<b>TexMet®</b>	General purpose cloth for intermediate steps	15-0.02µm	Diamond Al <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub>	Ferrous and nonferrous metals ceramics, electronic, packages, PCB's, thermal spray coatings, cast irons, cermets, minerals, composites, plastics
	<b>TriDent™</b>	Used to maximize flatness and retain phases while providing excellent surface finish	9-1µm	Diamond	Ferrous and nonferrous metals, microelectronics, coatings
	<b>VerduTex</b>	Used for rough and final polishing	9-1µm	Diamond	Ferrous and nonferrous composite material and plastic (CFK, GFK)
	<b>VelTex</b>	Ideal for intermediate and final polishing	9-1µm	Diamond Al <sub>2</sub> O <sub>3</sub>	Steel, nonferrous and soft materials
	<b>WhiteFelt®</b>	General usage for intermediate to fine steps	6-0.02µm	Diamond Al <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub>	Ferrous and nonferrous metals
	<b>PoliCloth</b>	General usage	6-1µm	Diamond	Cast iron, copper and aluminum alloys, coal and other soft materials
<b>FINE</b>	<b>MicroCloth®</b>	Most popular general usage final polishing cloth	5-0.02µm	Diamond Al <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub>	Ferrous and nonferrous metals, ceramics, composites, PCB's, cast irons, cermets, plastics, electronics
	<b>MicroFloc</b>	Good results when used with unmounted specimens	0.06µm - 0.02µm	Al <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub>	Ferrous and nonferrous materials
	<b>MasterTex®</b>	Softer final polishing cloth	1-0.05µm	Al <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub>	Soft nonferrous and microelectronic packages
	<b>ChemoMet®</b>	General usage cloth that removes smear metal from tough materials during chemomechanical polishing	1-0.02µm	Al <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub>	Titanium, stainless steels, lead/tin, solders, electronic packages, soft nonferrous metals, plastics

Polishing Cloths



**Buehler Polishing Cloths** are premium performance cloths for all materials applications. The cloths are engineered for high removal rates, long life and superior surface finishes. See [www.buehler.com/polishing\\_cloths.htm](http://www.buehler.com/polishing_cloths.htm) for more information.

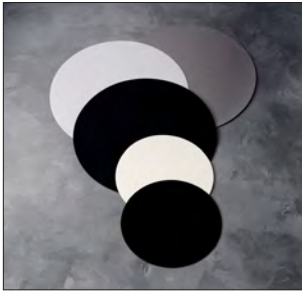
SO - Special Order Items may have lead times and minimum orders

Premium Cloths, PSA Backed		2 1/8" (73mm) Diameter, Qty. 20	8" (203mm) Diameter, Qty. 10	10" (254mm) Diameter, Qty. 10	12" (305mm) Diameter, Qty. 10
Coarse	UltraPad™	40-7112 <sup>SO</sup>	40-7118	40-7120	40-7122
	UltraPol™	40-7442 <sup>SO</sup>	40-7448	40-7450	40-7452
	Nylon	40-7052	40-7068	40-7070	40-7072
	TexMet® P * pack of 5		40-7638	40-7640	40-7642
Intermediate	TexMet®	40-1002	40-1008	40-1010	40-1012
	TriDent™	40-7502	40-7518	40-7520	40-7522
	VerduTex		40-8018	40-8020 <sup>SO</sup>	40-8022
	VelTex		40-8218		40-8222 <sup>SO</sup>
	WhiteFelt® * pack of 5		16-2002	16-2502 <sup>SO</sup>	16-3002 <sup>SO</sup>
	PoliCloth		40-8418	40-8420	40-8422
Fine	MicroFloc		40-8318 <sup>SO</sup>	40-8320 <sup>SO</sup>	40-8322 <sup>SO</sup>
	MicroCloth®	40-7212	40-7218	40-7220	40-7222
	MasterTex®	40-7702	40-7738	40-7740	40-7742
	ChemoMet®	40-7902	40-7918	40-7920	40-7922

Grinding/Polishing



**Magnetic Backed (MB) Cloths for use with Apex® M**



**Benefits of MB Cloths:**

- Eliminates the possibility of air bubbles between the cloth and the platen
- Easier application and removal of cloths
- Eliminates the need for an Apex® B
- Easy-to-use, soft flexible backing

Premium Cloths, Magnetic Backed		8" (203mm) Qty. 5	10" (254mm) Qty. 5	12" (305mm) Qty. 5
		Coarse	Ultra MB	41-10041
Intermediate	TexMet® MB	41-10035	41-10036	41-10037
	Satyn MB	41-10038	41-10039	41-10040
Fine	Chemia MB	41-10032	41-10033	41-10034
	Micro MB	41-10093	41-10094	41-10095



**MB Premium Cloths**

Premium Cloths	Recommended Micron Size	Abrasive Type	Cloth Characteristics
Ultra MB	6 & Up	Diamond	A very hard and extremely flat polishing cloth, tightly woven from very fine polyester fibers to transmit flatness. Alternative for: Nylon, UltraPad™, or UltraPol™ Polishing Cloths
TexMet® MB	15-0.02	Diamond, Al <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub>	A magnetic backed version of TexMet® - a firm, dense and hard polishing disc with excellent uniformity.
Satyn MB	9-1	Diamond	A woven artificial silk polishing cloth constructed with an internal barrier film for durability. Alternative for: TriDent® or VerduTex Polishing Cloths
Chemia MB	1-0.02	Al <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub>	A buffed polyurethane with microscopic voids, laminated to a nonwoven substrate. Good chemical resistance and excellent flatness. Alternative for: ChemoMet® Polishing Cloths
Micro MB	5-0.02	Diamond, Al <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub>	Synthetic, medium napped cloth for final polishing most materials. Alternative for: MicroCloth®, MicroCloth® and Veltex Polishing Cloths

**MetaDi® Supreme Diamond Suspensions & Pastes**



**MetaDi® Supreme Suspensions (left)** are non-toxic, non-combustible, and environmentally safe polycrystalline diamond suspensions which have a greater number of cutting facets than monocrystalline diamond and higher removal rates. These provide reduced subsurface deformation and are ideal when working with samples composed of different materials or hardnesses.

**MetaDi® Supreme Diamond Pastes (right)** offer the same benefits as our MetaDi® Supreme Suspensions in paste form. This product is naturally colored with no dyes.

Diamond Size	Color	MetaDi® Supreme Diamond Suspension 8 oz. (0.24L)	MetaDi® Supreme Diamond Suspension 32 oz. (.95L) Refill	MetaDi® Supreme Diamond Suspension 1 gal. (3.8L) Refill	MetaDi® Supreme* Diamond Paste 20g
0.05µm	Charcoal	40-6627			
0.10µm	Charcoal	40-6628			
0.25µm	Gray	40-6629		40-6629-128	
1µm	Blue	40-6630	40-6630-032	40-6630-128	40-6301
3µm	Green	40-6631	40-6631-032	40-6631-128	40-6303
6µm	Yellow	40-6632	40-6632-032	40-6632-128	40-6305
9µm	Deep Red	40-6633	40-6633-032	40-6633-128	40-6307
15µm	Brown	40-6634	40-6634-032	40-6634-128	40-6309

\* MetaDi® Fluid recommended for use with all MetaDi® Pastes and most material applications (p. 43).

Grinding/Polishing

**MetaDi® Diamond Suspensions & Pastes**



MetaDi® Diamond Suspension



MetaDi® II Diamond Paste

**MetaDi® Diamond Polishing Compounds** are the standard of the industry for critical sample preparation processes. The unique formulation of MetaDi® compounds makes them the best for use in metallographic, petrographic, and ceramographic polishing applications. MetaDi® diamond compounds are a premium product that utilize natural (in MetaDi® Paste formula) and synthetic (in MetaDi® Suspension and MetaDi® II Paste formula) diamond graded for particle size as well as shape. The diamond carrier is formulated to keep the diamond from loading up and to maintain its cutting efficiency through the life of the polishing surface. Water based suspensions are recommended for most applications. Oil based suspensions are recommended only for materials that are water sensitive or where more lubrication is necessary.

Diamond Size	Color	MetaDi® Diamond Suspension 1 pt. (0.47L)	MetaDi® Diamond Suspension 1 pt. (0.47L) Oil	MetaDi® Diamond Suspension 32 oz. (0.95L)	MetaDi® Diamond Suspension 1 gal. (3.8L)
1µm	Blue	40-6530	40-6540	40-6530-032	40-6530-128
3µm	Green	40-6531	40-6541	40-6531-032	40-6531-128
6µm	Yellow	40-6532	40-6542	40-6532-032	40-6532-128
9µm	Deep Red	40-6533	40-6543	40-6533-032	40-6533-128
15µm	Brown	40-6534	40-6544	40-6534-032	40-6534-128

Diamond Size	Color	MetaDi® Diamond Paste 20g Heavy Concentration*	MetaDi® II Diamond Paste 5g Medium Concentration*	MetaDi® II Diamond Paste 20g Medium Concentration*
0.25µm	Gray	40-6102		
1µm	Blue	40-6128	40-6244	40-6243
3µm	Green	40-6142	40-6247	40-6246
6µm	Yellow	40-6162	40-6250	40-6249
9µm	Deep Red	40-6182	40-6253	40-6252
15µm	Brown	40-6202	40-6256	40-6255

\* MetaDi® Fluid recommended for use with all MetaDi® Pastes and most material applications (p. 43).

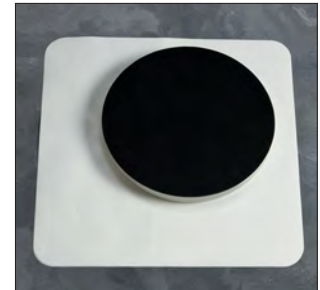
Grinding & Polishing Accessories

Quantity/Size	
Spray Pump Nozzle for 8 oz. (0.24ℓ) MetaDi® Bottles	40-6650
MetaDi® Fluid 16 oz. (0.47ℓ)	40-6016
MetaDi® Fluid 32 oz. (0.95ℓ)	40-6032
MetaDi® Fluid 85 oz. (2.5ℓ)	40-6064-085
AutoMet® Lapping Oil 6 oz. (0.18ℓ)	60-3250-006
AutoMet® Lapping Oil 1 gal. (3.8ℓ)	60-3250-128
Dressing Stick 1" x 1" x 6¼" (25.4 x 25.4 x 159mm) for UltraPrep & Apex DGD Grinding Discs	15-6190
Protective Sheet 12" x 12" (305 x 305mm)	41-10091
Protective Sheet 16" x 16" (375 x 375mm)	41-10092

NEW



**New Protective Sheet** protects countertops during castable mounting or platen and specimen holder changeover. Good to 500° F (260° C), so safe for lining ovens too.



Grinding/Polishing



MetaDi® Fluid



Dressing Stick for UltraPrep & Apex DGD Grinding Discs

## Quick-Reference Guide to Final Polishing Solutions

Name	Applications
MicroPolish® II Deagglomerated Alumina Powder and Suspensions	Higher quality alumina suitable for polishing most minerals and metals; Produces a better surface finish than standard alumina abrasives of the same size
MasterPrep® Alumina Polishing Solution	Sol-gel alumina suspension with a pH of ~8.5 Produces better finishes than calcined alumina abrasive Excellent with: •Minerals •Metals •Carbides •PWB's •Precious Metals •Electronics
MasterMet® Colloidal Silica Suspension	Amorphous silica colloidal suspension with a pH of ~10 Chemo-mechanical polishing action produces an excellent surface: •Metals •Minerals •Polymers
MasterMet® 2 Non-Crystallizing Colloidal Silica Suspension	Non-crystallizing amorphous silica colloidal suspension with a pH of ~10.5 Chemo-mechanical polishing action
MasterPolish® Final Polishing Suspension	Proprietary viscous blend of high purity 0.05µm alumina and colloidal silica with a slightly basic pH of ~9 Contains little water and can be used with materials that are sensitive to water: •Mg ( <i>most alloys</i> ) •Co-based alloys •Fe ( <i>most alloys</i> ) •Ni •Metal Matrix Composites (MMCs)
MasterPolish® 2 Final Polishing Suspension	pH of ~10 for chemo-mechanical polishing: •Sapphire •Glass •Alumina •Silicon Nitride •Metal/Ceramic composites

## Final Polishing Suspensions

**Buehler Polishing Suspensions** have been developed in our research laboratories to give the metallographer an easy-to-use, premixed polishing media that has the same consistency from day to day and from lot to lot. Buehler Suspensions are packaged in convenient applicator bottles, and are ready to use.

Type	6 oz. (0.18L)	32 oz. (0.95L)	64 oz. (1.9L)
MasterPrep® Alumina Polishing Suspension, 0.05µm	63-6377-006	40-6377-032	40-6377-064
MasterMet® Colloidal Silica Suspension, 0.06µm	40-6370-006		40-6370-064
MasterMet® 2 Non-Crystallizing Colloidal Silica Suspension, 0.02µm	40-6380-006		40-6380-064
MasterPolish® Final Polishing Suspension, 0.05µm		40-10084	
MasterPolish® 2 Final Polishing Suspension, 0.06µm		40-6376-032	



MasterPrep® Alumina Polishing Suspension



MasterMet® Colloidal Silica Suspension



MasterMet® 2 Non-Crystallizing Colloidal Silica Suspension



MasterPolish® & MasterPolish® 2 Final Polish Suspensions

**MicroPolish® Alumina and MicroPolish® II Deagglomerated Alumina Powders & Suspensions**

Particle Size		1 lb. (0.45kg) Powder	5 lb. (2.3kg) Powder	6oz. (0.18L) Suspension	128oz. (3.8L) Suspension
MicroPolish®	0.05µm	40-10075	40-10076	40-10083	
	0.3µm	40-10077	40-10078	40-10082	
	1.0µm	40-10079	40-10080	40-10081	
MicroPolish® II	0.3µm	40-6323-016	40-6323-080	40-6363-006	40-6363-128
	1.0µm	40-6321-016	40-6321-080	40-6361-006	

Grinding/Polishing



MicroPolish® II 0.3µm, 1 lb.,  
MicroPolish® II 1.0µm, 5 lb.,  
MicroPolish® II 0.05µm, 1 lb.



MicroPolish® II Deagglomerated  
Alumina Suspension, 6 oz.

**Replicating Materials** are primarily used for field metallographic applications and subsequent laboratory analysis.

	Quantity	Catalog Number/ Price
<b>Compatible Testers</b>		
Disc Holder, hard rubber 1" (25.4mm)	1	57-5005
Disc Holder, hard rubber 2 7/8" (73mm)	1	57-5003
Replicating Tape 1" x 0.005" x 25" (25.4mm x 0.13mm x 7.6m)	1 roll	57-5000
Replicating Adhesive Bases 1" x 3" (25.4mm x 76.2mm)	30 per box	57-5001
Replicating Kit*	1	57-5002
Flapper Wheel, 60 (P60) grit	1	57-5004
Manual Applicator for Replicating Media	1	57-6000
Static Mixers	10	57-6001
Replicating Media 1/7, 50mℓ (1.7oz) 1 minute working time, 7 minute cure time	1	57-6002
Replicating Media 7/30T, 50mℓ (1.7oz) 7 minutes working time, 30 minute cure time	1	57-6003
Replicating Set**	1	57-6100

\* Replicating kit includes 10 each 3" x 3" (76.2mm x 76.2mm) Replicating Sheets and Adhesive Bases  
 \*\* Replicating set includes 1 each of catalog numbers 57-6000, 57-6001, and 57-6002



Replicating Tape, Replicating Adhesive Bases, Disc Holders, and Flapper Wheel



Replicating Media