

Automated and manual grinders and polishers with a broad range of consumables for any lab

GRINDING & POLISHING

The grinding and polishing steps in a metallographic preparation method can be accomplished in many ways and combinations. The goal of any method is to prepare a final polished specimen free of deformation and suitable for analysis. Some labs are working with easier to prepare specimens for routine work where speed is valued over a high level of perfection. Other labs are working with samples that are difficult to prepare and require a high quality finish. Some labs are high variety and need to versatility to do both. Buehler has a solution for all grinding and polishing needs.



EcoMet/AutoMet™
Grinder and Polishers



Grinding and Polishing
Consumables & Accessories



Planar Grinder

PlanarMet™ 300 Planar Grinder

The PlanarMet 300 bench top planar grinding machine with a high torque, continuous duty, 5.7Hp motor has an aggressive material removal rate normally seen in much larger, more expensive floor model machines. Convenience features such as an integrated auto wheel dressing and built in cooling make it easy to get consistent results.



High Quality Results

- Auto Dressing System ensures fresh consistent abrasive surface giving consistent results.
- Controlled material depth removal (z-axis) is programmable and accurate to 0.01mm.
- High water flow and unique manifold keeps specimens cool, minimizing subsurface damage.

Save space

- Compact format that is just as powerful as large, floor standing models
- Bench top design ideal for direct integration to bench top polishing steps

Flexibility to adapt changing needs

- Choice of grinding stones available for almost any material application
- Timed cycle provides flexibility in methods

Part Number	Voltage/Frequency
49-10000-250	208-240VAC, 50Hz, 3-Phase
49-10000-260	208-240VAC, 60Hz, 3-Phase
49-10000-450	380-480VAC, 50Hz, 3-Phase
49-10000-460	380-480VAC, 60Hz, 3-Phase

Dimensions: 21.25in [539mm]W x 31in [787mm]D x 29.75 [755mm]H

Tips, Tricks & Techniques



Benefits of planar grinders

- Reduce process steps and grind 4X faster compared to SiC paper
- Go from 3 grinding steps to just 1

Accessories & Consumables for PlanarMet 300

Grinding Stones



Planar Grinding Stones are multi-use abrasive discs designed for the PlanarMet 300. They provide high material removal rates and consistent scratch patterns.

Size: 12in [305mm], 1in [25mm] thickness
Grit: 120grit [P120] Alumina or SiC

Part Number	Description
49-7280	Alumina Grinding Stone
49-7281	SiC Grinding Stone
49-100	Replacement Dressing Stick, Metal-Matrix Diamond
49-1001	Chuck adaptor for legacy specimen holders

Recirculation System



Recirculation tank on wheels for use with PlanarMet™ 300.

Part Number	Capacity	Voltage/Frequency
56-0026	12gal [60L]	380-400VAC, 50/60Hz
56-0027	12gal [60L]	200-240VAC, 50/60Hz



EcoMet™ 250/300 Grinder - Polisher

Designed for Demanding Production Lab Environments

Easily accommodate many applications with this versatile line of Grinder-Polishers. All products have durable construction for reliability in high use environments, unique quick cleaning features, and plenty of enhancements for user friendly operation.

EcoMet Grinder-Polisher with AutoMet Power Head

Intuitive Membrane Controls are Everyday Easy



EcoMet 300

Part Number	Base	Power Head
49-7210	EcoMet 300	None
49-7255	EcoMet 300	AutoMet 250
49-7260	EcoMet 300	AutoMet 300

Dimensions: 22.5in [572mm]W x 28.6in [726mm]D x 20in [508mm]H

- Built tough for high volume use.
- Save time with quick clean features include a retractable water hose, disposable bowl liner and integrated 360 degree bowl rinse.
- EcoMet 300 12" platen size provides a larger working area for faster grinding or to accommodate large samples.
- EcoMet 250 8" and 10" platen size choice optimizes the cost of paper and diamond when a larger unit isn't required.

EcoMet 250

Part Number	Base	Power Head
49-7200	EcoMet 250	None
49-7250	EcoMet 250	AutoMet 250

Dimensions: 19.5in [495mm]W x 24.4in [620mm]D x 20in [508mm]H

Accessories

EcoMet 250 & 250 Pro

- 40-4061 8in [203mm] Aluminum Platen
- 40-0500 10in [254mm] Aluminum Platen

EcoMet 300 & 300 Pro

- 49-1777 12in [305mm] Aluminum Platen

Additional Accessories

- 49-6111-160 Recirculating Tank [160VAC, 60Hz]
- 49-6111-250 Recirculating Tank [250VAC, 50Hz]
- 60-9080 Disposable Bowl Liner (Qty 5)
- 4961-250 Splash Guard for AutoMet 250

AutoMet 250 and AutoMet 300 Power Heads

AutoMet 250 - Accommodates single or central force samples up to 40mm.

AutoMet 300- Accommodates single and central force samples up to 50mm. Higher horsepower motor provides faster speeds and higher force.

EcoMet Pro, Grinder and Polishers with AutoMet Power Heads.

Intelligent programming makes advanced functionality easy with highly reproducible results



- Color touchscreen controls add functionality needed for advanced methods such as Z-axis material removal by depth and method creation/storage.
- Improve productivity and consistency by integrating with a Burst Dispenser System (see page 35)
- Quick clean features include a retractable water hose, disposable bowl liner and integrated 360 degree bowl rinse.
- EcoMet 300 Pro has 12" platen size provides a larger working area for faster grinding or to accommodate larger samples.
- EcoMet 250 has 8" and 10" platen size choice optimizes the cost of paper and diamond when a larger unit isn't required.

EcoMet 300 Pro

Part Number	Base	Power Head
49-7211	EcoMet 300 Pro	None
49-7256	EcoMet 300 Pro	AutoMet 250
49-7261	EcoMet 300 Pro	AutoMet 300

Dimensions: 22.5in [572mm]W x 28.6in [726mm]D x 28.5in [724mm]H

EcoMet 250 Pro

Part Number	Base	Power Head
49-7201	EcoMet 250 Pro	None
49-7251	EcoMet 250 Pro	AutoMet 250

Dimensions: 19.5in [495mm]W x 24.4in [620mm]D x 27.5 [699mm]H



MetaServ 250 Grinder - Polisher

Performance, Economy and Reliability for Routine Applications.

The MetaServ 250 family of Grinder-Polishers offers performance, economy and reliability for low volume preparation applications.

MetaServ 250 Manual

The MetaServ Manual provides simple operation for grinding and polishing. It is compatible with 8in [203mm] and 10in [254mm] platens. Can be easily upgraded with a power head for semi-automatic grinding and polishing.



MetaServ 250 Semi Automatic

Transform the standard speed single or twin to a semi-automatic system with the addition of the Vector™ LC 250 Power Head or purchase the MetaServ 250 with the Vector Power Head.



(*Pictured with the Vector LC Power Head)

Model	Part Number	Voltage Frequency
Single	49-10055	85-264VAC, 50/60Hz
Twin	49-10057	85-264VAC, 50/60Hz
Twin - High Speed	49-10057HS	85-264VAC, 50/60Hz

Single

Dimensions: 17.8in [452mm]W x 28.9in [735mm]D x 9.5in [242mm]H

Twin & Twin High Speed

Dimensions: 31.7in [805mm]W x 28.9in [735mm]D x 10.2in [260mm]H

Accessories

40-4061	8in [203mm] Aluminum Platen
40-0500	10in [254mm] Aluminum Platen
30-2008	8in [203mm] Paper Holding Band
95-2825	10in [254mm] Paper Holding Band

Model	Part Number	Power Head	Voltage Frequency
Single	49-10055	60-10059-115 Vector LC 250	115VAC 50/60Hz
Single	49-10055	60-10059-230 Vector LC 250	230VAC 50/60Hz
Twin	49-10057	60-10059-115	115VAC 50/60Hz
Twin	49-10057	60-10059-230	230VAC 50/60Hz
Single w/ Vector Power Head	49-10056	included	85-264VAC 50/60Hz

Single

Dimensions: 17.8in [452mm]W x 28.9in [735mm]D x 24.5in [622mm]H

Twin

Dimensions: 31.7in [805mm]W x 28.9in [735mm]D x 24.5in [622mm]H

Vector LC and Vector Power Heads

Vector LC - Single force operation for 1-4 samples.

Vector - Accommodates up to 6 single and central force samples. Additional parameter controls including force, time, rotation, and water.



Grinder Polisher Accessories

Burst Dispensing System

The Burst Dispensing System is a flexible, easy to operate dispensing system for all diamond and final polishing suspensions. This product improves both productivity and consistency by dispensing suspensions at fixed intervals and configurable rates.

Choose from two different Burst Configurations

Fully Integrated

The Grinder Polisher controls the start/stop function and the volume rate.



(*EcoMet/AutoMet pro shown with 5 burst modules and a stadium seating module.)

Independent

The Burst Module Control Panel is used to control dispensing stop/start and volume rate.



Compatible with AutoMet 250 Pro and AutoMet 300 Pro

How to configure fully integrated burst system:

- Choose up to 5 burst modules (Part Number 40-1005)
- Add stadium seating module (Part Number 40-10004)
- Add dispensing arm (Part Number 40-10006)
- Add optional stir bar (Part Number 00-10100)

Accessories

- | | |
|----------|---|
| 40-10004 | Stadium Seating Module
A compact and efficient method to hold up to 5 burst modules |
| 40-10006 | Dispensing Arm for AutoMet™ 250/300
The dispensing arm attaches the AutoMet grinder polisher to the burst dispensing system. Outlet tubing from the burst system is secured neatly into the arm. Outlet nozzles dispense suspension on to the platen. |
| 00-10100 | Stir Bar
Magnetically driven stir bars prevents settling of suspension. Use one for each module. |

Compatible with all Grinder Polishers

How to configure independent burst modules:

- Choose burst module (Part Number 40-1005)
- Up to 5 modules can be connect to one electrical power source, *requires Cable for connecting module to module (Part Number 40-2832)
- Add optional stir bar (Part Number 00-10100)
- Add optional hand switch (Part Number 40-2823)

Accessories

- | | |
|----------|--|
| 40-2832 | Cable for connecting module to module
For connecting more than 1 burst module in the independent configuration. Up to 5 modules can be connected together. Requires one cable for each module added to the first module. |
| 40-2823 | Hand Switch
Used to control the start/stop function. |
| 00-10100 | Stir Bar
Magnetically driven stir bars prevents settling of suspension. Use one for each module. |



Grinder Polisher Accessories

Sample holders are designed for use with Buehler's grinder-polishers to facilitate process automation and optimization. Many options for different sample sizes and shapes are available depending on the shapes, sizes, and capacities required.

Single Force Specimen Holders



Round/Barrel



Rectangle



Slides



Teardrop

Vector™ LC 250 Power Head

For use with 60-9005 Drive Adapter

Part Number	Style	Size	Capacity	Additional Accessories
60-10060	○	1in	4	63-1022 Retaining Rings (Qty 6pk)
60-10061	○	1.25in	4	63-1023 Retaining Rings (Qty 6pk)
60-10062	○	1.5in	4	63-1024 Retaining Rings (Qty 3pk) 69-1583 1 x 2in Glass Slide Holder
60-10063	○	25mm	4	63-1022 Retaining Rings (Qty 6pk)
60-10064	○	30mm	4	63-1023 Retaining Rings (Qty 6pk)
60-10065	○	40mm	4	63-1024 Retaining Rings (Qty 3pk)



Vector Power Head

Part Number	Style	Size	Capacity	Additional Accessories
60-3001	○	1in	4	63-1022 Retaining Rings (Qty 6pk)
60-3002	○	1.25in	4	63-1023 Retaining Rings (Qty 6pk)
60-3003	○	1.5in	4	60-1024 Retaining Rings (Qty 3pk)
60-3004	○	25mm	4	63-1022 Retaining Rings (Qty 6pk)
60-3005	○	30mm	4	63-1023 Retaining Rings (Qty 6pk)
60-3006	○	40mm	4	63-1024 Retaining Rings (Qty 3pk)
60-3000		1 x 2	4	69-1584 1 x 2in Glass Slide Holder



AutoMet™ 250 Power Head

For use with 60-9005 Drive Adapter.

Part Number	Style	Size	Capacity	Additional Accessories
60-9010	○	1in	6	63-1022 Retaining Rings (Qty 6pk) 60-9120 1 x 3in Glass Slide Holder 60-9130 2 x 3in Glass Slide Holder 60-9100 27 x 46mm Glass Slide Holder 60-9140 28 x 48mm Glass Slide Holder
60-9011	○	1.25in	6	63-1023 Retaining Rings (Qty 6pk)
60-9012	○	1.5in	6	63-1024 Retaining Rings (Qty 3pk)
60-9020	○	25mm	6	63-1022 Retaining Rings (Qty 6pk)
60-9021	○	30mm	6	63-1023 Retaining Rings (Qty 6pk)
60-9022	○	40mm	6	63-1024 Retaining Rings (Qty 3pk)
60-9030	○	Multiple	6	60-9031 1in Distance Rings 60-9032 1.25in Distance Rings 60-9033 25mm Distance Rings 60-9034 30mm Distance Rings



Single Force Specimen Holders



Round/Barrel



Rectangle



Slides



Teardrop

AutoMet™ 300 Power Head

For use with 60-9005 Drive Adapter.

Part Number	Style	Size	Capacity	Additional Accessories
60-9060		1in	6	63-1022 Retaining Rings (Qty 6pk) 60-9120 1 x 3in Glass Slide Holder 60-9130 2 x 3in Glass Slide Holder 60-9100 27 x 46mm Glass Slide Holder 60-9140 28 x 48mm Glass Slide Holder
60-9061		1.25in	6	63-1023 Retaining Rings (Qty 6pk)
60-9062		1.5in	6	63-1024 Retaining Rings (Qty 3pk)
60-9063		2in	6	
60-9070		25mm	6	63-1022 Retaining Rings
60-9071		30mm	6	63-1023 Retaining Rings
60-9072		40mm	6	63-1024 Retaining Rings
60-9073		50mm	6	
60-9040		Multiple	6	60-2106 1in and 25mm Distance Rings 60-2103 1.25in Distance Rings 60-2104 1.5in Distance Rings 60-2102 30mm Distance Rings 60-2105 40mm Distance Rings
60-9041		Multiple	6	
60-9049		Multiple Target Holders	3	

Slide Holders & Glass Slides

Glass Slide Size	Slide Holder	Single Force Specimen Holder	Glass Slides
1 x 3in	60-9120 (max 3 per specimen holder)	60-9010 for AutoMet 250 60-9060 for AutoMet 300	
2 x 3in	60-9130 (max 2 per specimen holder)	60-9060 for AutoMet 300	
27 x 46mm	60-9100 (max 3 per specimen holder)	60-9010 for AutoMet 250 60-9060 for AutoMet 300	40-8000-001 (Qty 144) 40-8000-010 (Qty 1440)
27 x 46mm	30-8005 hand-held holder		40-8000-001 (Qty 144) 40-8000-010 (Qty 1440)
28 x 48mm	60-9140 (max 3 per specimen holder)	60-9010 for AutoMet 250 60-9060 for AutoMet 300	



Grinder Polisher Accessories

Central Force Specimen Holders



Round/Barrel



Rectangle



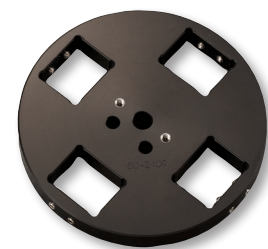
Teardrop

Vector™, AutoMet™ 250 Power Heads

For use with Drive Adapters 60-2499 for Vector and 60-9000 for AutoMet 250.

Part Number	Style	Size	Capacity	Loading Plate
60-2482	○	1in	6	60-2411
60-2483	○	1.25in	6	
60-2484	○	1.25in	3	
60-2422	∇	1.25in [32mm]	6	
60-2485	○	1.5in	3	60-2413
60-2486	○	30mm	6	
60-2487	○	40mm	3	60-2412
60-2409	□	1 x 1.25in [25.4 x 31.75mm]	4	
60-8240†	∇	18 - 51mm	5	
60-8210†	∇	12 - 40mm	6	
60-8262†	∇	10 - 25mm	12	
60-8254†	□	55 x 30mm	5	
60-8255†	□	70 x 40mm	3	

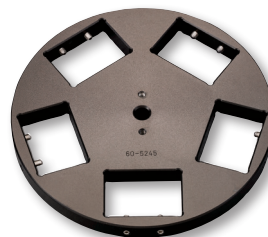
† Requires 10in [254mm] platen



AutoMet 300 Power Head and PlanarMet™ 300

For use with 60-9000 Drive Adapter.

Part Number	Style	Size	Capacity	Loading Plate
60-5281	○	1in	10	60-2412
60-5282	○	1.25in	10	
60-5252	∇	1.25in or 30mm	9	
60-5287	○	30mm	10	
60-5283	○	1.5in	6	60-2413
60-5253	∇	1.5in or 40mm	6	
60-5288	○	40mm	6	60-2414
60-5289	○	2in	3	
60-5299	○	2in	5	60-2414
60-5296	∇	2in or 50mm	5	
60-5245	□	2 x 1.38in [50 x 35mm]	5	
60-5297	□	55 x 30mm	5	
60-5298	□	70 x 40mm	3	



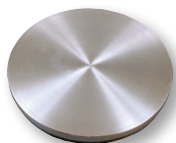
Blank Specimen Holders



For use with 60-2499 or 60-9000 Drive Adapter.

Part Number	Diameter	Power Head
60-2408	5.12in [130mm]	Vector™, AutoMet™ 250
60-5254	7.12in [181mm]	AutoMet 300

Platens



Aluminum platens for use on Buehler Grinder Polishers

Part Number	Diameter	Grinder-Polisher
40-4061	8in [203mm]	MetaServ, EcoMet™ 250
40-0500	10in [254mm]	MetaServ, EcoMet 250
49-1777	12in [305mm]	EcoMet 300

Loading Fixtures and Plates



Used for loading Central Force Specimen Holders to ensure planar samples

Part Number	Description
60-2410	Loading Fixture
60-2411	Loading Plate for 8in [203mm] and 10in [254mm] specimen holders
60-2412	Loading Plate for 10in [254mm] and 12in [305mm] specimen holders
60-2413	Loading Plate for 8in [203mm] and 12in [305mm] specimen holders
60-2414	Loading Plate for 12in [305mm] and 14in [354mm] specimen holders

Target Holders



Designed for precise material removal to specified depths. Includes one ceramic and one steep stop ring

Part Number	Description
60-8100	For 28 x 48mm glass slide (histologic holder)
60-8101	For 1in [25mm] mounted specimens
60-8102	For 1.25in [32mm] mounted specimens
60-8112	For 30mm mounted specimens
60-8113	For 40mm mounted specimens
60-9049	Specimen Holder for Target Holders (Drive Adapter required)

Drive Adapters



Securely holds specimens up to 0.875in [22mm] from 2 points

Part Number	Compatible With
60-2499 Central Force	Vanguard, Vector and legacy AutoMet
60-9000 Central Force	AutoMet 250/300 PlanarMet 300
60-9005 Single Force	AutoMet 250/300



Grinder Polisher Accessories

PC-Met™ Precision High Volume Printed Wiring Board Accessory



- High volume printed wiring board preparation system
- Prepares up to 36 coupons simultaneously
- Prepares reproducible cross-sections of through-holes down to 0.008in
- For use with EcoMet™ 300 and AutoMet™ 250/300 Power Head

Part Number	Contents
60-5090	Indexing pins, carbide and diamond stops, coupon loader, dial indicator, gauge blocks and wooden case

Accessories

60-5053	Coupon Pins 1.0625in [27mm] long (Qty 1000)
60-5067	Cup, Extended Upper Mold Plate, 0.8in (Qty 6)
60-9000	Central Force Drive Adapter for AutoMet™ 250/300

PWB Met™ Small Hole Accessory



- High volume printed wiring board preparation system
- Prepares up to 18 coupons simultaneously
- Prepares reproducible cross-sections of through-holes down to 0.004in
- For use with EcoMet 300 and AutoMet 250 Power Head

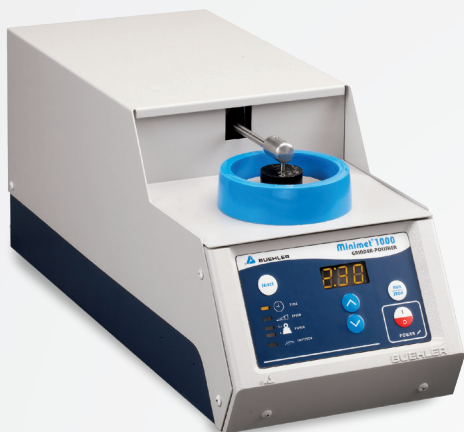
Part Number	Contents
60-5175	Indexing pins, polycrystalline diamond stops, coupon loader, dial indicator calibration gauge, silicon mold release spray, gauge blocks, sample extractor and wooden case

Accessories

60-5186	PWB Met Short Pin Loader 0.375in [10mm] long,
60-5084	PWB Met Pins 0.375in [10mm] long (Qty 3000)

MiniMet™ 1000

A low volume, single specimen machine capable of preparing a wide variety of materials. Space saving design employs geometric action, increasing specimen consistency.



Easy to use

- Simple operations ideal for low volume applications

Save space and lower costs

- Designed to use 2.875in [73mm] abrasive paper and polishing cloths

Easier clean-up saves time

- Retractable water hose for wash down

Part Number

Voltage/Frequency

69-1100

85-264VAC, 50/60Hz

Dimensions: 7in [180mm]W x 16in [400mm]D x 8in [200mm]H

Accessories

69-1111 Caged Specimen Holder, for 1in [25mm] or 1.25in [32mm] Mounted Specimens

69-1112 Caged Specimen Holder, for 1.5in [38mm] Mounted Specimens

69-1500 Polishing Bowls, 4in [100mm] Diameter (1 each Black, White, Blue)

69-1562 Glass Circular Slides, 0.5in [13mm] Diameter (Qty 50)

69-1566 MiniMet 1000 Precision Thinning Attachment

69-1567 Glass Disc, 2.145in [55mm] Diameter (Qty 5)

69-1575 Electro-mechanical Accessories

69-1580 MiniMet Thin Section Attachment (includes 3 bowls, glass and section holder)

69-1581 Thin Section Bowls, 4.75in [121mm] (1 each Black, White, Blue)

69-1582 Thin Section Glass Platens, 4in [100mm] (Qty 3)(replacement)

69-1583 MiniMet Thin Section Slide Holder, 46 x 27mm

69-1590 MiniMet Wafer Polishing Attachment

69-1502 Storage Caddie for MiniMet Bowls (Qty 3)

69-1510 Replacement Glass Discs (Qty of 3)

69-1550 MiniMet Alignment Fixture with 3 Drill Bits

69-1552 Set of 3 Drill Bits (replacement)

Grinding & Polishing Consumables for MiniMet 1000

Silicon Carbide Paper, PSA Backed, 2.875in [73mm] (Qty 100)



CarbiMet™

Grit Size - ANSI [FEPA]	Micron	Part Number
120 [P120]	127	36-02-0120
180 [P180]	78	36-02-0180
240 [P280]	52	36-02-0240
320 [P400]	35	36-02-0320
400 [P800]	22	36-02-0400
600 [P1200]	15	36-02-0600

MicroCut™

Grit Size - ANSI [FEPA]	Micron	Part Number
800 [P1500]	13	36-02-0800
1200 [P2500]	8	36-02-1200

Premium Polishing Cloths, PSA Backed, 2.875in [73mm] (Qty 20)



Cloth	Stage	Part Number
UltraPol™	Coarse	40-7442
Nylon	Intermediate	40-7052
TexMet™ C	Intermediate	40-1102
TriDent™	Intermediate	40-7502

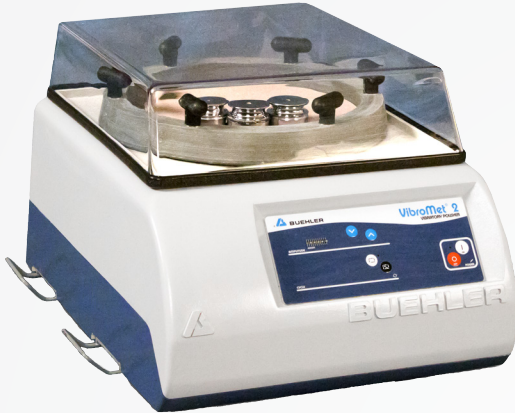
Cloth	Stage	Part Number
MicroCloth™	Fine	40-7212
MasterTex™	Fine	40-7702
ChemoMet™	Fine	40-7902



Grinder Polisher Specialty & Support Equipment

VibroMet™ 2 Vibratory Polisher

VibroMet 2 Vibratory Polisher is designed to prepare high quality polished surfaces on a wide variety of materials, including EBSD applications. The 7200 cycles per minute horizontal motion produces a very effective polishing action, providing superior results, exceptional flatness and less deformation.



Safe and Effective results

- Vibratory polisher removes minor deformation remaining after mechanical preparation, revealing the stress-free surface without need for the hazardous electrolytes required by electro-polishers

High quality surface finish

- Combine the VibroMet 2 with MasterMet™ 2 Colloidal Silica to chemomechanically polish a specimen to a surface finish suitable for electron-backscatter diffraction (EBSD)

Part Number	Voltage/Frequency
67-1635-160	115VAC, 60Hz
67-1635-250	220VAC, 50Hz

Dimensions: 21.5in [546mm]W x 23in [584mm]D x 14.5in [368mm]H

Accessories

67-1525	Specimen Holder, 2in and 50mm (Qty 3)	67-1530	Polishing Bowl Accessory
67-1526	Specimen Holder, 1in and 25mm (Qty 3)	67-1529	Specimen Weights (Qty 9)
67-1527	Specimen Holder, 1.25in [32mm] (Qty 3)	67-1541	Loading Fixture, 2in and 50mm
67-1528	Specimen Holder, 1.5in [38mm] (Qty 3)	67-1540	Loading Fixture, 1in and 25mm, 1.25in [32mm], 1.5in [38mm]

ElectroMet™ Polisher-Etchers

An efficient electro polishing system. The ElectroMet has parameter retention. The etching system reveals microstructure quickly

ElectroMet™ 4



ElectroMet 4 includes ElectroMet 4 Power Source, Polishing Cell and Etching Cell. *Products not available in Europe*

Part Number	Voltage Frequency
70-1830-115	115VAC, 60Hz
70-1830-220	220-240VAC, 50Hz

Dimensions: 13.125in [333mm]W x 18.5in [470mm]D x 9in [229mm]H

ElectroMet



Products not available in Europe

Part Number	Voltage Frequency
70-1710	115VAC, 50/60Hz

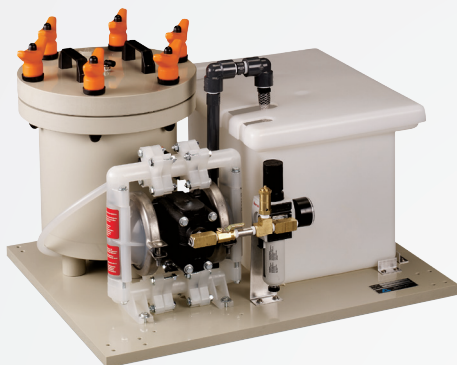
Dimensions: 7in [177mm]W x 5.75in [146mm]D x 7.75in [197mm]H

Accessories

70-1832	ElectroMet 4 Polishing Cell	70-2105	Copper Cathode
70-2015	Masks (Qty 5)	70-3100	Etching Cell
70-2100	Stainless Steel Cathodes		

EnvironMet™ System

Filtration and recirculation systems compatible with all Grinder-Polishers. The EnvironMet uses fresh water at each step. The recirculating version removes up to 1µm particulates. The filter version removes up to 100µm particulates. The system requires no electrical connections and has a 6gal [23L] capacity



Part Number

49-2500 EnvironMet Recirculating Filter System

49-2501 EnvironMet Filter System

Dimensions: 25.5in [648mm]W x 20.5in [521mm]D x 16.8in [425mm]H

Accessories

49-2510	Replacement 1µm Filter Paper (Qty 100)
49-2520	Replacement 100 µm Swarf Bag
49-2530	Castor Kit

UltraMet™ Ultrasonic Cleaners

Quickly clean specimens in between preparation steps. Built in timer and continuous cleaning cycle



UltraMet 2002 Ultrasonic Cleaner, 0.75gal [2.8L]

Part Number	Voltage/Frequency
80-2002-115	115VAC, 60Hz
80-2002-220	220VAC, 50Hz

UltraMet 2005 Ultrasonic Cleaner, 2.5gal [9.5L]

Part Number	Voltage/Frequency
80-2005-115	115VAC, 60Hz
80-2005-220	220VAC, 50Hz

Accessories

80-3012	Tank Cover for UltraMet 2002	80-5013	Insert Tray, solid, for UltraMet 2005
80-3013	Insert Tray, solid, for UltraMet 2002	80-5014	Insert Tray, perforated stainless steel, for UltraMet 2005
80-3014	Insert Tray, perforated stainless steel, for UltraMet 2002	75-6000-032	UltraMet 2 Sonic Cleaner, 32oz [0.95L]
80-5012	Tank Cover for UltraMet 2005		

Replicating Materials for Field Applications

Field metallography is necessitated by certain applications. Both Replicating Tape and Replicating Media provide users the ability to produce a portable copy of the microstructure of interest. Replicating Tape requires some skill for producing excellent results. Replicating Media is a simple two-part system that easily captures the surface detail.

Part Number	Description
57-5005	Disc Holder, hard rubber, 1in [25mm]
57-5003	Disc Holder, hard rubber, 2.875in [73mm]
57-5000	Replicating Tape, 1 x 0.005 x 25ft [25 x 0.13 x 7620mm]
57-5001	Replicating Adhesive Bases, 1 x 3in [25 x 76mm] (Qty 30)

Part Number	Description
57-6004	Replicating Media Cartridges, 50ml each (Qty 8)
57-6005	Dispensing Gun for Replicating Media
57-6006	Nozzles for Replicating Media Dispensing Gun



Grinding & Polishing Consumables

The choice of Grinding and Polishing consumables is a key factor that impacts the preparation process. Buehler's consumables are designed to improve efficiency and ensure repeatability within process. With a wide variety of products, there is a Buehler consumable that can improve your materials preparation process.



CarbiMet Silicon Carbide Paper

CarbiMet is a specialized silicon carbide grinding paper that offers quick and efficient material removal with minimal surface damage.



Premium Polishing Cloths

The selection of a polishing cloth depends on the material being processed and the requirements for the final analysis. With a variety of fabrics, weaves and naps, there is a high quality Buehler cloth to fit every application.



MetaDi Diamond Suspension & Paste

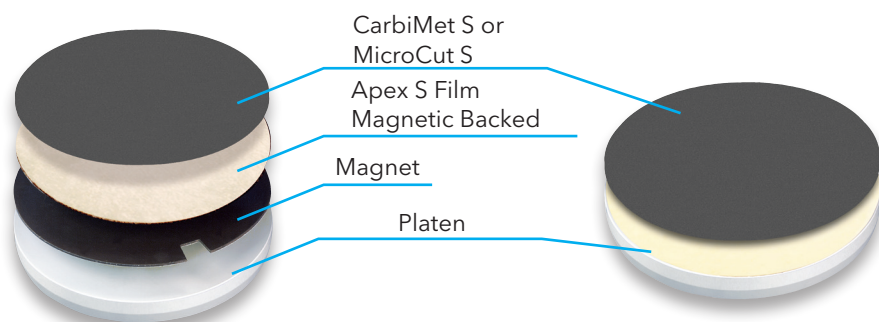
MetaDi is the premier line of diamond suspensions and pastes that ensures consistency in the polishing process. A variety of types and micron sizes are available to fit any application.



Platen Systems

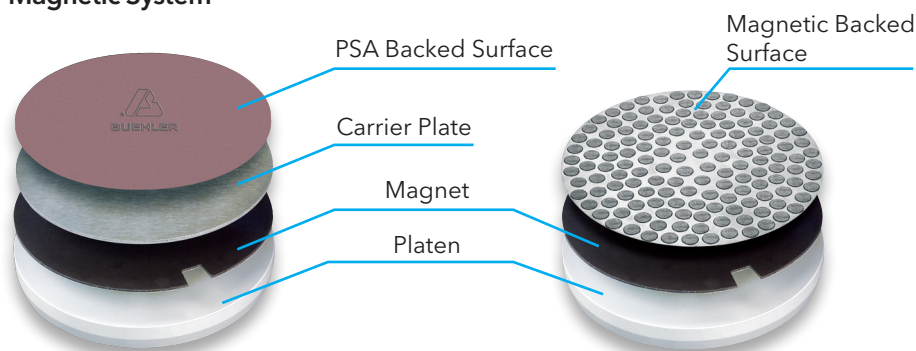
The choice of platen system depends on the goals of the lab and the products being used in the preparation process. The Apex S system provides the fastest solution for changing between grinding papers, while a magnetic system can be adapted for use with nearly all products.

Apex S System



- High friction backing system that is the ideal choice to reduce changeover times between grinding paper steps
- Compatible with CarbiMet S and MicroCut S products
- Apex S film is available in either PSA or magnetic backing

Magnetic System



- Versatile system that allows easy removal and storage of grinding and polishing consumables
- Compatible with magnetic and PSA backed surfaces

Type	Description	8in [203mm]	10in [254mm]	12in [305mm]
Apex S Film PSA backed (Qty 2)	For application directly to platen	16-2075	16-2575	16-3075
Apex S Film Magnetic backed (Qty 2)	For use with magnetic system	16-2074	16-2574	16-3074
Apex M Magnet PSA Backed (Qty 1)	Contains tabs for easier plate removal	41-2739-608-001	41-2739-610-001	41-2739-612-001
MagnoFix Magnet PSA Backed (Qty 1)	Standard magnet	16-2070	16-2570	16-3070
Apex B Carrier Plate (Qty 1)	Prevents adherence of magnetic particles	41-2739-208-001	41-2739-210-001	41-2739-212-001
MagnoMet Carrier Plate (Qty 5)	Standard metallic carrier plate	16-2072	16-2572	16-3072
MagnoPad Teflon Coated Carrier Plate (Qty 5)	For easier removal of PSA surfaces	16-2073	16-2573	16-3073





Grinding & Polishing Consumables

CarbiMet™ & MicroCut Silicon Carbide Grinding Papers

CarbiMet & MicroCut Silicon Carbide Grinding Papers are the premier line of grinding papers offering efficient material removal and minimal surface damage. They are available in 3 different backing systems depending on the needs of a lab.

High Material Removal with Superior Surface Finish

CarbiMet offers quick grinding times with minimal surface damage during the grinding process. Since there is less damage to remove, the amount of subsequent processing may possibly be reduced, saving valuable time in the preparation process.

Quick Change-Overs

Apex S Backing allows for fast changeovers between CarbiMet steps. Simply remove the previous paper and apply the next stage without needing to remove any backings or liners.

Delicate Preparation

MicroCut papers provide gentle material removal with superior surface finish which is ideal for processing delicate or sensitive materials.

Apex™ S Backed (Qty 100)

High friction backing allows for easy & fast changeovers between grinding steps



	Grit Size ANSI [FEPA]	Approx. Micron Size	8in [203mm]	10in [254mm]	12in [305mm]
CarbiMet	60 [P60]	260	16-08-0060	16-10-0060	16-12-0060
	80 [P80]	188	16-08-0080	16-10-0080	16-12-0080
	120 [P120]	127	16-08-0120	16-10-0120	16-12-0120
	180 [P180]	78	16-08-0180	16-10-0180	16-12-0180
	220 [P240]	58	16-08-0220	16-10-0220	16-12-0220
	240 [P280]	52	16-08-0240	16-10-0240	16-12-0240
	280 [P320]	46	16-08-0280	16-10-0280	16-12-0280
	320 [P400]	35	16-08-0320	16-10-0320	16-12-0320
	360 [P600]	26	16-08-0360	16-10-0360	16-12-0360
	400 [P800]	22	16-08-0400	16-10-0400	16-12-0400
	500 [P1000]	18	16-08-0500	16-10-0500	16-12-0500
	600 [P1200]	15	16-08-0600	16-10-0600	16-12-0600
MicroCut	1000 [P2500]	8.4	16-08-1000	16-10-1000	16-12-1000
	800 [P1500]	13	16-08-0800	16-10-0800	16-12-0800
	1200 [P2500]	8	16-08-1200	16-10-1200	16-12-1200
	P4000	5	16-08-4000	16-10-4000	16-12-4000

CarbiMet and MicroCut Accessories

- Apex S film is applied to a platen for use with CarbiMet S or MicroCut S
- MetGrip liners are used with plain backed CarbiMet or MicroCut

Description	8in [203mm]	10in [254mm]	12in [305mm]
Apex S Carrier Film magnetic backed (Qty 2)	16-2074	16-2574	16-3074
Apex S Carrier Film PSA backed (Qty 2)	16-2075	16-2575	16-3075
MetGrip™ Liners (Qty 10)	30-8508	30-8510	30-8512

PSA Backed (Qty 100)

Pressure sensitive adhesive (PSA) backing for easy application

	Grit Size - ANSI [FEPA]	Approx. Micron Size	8in [203mm]	10in [254mm]	12in [305mm]
CarbiMet	60 [P60]	260	36-08-0060	36-10-0060	36-12-0060
	80 [P80]	188	36-08-0080	36-10-0080	36-12-0080
	120 [P120]	127	36-08-0120	36-10-0120	36-12-0120
	180 [P180]	78	36-08-0180	36-10-0180	36-12-0180
	220 [P240]	58	36-08-0220	36-10-0220	36-12-0220
	240 [P280]	52	36-08-0240	36-10-0240	36-12-0240
	280 [P320]	46	36-08-0280	36-10-0280	36-12-0280
	320 [P400]	35	36-08-0320	36-10-0320	36-12-0320
	360 [P600]	26	36-08-0360	36-10-0360	36-12-0360
	400 [P800]	22	36-08-0400	36-10-0400	36-12-0400
	500 [P1000]	18	36-08-0500	36-10-0500	36-12-0500
	600 [P1200]	15	36-08-0600	36-10-0600	36-12-0600
	1000 [P2500]	8.4	36-08-1000	36-10-1000	36-12-1000
MicroCut	800 [P1500]	13	36-08-0800	36-10-0800	36-12-0800
	1200 [P2500]	8	36-08-1200	36-10-1200	36-12-1200
	P4000	5	36-08-4000	36-10-4000	36-12-4000

Plain Backed (Qty 100)

Plain backing that requires the use of adhesive liner

	Grit Size - ANSI [FEPA]	Approx. Micron Size	8in [203mm]	10in [254mm]	12in [305mm]
CarbiMet	60 [P60]	260	30-08-0060	30-10-0060	30-12-0060
	80 [P80]	188	30-08-0080	30-10-0080	30-12-0080
	120 [P120]	127	30-08-0120	30-10-0120	30-12-0120
	180 [P180]	78	30-08-0180	30-10-0180	30-12-0180
	220 [P240]	58	30-08-0220	30-10-0220	30-12-0220
	240 [P280]	52	30-08-0240	30-10-0240	30-12-0240
	280 [P320]	46	30-08-0280	30-10-0280	30-12-0280
	320 [P400]	35	30-08-0320	30-10-0320	30-12-0320
	360 [P600]	26	30-08-0360	30-10-0360	30-12-0360
	400 [P800]	22	30-08-0400	30-10-0400	30-12-0400
	500 [P1000]	18	30-08-0500	30-10-0500	30-12-0500
	600 [P1200]	15	30-08-0600	30-10-0600	30-12-0600
	1000 [P2500]	8.4	30-08-1000	30-10-1000	30-12-1000
MicroCut	800 [P1500]	13	30-08-0800	30-10-0800	30-12-0800
	1200 [P2500]	8	30-08-1200	30-10-1200	30-12-1200
	P4000	5	30-08-4000	30-10-4000	30-12-4000





Grinding & Polishing Consumables

Diamond Grinding Discs

Diamond grinding discs offer a long-wear surface that provides excellent surface flatness for a wide variety of materials. Buehler offers multiple different types of products depending on the material being processed.

Long Life with Consistent Results

Fixed diamond particles provide consistent removal rates and extended lifetime with only an occasional dressing to maintain the surface.

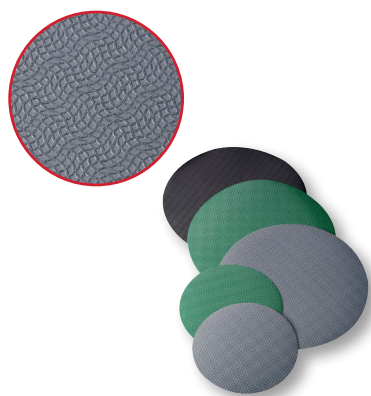
Ideal Solution for Automation

Diamond Grinding Discs offer superb edge retention and excellent flatness making them the perfect choice for controlled material removal on automated systems.

Process a Variety of Materials

Grinding hard materials requires a different type of surface than grinding softer materials. Buehler's Diamond Grinding Discs offer customized solutions for different material types to ensure efficient and consistent grinding.

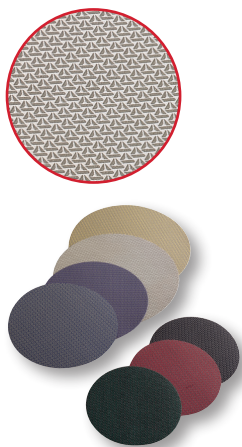
Apex™ CGD (Coarse Grinding Discs) (Qty 1)



- Provide fast, aggressive materials removal for specimens that are not susceptible to excessive damage.
- Available with PSA backing

Color	Micron	8in [203mm]	10in [254mm]	12in [305mm]
Grey	320µm	41-10006	41-10009	41-10012
Green	240µm	41-10007	41-10010	41-10013
Black	125µm	41-10008	41-10011	41-10014

Apex™ DGD Color (Diamond Grinding Discs) (Qty 1)



- Utilize a specially formulated resin bond for consistent material removal
- Ideal for most engineering metals
- Available with PSA or Magnetic backing

Color	Micron	8in [203mm]		10in [254mm]		12in [305mm]	
		PSA	Magnetic	PSA	Magnetic	PSA	Magnetic
Green	240µm	41-3308	414308D	41-3310	414310D	41-3312	414312D
Black	125µm	41-3408	414408D	41-3410	414410D	41-3412	414412D
Red	75µm	41-3508	414508D	41-3510	414510D	41-3512	414512D
Purple	55µm	41-3608	414608D	41-3610	414610D	41-3612	414612D
Yellow	35µm	41-3708	414708D	41-3710	414710D	41-3712	414712D
White	15µm	41-3808	414808D	41-3810	414810D	41-3812	414812D
Blue	8µm	41-3908	414908D	41-3910	414910D	41-3912	414912D

Apex™ DGD (Diamond Grinding Disc) (Qty 1)



- Provides consistent material removal with excellent flatness
- Ideal for brittle and hard materials such as ceramics and glass
- Available with PSA or Magnetic backing

Micron	8in [203mm]		10in [254mm]		12in [305mm]	
	PSA	Magnetic	PSA	Magnetic	PSA	Magnetic
165µm	41-5008	416008D	41-5010	416010D	41-5012	416012D
125µm	41-5108	416108D	41-5110	416110D	41-5112	416112D
70µm	41-5208	416208D	41-5210	416210D	41-5212	416212D
45µm	41-5308	416308D	41-5310	416310D	41-5312	416312D
30µm	41-5408	416408D	41-5410	416410D	41-5412	416412D
15µm	41-5508	416508D	41-5510	416510D	41-5512	416512D
9µm	41-5608	416608D	41-5610	416610D	41-5612	416612D
6µm	41-5708	416708D	41-5710	416710D	41-5712	416712D
3µm	41-5808	416808D	41-5810	416810D	41-5812	416812D
0.5µm	41-5908	416908D	41-5910	416910D	41-5912	416912D

UltraPrep™ Diamond Discs (Qty 1)



- Designed for initial grinding steps of mixed hardness materials
- Available with PSA backing

Color	Micron	8in [203mm]	12in [305mm]
● Black	125µm	15-6199	15-6299
● Red	70µm	15-6170	15-6270
● Yellow	45µm	15-6145	15-6245
○ White	15µm	15-6115	15-6215
● Blue	9µm	15-6109	15-6209
● Light Purple	6µm	15-6106	15-6206

UltraPrep Diamond Abrasive Discs (Qty 1)

Micron	8in [203mm]	10in [254mm]	12in [305mm]
250µm		14-2580	14-3080
125µm	14-2081	14-2581	14-3081
74µm	14-2082	14-2582	14-3082
40µm	14-2083	14-2583	14-3083
20µm	14-2085	14-2585	14-3085



Grinding Consumables

Premium Polishing Cloths

Buehler's premium performance cloths are for all material applications and are engineered for long life & superior surface finish.

Reliable Preparation Results

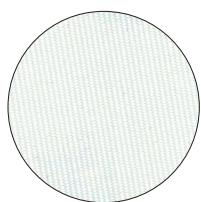
Buehler's cloths are thoroughly tested and developed with MetaDi Diamond to provide a complete solution that delivers reliable results for each sample processed.

A Cloth for Every Application

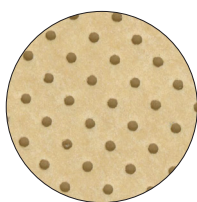
The type of cloth used depends heavily on the material being processed and the requirements for the final analysis. With a variety of fabrics, weaves and naps, there is a cloth to fit every application

Polishing Cloth Selection Guide

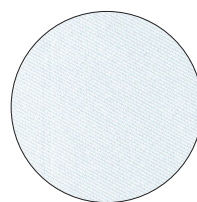
	Cloth	Backing	Quantity	8in [203mm]	10in [254mm]	12in [305mm]	Description
COARSE	UltraPad™	PSA	10	40-7118	40-7120	40-7122	Hard woven, no nap
	UltraPol™	PSA	10	40-7448	40-7450	40-7452	Hard woven, non-aggressive silk
	TexMet™ P	PSA	5	40-7638	40-7640	40-7642	Hard non-woven, perforated
INTERMEDIATE	Nylon	PSA	10	40-7068	40-7070	40-7072	Medium hard woven, oil resistant, no nap
	TexMet C	PSA	10	40-1108	40-1110	40-1112	Non-woven, pressed
	TriDent™	PSA	10	40-7518	40-7520	40-7522	Soft woven synthetic, no nap
	VerduTex	PSA	10	40-8018	40-8020	40-8022	Medium hard, synthetic silk
	VelTex	PSA	10	40-8218	40-8220	40-8222	Short nap, synthetic velvet
	WhiteFelt™	PSA	5	16-2002	16-2502	16-3002	Soft, durable, matted wool
	PoliCloth	PSA	10	40-8418	40-8420	40-8422	Medium hard, woven wool
FINE	MicroCloth™	PSA	10	40-7218	40-7220	40-7222	Soft synthetic rayon, long nap
	MicroFloc	PSA	10	40-8318	40-8320	40-8322	Soft, long nap
	MasterTex™	PSA	10	40-7738	40-7740	40-7742	Soft synthetic velvet, low nap
	ChemoMet™	PSA	10	40-7918	40-7920	40-7922	Soft synthetic, porous, chemically resistant



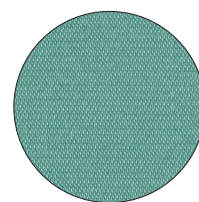
UltraPad™



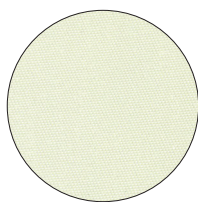
TexMet™ P



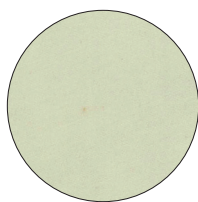
TriDent™



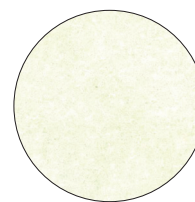
VerduTex™



UltraPol™

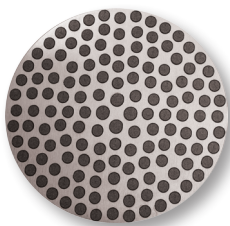


Nylon



TexMet™ C

Apex™ Hercules



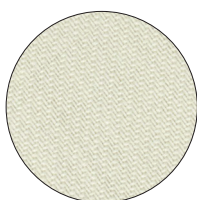
- Magnetic backed resin surface that provides excellent flatness and edge retention
- Use with MetaDi diamond suspension

Type	8in [203mm]	10in [254mm]	12in [305mm]
Apex Hercules H For materials ≥ HRC20	41-2740-308-001	41-2740-310-001	41-2740-312-001
Apex Hercules S For materials < HRC20	41-2740-408-001	41-2740-410-001	41-2740-412-001

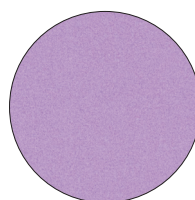
Recommended Micron Size	Abrasive Type	Applications
6µm & Up	Diamond	Ferrous materials and thermal spray coatings
6µm & Up	Diamond	Minerals, coals, ceramics, inclusion retention in steels, and refractory metals
6µm & Up	Diamond	Electronics, ceramics, carbides, petrographic, hard metals, glass, and metal matrix composites
6µm & Up	Diamond	Ferrous materials, sintered carbides and cast irons
15 - 0.02µm	Diamond, Al ₂ O ₃ , SiO ₂	Ferrous and nonferrous metals, ceramics, electronics, PCB's, thermal spray coatings, cast irons, cermets, minerals, composites, plastics
15- 0.02µm	Diamond, Al ₂ O ₃	Ferrous and nonferrous metals, microelectronics, polymer matrix composites, coatings
9 - 1µm	Diamond	Ferrous and nonferrous metals, microelectronics, coatings
9 - 1µm	Diamond	Soft metals
6 - 0.02µm	Diamond, Al ₂ O ₃ , SiO ₂	Ferrous and nonferrous metals
6 - 1µm	Diamond	Cast iron, copper and aluminum alloys
5- 0.02µm	Diamond, Al ₂ O ₃ , SiO ₂	Ferrous and nonferrous metals, ceramics, composites, PCBs, cast irons, cermets, plastics, electronics
3 - 0.02µm	Diamond, Al ₂ O ₃ , SiO ₂	Ferrous and nonferrous materials
1 - 0.05µm	Al ₂ O ₃ , SiO ₂	Soft nonferrous and microelectronics
1 - 0.02µm	Al ₂ O ₃ , SiO ₂	Titanium, stainless steel, lead/tin, solders, electronics, soft nonferrous metals, plastics



VelTex™



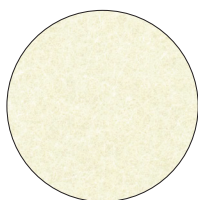
PoliCloth™



MicroFloc



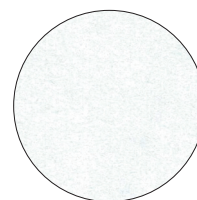
ChemoMet™



WhiteFelt™



MicroCloth™



MasterTex™





Grinding & Polishing Consumables

Diamond Polishing Suspensions & Pastes

MetaDi Diamond Suspensions and Pastes are high-quality diamond polishing products that provide repeatable performance and deliver exceptional sample quality.

Repeatable Polishing Results

Buehler's MetaDi diamond products are tightly controlled to prevent any deviations in particle size or concentrations. This ensures repeatable polishing results and a high quality surface finish for every sample processed.

Fast Preparation Time

MetaDi Supreme Suspension offers a high material removal rate and minimal deformation making it the product of choice for most materials. The high concentration of polycrystalline diamonds offers numerous sharp cutting faces to efficiently remove material and polish the surface.

Processing Unique Materials

Some materials are not compatible with traditional water-based suspensions due to water-sensitivity or diamond embedding. The Oil-Based MetaDi Monocrystalline Suspension as well as MetaDi pastes offer multiple options when working with water-sensitive materials.

MetaDi™ Diamond Suspensions

MetaDi Supreme Polycrystalline Suspension

Polycrystalline suspension providing the fastest material removal with minimal subsurface deformation.



Color	Diamond Size	8oz [0.24L]	32oz [0.95L]	1gal [3.8L]
● Charcoal	0.05µm	40-6627		
● Grey	0.25µm	40-6629	40-6629-032	40-6629-128
● Blue	1µm	40-6630	40-6630-032	40-6630-128
● Blue	1µm Fine	40-6630F	40-6630F-032	40-6630F-128
● Green	3µm	40-6631	40-6631-032	40-6631-128
● Green	3µm Fine	40-6631F	40-6631F-032	40-6631F-128
● Yellow	6µm	40-6632	40-6632-032	40-6632-128
● Deep Red	9µm	40-6633	40-6633-032	40-6633-128
● Brown	15µm	40-6634	40-6634-032	40-6634-128
● Orange	30µm	40-6635	40-6635-032	40-6635-128
● Purple	45µm	40-6636	40-6636-032	40-6636-128

MetaDi Monocrystalline Suspension

Monocrystalline suspension providing good material removal for most materials.



Color	Diamond Size	16oz [0.47L]	32oz [0.95L]	1gal [3.8L]
● Blue	1µm	40-6530	40-6530-032	40-6530-128
● Green	3µm	40-6531	40-6531-032	40-6531-128
● Yellow	6µm	40-6532	40-6532-032	40-6532-128
● Deep Red	9µm	40-6533	40-6533-032	40-6533-128
● Brown	15µm	40-6534	40-6534-032	40-6534-128

Dye-Free MetaDi Supreme Polycrystalline Suspension

Ideal for materials that may absorb dye and affect image analysis.

Diamond Size	8oz [0.24L]
1µm	40-6730
3µm	40-6731
6µm	40-6732
9µm	40-6733

MetaDi Monocrystalline Suspension Oil Based

Ideal for processing materials that are water-sensitive

Color	Diamond Size	16oz [0.47L]
● Blue	1µm	40-6540
● Green	3µm	40-6541
● Yellow	6µm	40-6542
● Deep Red	9µm	40-6543
● Brown	15µm	40-6544

MetaDi Combo, Suspension & Extender

Combination of monocrystalline suspension and extender fluid to maintain consistency when using automated dosing systems

Color	Diamond Size	32oz [0.95L]
● Blue	1µm	40-5530-032
● Green	3µm	40-5531-032
● Yellow	6µm	40-5532-032
● Deep Red	9µm	40-5533-032

MetaDi™ Diamond Pastes

MetaDi Ultra Polycrystalline Paste

Polycrystalline paste providing efficient material removal for soft materials that may be prone to diamond embedding. Use with MetaDi Fluid or AutoMet Oil.



Color		Diamond Size	20g
Blue	Blue	1µm	40-1-6301
Green	Green	3µm	40-1-6303
Yellow	Yellow	6µm	40-1-6305
Deep Red	Deep Red	9µm	40-1-6307
Brown	Brown	15µm	40-1-6309

This product is grey in color with color coded packaging

MetaDi Monocrystalline Paste

Natural monocrystalline diamond paste for materials that are prone to diamond embedding. Use with MetaDi Fluid or AutoMet Oil.

Color		Diamond Size	5g	20g
Grey	Grey	0.25µm	40-6112	40-6102
Blue	Blue	1µm	40-6138	40-6128
Green	Green	3µm	40-6152	40-6142
Yellow	Yellow	6µm	40-6172	40-6162
Deep Red	Deep Red	9µm	40-6192	40-6182
Brown	Brown	15µm	40-6212	40-6202

MetaDi II Monocrystalline Paste

Synthetic monocrystalline diamond paste for materials that are very prone to diamond embedding. Use with MetaDi Fluid or AutoMet Oil.

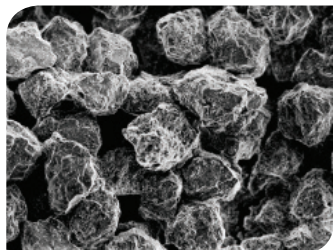
Color		Diamond Size	5g	20g
Grey	Grey	0.25µm	40-6241	40-6240
Blue	Blue	1µm	40-6244	40-6243
Green	Green	3µm	40-6247	40-6246
Yellow	Yellow	6µm	40-6250	40-6249
Deep Red	Deep Red	9µm	40-6253	40-6252
Brown	Brown	15µm	40-6256	40-6255

Polishing Lubricants

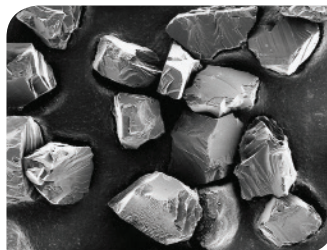
MetaDi Fluid is a water soluble lubricant for use with pastes and suspensions. AutoMet Oil is recommended for use with water sensitive materials.

Part Number	Description
40-6016	MetaDi Fluid, 16oz [0.47L]
40-6032	MetaDi Fluid, 32oz [0.95L]
40-6064-085	MetaDi Fluid, 85oz [2.5L]
60-3250-006	AutoMet™ Oil, 6oz [0.18L]
60-3250-128	AutoMet Oil, 1gal [3.8L]

Differences between Polycrystalline and Monocrystalline Diamonds



Angular, blocky-shaped polycrystalline diamonds provide numerous cutting facets on the particle surface, resulting in less deformation.



Sharp edges of monocrystalline diamonds ensure clean and efficient cutting action.



Grinding & Polishing Consumables

Final Polishing Suspensions

Final polishing suspensions are designed to remove the final layer of surface deformation and prepare a sample for analysis. A variety of alumina and silica products are offered to meet many different application needs.

Excellent Surface Finish

While the final layer of deformation is often invisible to the naked eye, it must be removed for some analysis techniques.

Application Specific Solutions

Alumina suspensions and powders along with colloidal silica suspensions offer a solution for the wide variety of materials being processed in today's world.

MasterPrep Alumina



- 0.05µm Sol-gel alumina suspension
- ~8.5pH
- Excellent for minerals, ferrous metals, low melting point alloys, carbides, PWB's, precious metals and electronics

Part Number:
63-6377-006 6oz [0.18L]
40-6377-032 32oz [0.95L]
40-6377-064 64oz [1.9L]

MasterMet Colloidal Silica



- 0.06µm
- Amorphous colloidal silica suspension
- ~10pH
- Chemo-mechanical polishing action
- Excellent for metals, minerals, ceramics and polymers

Part Number:
40-6370-006 6oz [0.18L]
40-6370-064 64oz [1.9L]

MasterMet 2 Non-Crystallizing Colloidal Silica



- Non-crystallizing 0.02µm amorphous colloidal silica suspension
- ~10.5pH
- Chemo-mechanical polishing action

Part Number:
40-6380-006 6oz [0.18L]
40-6380-064 64oz [1.9L]

MasterPolish Final Polish



- Blend of 0.05µm high purity alumina and colloidal silica
- ~9pH
- Contains minimal water and is optimal for water sensitive materials

Part Number:
40-10084 32oz [0.95L]

MasterPolish 2 Final Polish



- 0.06µm Iron Oxide Suspension
- Chemo-mechanical polishing action
- ~10pH
- Excellent for sapphire, glass, alumina, silicon nitride, metal/ceramic composites

Part Number:
40-6376-032 32oz [0.95L]

MicroPolish™ Alumina



- Agglomerated alumina offers higher removal rates than other aluminas of the same size
- Good for use on magnesium, lead and their alloys

Powders

Part Number	Micron	Size
40-10075	0.05µm	1lb [0.45kg]
40-10077	0.3µm	1lb [0.45kg]
40-10079	1µm	1lb [0.45kg]
40-10076	0.05µm	5lb [2.3kg]
40-10078	0.3µm	5lb [2.3kg]
40-10080	1µm	5lb [2.3kg]

Suspensions

Part Number	Micron	Size
40-10083	0.05µm	6oz [0.18L]
40-10082	0.3µm	6oz [0.18L]
40-10081	1µm	6oz [0.18L]

MicroPolish™ II Alumina



- Agglomerated alumina offers higher removal rates than other aluminas of the same size
- Good for use on magnesium, lead and their alloys

Part Number	Micron	Size
40-6323-016	0.3µm	1lb [0.45kg]
40-6321-016	1µm	1lb [0.45kg]
40-6323-080	0.3µm	5lb [0.45kg]
40-6321-080	1µm	5lb [2.3kg]

Part Number	Micron	Size
40-6363-006	0.3µm	6oz [0.18L]
40-6363-128	0.3µm	1gal [3.8L]
40-6361-006	1µm	6oz [0.18L]



Specialty Grinding & Polishing

FibrMet™ Abrasive Discs (Qty 50)

FibrMet Abrasive Discs are for fine grinding applications on glass, epoxy, or polymers and produce a fine surface finish. FibrMet Discs use Aluminum Oxide and are available with PSA backing.

Micron	4in [102mm]	8in [203mm]	12in [305mm]
0.3µm	69-3104	69-3174	69-3124
1µm	69-3103	69-3173	69-3123
3µm	69-3102	69-3172	69-3122
9µm	69-3101	69-3171	69-3121
12µm	69-3100	69-3170	69-3120

UltrPrep™ Diamond Lapping Films (Qty 5)

UltraPrep Diamond Lapping Films are for fine grinding of hard materials such as ceramics. They provide a fine surface finish and gentle material removal.

Micron	8in [203mm] PSA Backed	8in [203mm] Plain Backed
0.1µm	15-6791	15-6792
0.5µm	15-6795	15-6796
1µm	15-6801	15-6802
3µm	15-6803	15-6804
6µm	15-6806	15-6807
9µm	15-6809	15-6810
15µm	15-6815	15-6816
30µm	15-6830	15-6831

Abrasive Powders - (5lb)

Abrasive Powders are for fine grinding on cast iron, tin, or cloth-covered platens. They should be mixed with distilled water to achieve desired consistency.



Abrasive Type	Part Number	Grit Size ANSI [FEPA]	Micron
Silicon Carbide	40-6415-600-080	600 [P1200]	15µm
Silicon Carbide	40-6418-000-080	1000 [P2000]	10µm
Aluminum Oxide	40-6605-050-080	—	5µm
Aluminum Oxide	40-6603-030-080	—	3µm

Storage Cabinets

Buehler's storage cabinets are durable with easy to clean storage of platens and surfaces.

Standard Storage Cabinet



Part Number	Description
19-06-11	For 8in [203mm] / 10in [254mm] discs and platens (5 drawers)
19-06-12	For 8in [203mm] / 10in [254mm] discs and platens (10 drawers)
19-06-09	For 12in [305mm] discs and platens
19-06-10	Additional Shelves for 19-06-09

Dessicator Storage Cabinet

These cabinets are specially designed for ideal, moisture free conditions of up to 500 mounted specimens. They also hold platens, polishing cloths and abrasive discs up to 12in [305mm]. *Dessicator canisters sold separately*



Part Number	Description
20-1445	Dessicator Storage Cabinet

Accessories

20-1446	Spacer Tray, 1in [25mm]	20-8280	1in Disposable Mounting Cup
20-1447	Spacer Tray, 1.25in [32mm]	20-8281	1.25in Disposable Mounting Cup
20-1448	Spacer Tray, 1.5in [38mm]	20-8282	1.5in Disposable Mounting Cup
20-1449	Dessicant	20-8283	2in Disposable Mounting Cup

