



# GRINDING & POLISHING

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

The goal of the grinding and polishing steps is to prepare a final polished specimen that is free of deformation and suitable for analysis. This can be achieved in multiple ways depending on the overall goals of the lab. Whether a lab is looking for the quickest overall process, the best surface finish or versatility to prepare many different materials, Buehler has a solution for the grinding and polishing needs.



### *Featured Microstructure:*

Alumina coating on steel substrate at 500x mag. in darkfield

~ David DeLagrange and Jean Michel Lamarre; Conseil national de recherches Canada; Boucherville, Québec, Canada

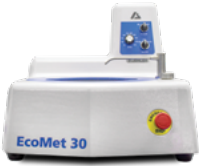


# Product Comparison

## A Grinder-Polisher Solution for Any Lab

With the launch of the AutoMet Grinder-Polisher, Buehler now offers a full line of easy-to-use machines. Choose from the EcoMet30 or AutoMet grinder-polishers to provide the perfect solution for your lab.

### EcoMet™ 30 Manual



EcoMet 30 Manual is a cost effective grinder-polisher with the essential functions. It has quick clean features to save time and effort, and is made from a durable metal casting for robustness and stability. It has an ergonomic splash ring for comfortable manual use. Available with two platens.

### EcoMet™ 30 Semi-Auto



EcoMet 30 Semi-Auto is an entry level grinder-polisher with an emphasis on simplicity. All functions are easily accessible on an uncomplicated touch screen interface. It's compatible with a dispensing system to go hands-free during the polishing process and improve repeatability.

### AutoMet™ 250



AutoMet 250 is an advanced grinder-polisher with more power to accommodate a greater capacity for high volume environments. The straightforward controls remove complexity from the grinding and polishing process.

### AutoMet™ 250 Pro



AutoMet 250 Pro has additional premium features. The enhanced programmability is highly intuitive with easy method storage. Improve repeatability with the automated dispensing system. The machine has z axis removal capabilities for grinding and polishing by depth.

### AutoMet™ 300 Pro



AutoMet 300 Pro is similar to the AutoMet 250 Pro, with a stronger motor and larger platen size to accommodate larger samples. It's also compatible with accessories such as PC-Met and PWB Met for PCB grinding and polishing.



If you need further assistance in selecting the best Grinder-Polisher for your application, please reach out to your local Buehler Sales Engineer or visit [www.buehler.com](http://www.buehler.com)

	EcoMet 30 Manual	EcoMet 30 Semi-Auto	AutoMet 250	AutoMet 250 Pro	AutoMet 300 Pro
Style	Manual	Semi-Auto	Semi-Auto	Semi-Auto	Semi-Auto
Platen Count	Single or Twin	Single or Twin	Single	Single	Single
Platen Sizes	8", 10", or 12"	8", 10", or 12"	8" or 10"	8" or 10"	10" or 12"
Controls	Knobs	Touch screen	Membrane	Touch screen	Touch screen
Dispensing Capability		Dispensing (3 max)		Dispensing (5 Max)	Dispensing (5 max)
Method Storage				Methods	Methods
Removal by Depth				Z axis removal	Z axis removal
Rinse & Spin		X		X	X
Single Force Max Capacity		4	6	6	6
Central Force Max Capacity		12	12	12	12
Specimen Max Size		40mm	40mm	40mm	50mm



# AutoMet™ 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.



GRINDING & POLISHING

## AutoMet™ Grinder-Polisher

The AutoMet grinder-polisher is a high performance machine, designed for reliability, flexibility, and ease of use. Upgrade to a Pro model for intelligent programming that makes advanced functionality easy with highly reproducible results.

### AutoMet Features

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

### AutoMet Pro Features

- Color touch screen controls add functionality needed for advanced methods, such as method creation/storage and Z-axis material removal by depth.
- Improve productivity and consistency by integrating with a Burst Dispensing System (see page 36).

Model	Part Number	Voltage/Frequency
AutoMet 250	49-7257	100 - 240VAC, 50-60Hz
AutoMet 250 Pro	49-7258	100 - 240VAC, 50-60Hz
AutoMet 300 Pro	49-7268	170-240 VAC, 50-60Hz

### Accessories

<b>AutoMet 250 &amp; 250 Pro</b>	
40-4061	8in [203mm] Aluminum Platen
40-0500	10in [254mm] Aluminum Platen
60-9080	Disposable Bowl Liner (Qty 5)
49-1250	Lid for AutoMet 250
49-2250	Splash Guard Kit for AutoMet 250
<b>AutoMet 300</b>	
40-0500	10in [254mm] Aluminum Platen
49-1777	12in [305mm] Aluminum Platen
60-9081	Disposable Bowl Liners (Qty 5)
4961-300	Splash guard for AutoMet 300
49-1300	Lid for AutoMet 300

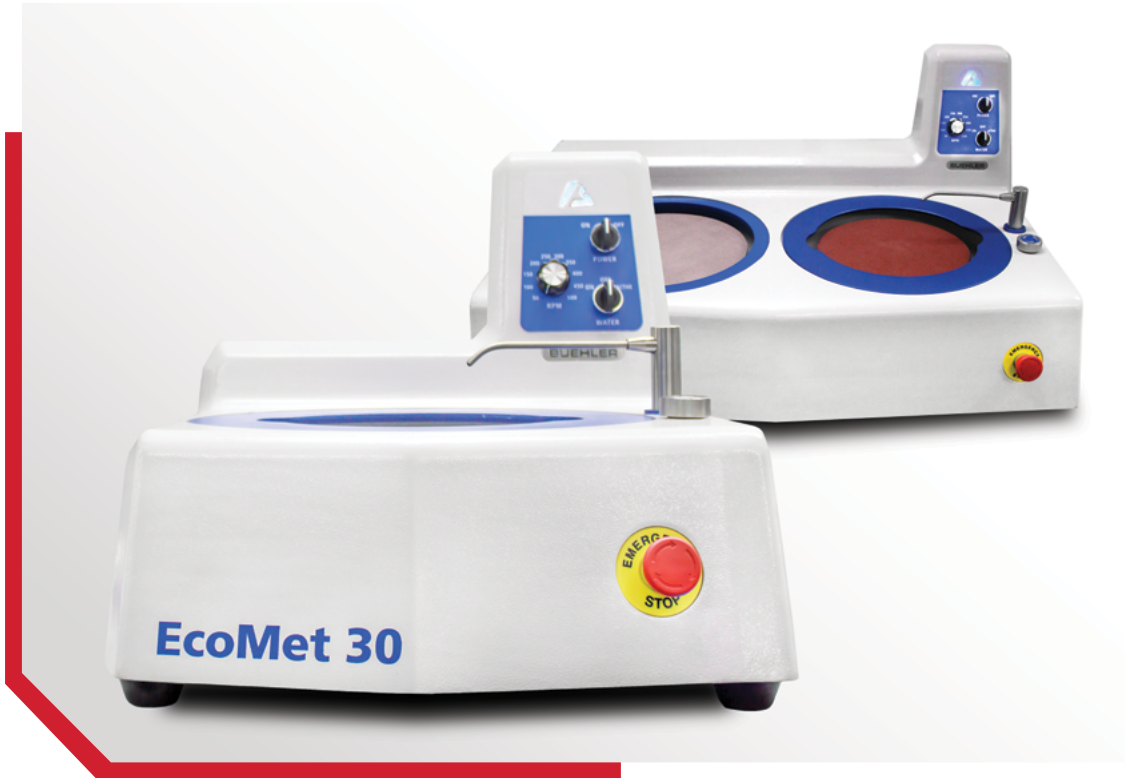
Visit [www.buehler.com](http://www.buehler.com) for ordering information.



# EcoMet™ 30 Grinder - Polisher

## Grinding & Polishing Made Simple

The EcoMet 30 is an entry level grinder-polisher and an excellent choice for any lab that values simplicity. Best suited for low variety environments or those with a dedicated machine for each grinding-polishing step.



## EcoMet 30 Manual Grinder Polisher

The EcoMet 30 provides simple operation for manual grinding and polishing. The comfortable splash guard design allows for excellent control while holding a part. Easy to use and easy to clean. Durability tested over 2500 hours and flexible enough to be compatible with 8in [203mm], 10in [254mm] and 12in [305mm] platens.

### EcoMet 30 Manual

Model	Part Number	Voltage/Frequency
Single	49-10070	85-264VAC, 50/60Hz

**Dimensions:** 19.7in [500mm] L x 25.6in [650mm] D x 17.7in [450mm] H

**Weight:** 102lbs [46kg]

#### Ergonomic Manual Polish

- Large flat work space and ergonomic bowl height provides better control and more comfort
- Additional control improves sample quality and reduces grinding time
- Low force on/off knob

#### Easy to Clean

- Easy to remove platens allows for fast deep cleaning
- Large straight path draining system

### EcoMet 30 Twin Manual

Model	Part Number	Voltage/Frequency
Twin	49-10072	85-264VAC, 50/60Hz

**Dimensions:** 37.4in [950mm] L x 26in [660mm] D x 17.7in [450mm] H

**Weight:** 154lbs [70kg]

#### Accessories

##### Platen Kit (Required)

Each Kit includes a platen, splash ring and cover

49-1008	8in [203mm] Aluminum Platen
49-1010	10in [254mm] Aluminum Platen
49-1012	12in [305mm] Aluminum Platen

##### Replacement Bowl Liners

All EcoMet 30's include one bowl liner per bowl. Remove and wash the liner for quick bowl cleaning.

49-1005	Qty 5
---------	-------



# EcoMet™ 30 Grinder - Polisher



## EcoMet 30 Semi-Automatic Grinder Polisher

The EcoMet 30 Semi-Automatic provides simple operation for routine grinding and polishing. The user-friendly touchscreen interface puts all regularly used functions on the front screen with no complicated menus that can add time to the process. Ideal for users who have a dedicated machine for each step in their process, the EcoMet 30 saves time with advanced cleaning features. Durability tested over 2500 hours and flexible enough to be compatible with 8in [203mm], 10in [254mm] and 12in [305mm] platens.

### EcoMet 30 Semi-Automatic

Model	Part Number	Voltage/Frequency
Single	49-10075	85-264VAC, 50/60Hz

**Dimensions:** 19.7in [500mm] L x 25.6in [650mm] D x 25.6in [650mm] H  
**Weight:** 165lbs [75kg]

#### Routine Grinding and Polishing Made Easy

- Intuitive touchscreen interface
- No complicated menus
- Focus on everyday use features

#### Easy to Clean

- User selectable rinse and spin function
- Easy to remove platens
- Large straight path draining system

### EcoMet 30 Twin Semi-Automatic

Model	Part Number	Voltage/Frequency
Twin	49-10076	85-264VAC, 50/60Hz

**Dimensions:** 37.4in [950mm] L x 26in [660mm] D x 25.6in [650mm] H  
**Weight:** 232lbs [105kg]

#### Burst Dispensing

- The EcoMet 30 Semi-Automatic units can be connected to the Burst Dispensing System for increased throughput in the lab
- The Burst will automatically dispense during the cycle allowing a user to operate other machines during the polishing process

#### Thoughtful Design Elements

- Touchscreen location and angle is easy to see and easy to reach for users of various heights
- All cast aluminum design adds stability and durability



# 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.

*(AutoMet 250 Pro shown with 5 burst modules and a stadium seating module.)*



Compatible with EcoMet 30 AutoMet 250 Pro, AutoMet 300 Pro

#### How to configure the fully integrated burst system for AutoMet 250 and AutoMet 250 Pro:

Choose up to 5 burst modules (Part Number 40-10005)

- Add stadium seating module (Part Number 40-10004)
- Add dispensing arm (Part Number 40-10006)
- Add optional stir bar (Part Number 00-10100)

#### How to configure the fully integrated burst system with EcoMet 30:

Choose up to 3 burst modules (Part Number 40-100005)

- Add cable to control start/stop function (Part Number 40-2704)
- 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 Pro 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.

#### Independent

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



Compatible with all Grinder-Polishers

#### How to configure independent burst modules:

Choose burst module (Part Number 40-10005)

- Up to 5 modules can be connected 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.
- 40-2704 Cable to Control Start/Stop Function**  
For controlling start/stop function of Burst from the AutoMet 250/300 & EcoMet 30



# 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 0.0004in or 0.1mm.
- High water flow and unique manifold keeps specimens cool, minimizing subsurface damage

### Save space

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

### Flexibility to adapt to changing needs

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

### Benefits of planar grinders

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

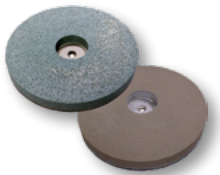
Part Number	Voltage/Frequency
49-10000-250	208-240VAC, 50Hz, 3-Phase
49-10000-260	208-240VAC, 60Hz, 3-Phase
49-10000-450	380-480VAC, 50Hz, 3-Phase
49-10000-460	380-480VAC, 60Hz, 3-Phase

Dimensions: 21.25in [539mm]W x 31in [787mm]D x 29.75 [755mm]H  
Weight: 275 lbs [125 kg]

GRINDING & POLISHING

## 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

Part Number	Description
49-7280	Alumina Grinding Stone for Ferrous & Superalloy
49-7281	SiC Grinding Stone for Non-Ferrous & Ti Alloys
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

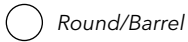




# Grinder Polisher Accessories

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

### EcoMet 30 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)
60-10063	○	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)



### 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
60-9011	○	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)

### 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
60-9061	○	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	
60-9049	○	For Target Holders	3	



# Grinder Polisher Accessories

## Central Force Specimen Holders

○ Round/Barrel    □ Rectangle    ▽ Teardrop

### AutoMet 300 Power Head

For use with 60-9000 Drive Adapter.  
Uses Loading Plates 60-2412 or 60-2413  
181mm diameter for 12" platens

Part Number	Style	Size	Capacity
60-5281	○	1in	10
60-5282	○	1.25in	10
60-5252	▽	1.25in or 30mm	9
60-5287	○	30mm	10
60-5283	○	1.5in	6
60-5253	▽	1.5in or 40mm	6
60-5288	○	40mm	6
60-5299	○	2in	5
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

### AutoMet 250 and EcoMet 30 Power Heads

For use with 60-9000 Drive Adapters  
Uses Loading Plates 60-2411 or 60-2413  
130mm diameter for 8", 10" or 12" platens

Part Number	Style	Size	Capacity
60-2482	○	1in	6
60-2483	○	1.25in	6
60-2422	▽	1.25in [32mm]	6
60-2485	○	1.5in	3
60-2486	○	30mm	6
60-2487	○	40mm	3
60-2409	□	1 x 1.25in [25.4 x 31.75mm]	4

Uses loading plates 60-2411 or 60-2412 157mm diameter for 10" or 12" platens

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

## Accessories for Specimen Holders

### 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 130mm and 157mm diameter
60-2412	Loading Plate for 157mm and 181mm diameter
60-2413	Loading Plate for 130mm and 181mm diameter

### Drive Adapters



Pairs specimen holders to the chuck of the automatic head

Part Number	Compatible With
60-9000 Central Force	AutoMet 250/300 PlanarMet 300, EcoMet 30
60-9005 Single Force	AutoMet 250/300, EcoMet 30

### Target Holders



Designed for precise material removal to specified depths. Includes one ceramic and one steel 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 60-9005 required)



# Grinder Polisher Accessories

## Blank Specimen Holders



For use with 60-9000 Drive Adapter.

Part Number	Diameter	Power Head
60-2408	5.12in [130mm] for 8", 10" or 12" platens	EcoMet™ 30, AutoMet™ 250
60-5254	7.12in [181mm] for 12" platens only	AutoMet 300

## 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	

## 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 AutoMet 300

Part Number	Contents
60-5090	Indexing pins, carbide and diamond stops, pin 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 30 and AutoMet 300

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

### Accessories

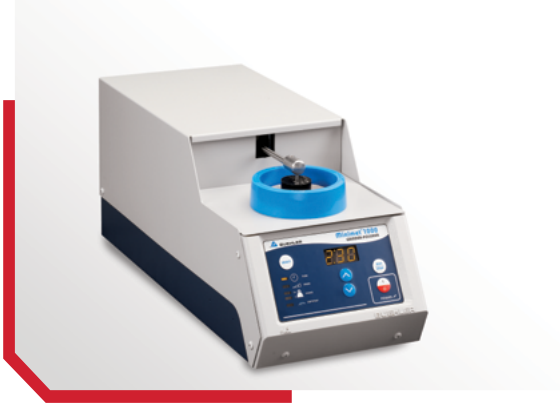
60-5186	PWB Met Short Pin Loader 0.375in [10mm] long,
60-5084	PWB Met Pins 0.375in [10mm] long (Qty 3000)



# Grinder Polisher Specialty & Support Equipment

## 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

Part Number	Voltage/Frequency
69-1100	85-264VAC, 50/60Hz

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

Weight: 25 lbs [11 kg]

## Accessories

69-1111	Caged Specimen Holder, for 1in [25mm] or 1.25in [32mm] Mounted Specimens	69-1581	Thin Section Bowls, 4.75in [121mm] (1 each Black, White, Blue)
69-1112	Caged Specimen Holder, for 1.5in [38mm] Mounted Specimens	69-1582	Thin Section Glass Platen, 4in [100mm] (Qty 3) (replacement)
69-1500	Polishing Bowls, 4in [100mm] Diameter (1 each Black, White, Blue)	69-1583	MiniMet Thin Section Slide Holder, 46 x 27mm
69-1562	Glass Circular Slides, 0.5in [13mm] Diameter (Qty 50)	69-1590	MiniMet Wafer Polishing Attachment
69-1566	MiniMet 1000 Precision Thinning Attachment	69-1502	Storage Caddie for MiniMet Bowls (Qty 3)
69-1567	Glass Disc, 2.145in [55mm] Diameter (Qty 5)	69-1510	Glass Platen (Qty of 3)
69-1580	MiniMet Thin Section Attachment (includes 3 bowls, glass and section holder)	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

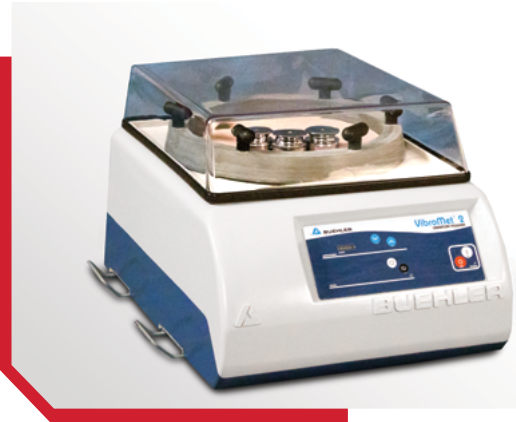
Visit [www.buehler.com](http://www.buehler.com) for ordering information.



# 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™ 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 [50mm] (Qty 3)	67-1530	Polishing Bowl Accessory
67-1526	Specimen Holder, 1in [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 [25mm], 1.25in [32mm], 1.5in [38mm]

## Electropolishing & Etching Systems

The ElectroMet 4 and PoliMat 2 systems provide both electropolishing and etching capabilities to enable efficient sample preparation.

### 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

### Accessories

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

### PoliMat™ 2



Includes controller, complete polishing cell and 4 masks *Product only available in Europe*

Part Number	Voltage/Frequency
511000	230VAC, 50/60Hz

Dimensions: 19.7in [500mm]W x 11.8in [300mm]D x 9.8in [250mm]H

### Accessories

510010	Complete polishing cell
510100	Set of masks (1cm <sup>2</sup> , 2cm <sup>2</sup> , 10cm <sup>2</sup> , and without hole)



# Grinder Polisher Specialty & Support Equipment

## EnvironMet™ System

Filtration and recirculation systems compatible with all grinder-polishers. The recirculating version removes down to 1 $\mu$ m particulates. The filter version removes down to 100 $\mu$ m particulates. The system requires no electrical connections and has a 6gal [23L] capacity. *\*Requires compressed air*



### Part Number

49-2500 Recirculating Filter System (1 $\mu$ m Filter)

49-2501 Filter System (100 $\mu$ m Filter)

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

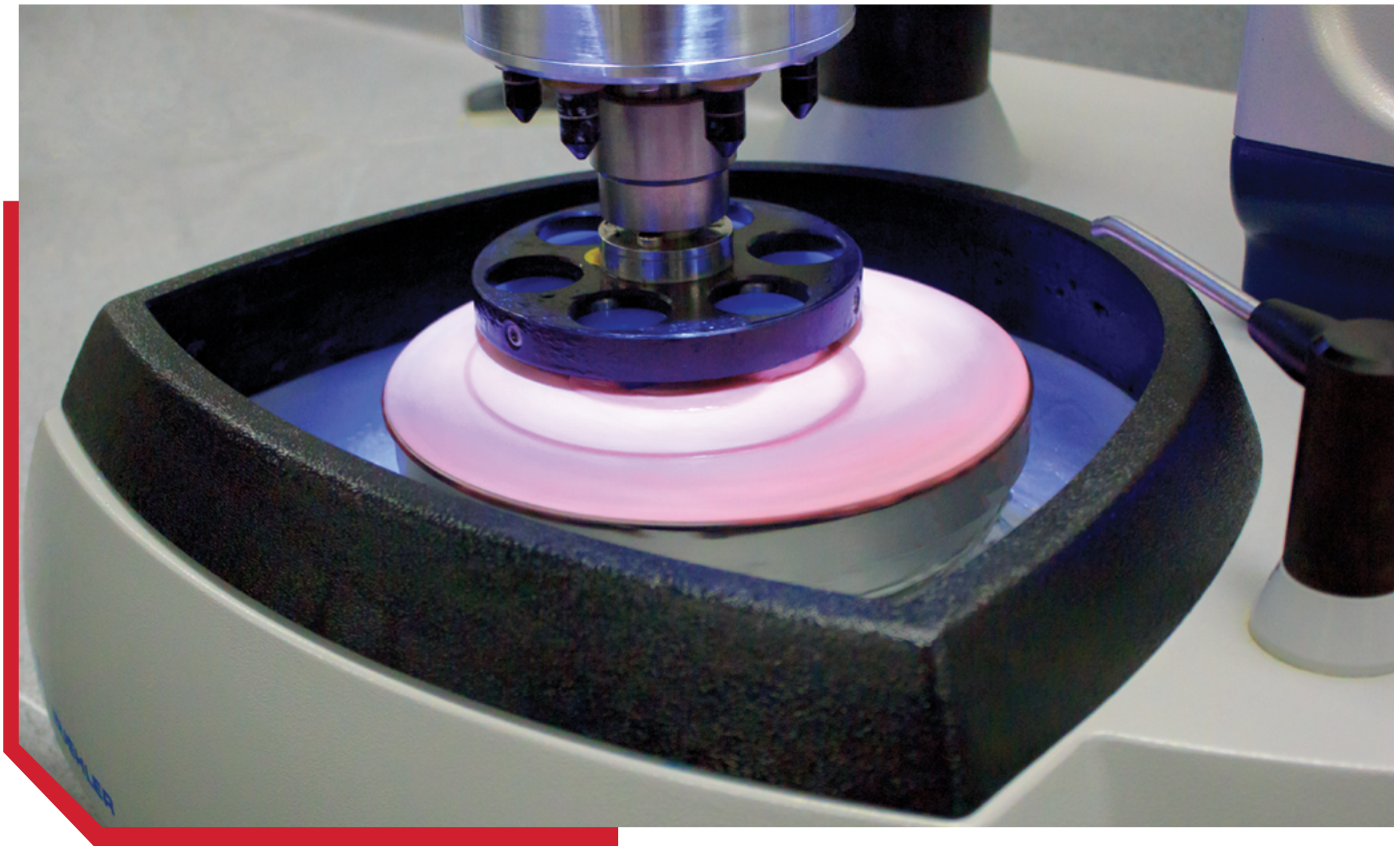
### Accessories

49-2510	Replacement 1 $\mu$ m Filter Paper (Qty 100)
49-2520	Replacement 100 $\mu$ m Swarf Bag
49-2530	Castor Kit



# 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 the 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

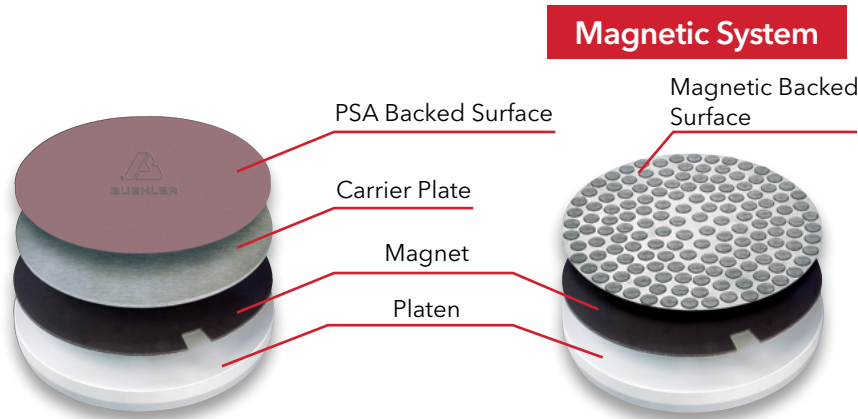
MetaDi is the premier line of diamond suspensions and pastes that ensures consistency in the polishing process. A variety of types and micron sizes are available to fit any application.



# Grinding & Polishing Consumables

## Platen Systems

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



- Versatile system that allows easy removal and storage of grinding and polishing consumables
- First, adhere a PSA backed magnet to the aluminum platen.
- Directly apply magnetic backed surfaces for use or utilize a carrier plate for PSA backed surfaces.

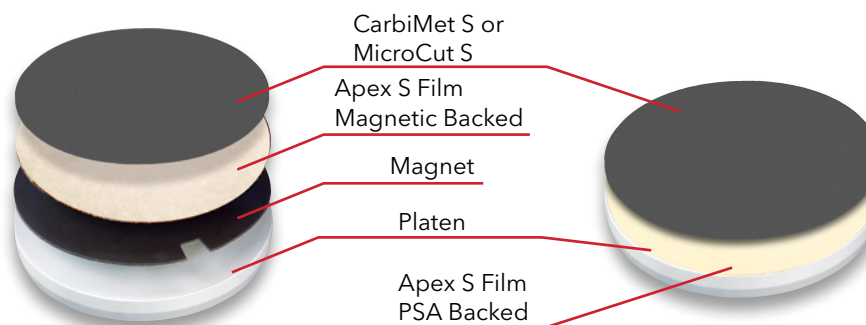
### Magnet Selection - to convert a standard platen to a magnetic platen

Type	Description	8in [203mm]	10in [254mm]	12in [305mm]
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

### Carrier Plate Selection

Type	Description	8in [203mm]	10in [254mm]	12in [305mm]
MagnoPad Teflon Coated Carrier Plate (Qty 5)	For easier removal of PSA surfaces	16-2073	16-2573	16-3073
Apex B Carrier Plate (Qty 1)	Prevents adherence of magnetic particles via bimetallic plate	41-2739-208-001	41-2739-210-001	41-2739-212-001
MagnoMet Carrier Plate (Qty 5)	Standard stainless steel carrier plate	16-2072	16-2572	16-3072

## Apex S System



- High friction backing system that is the ideal choice to reduce changeover times between grinding paper steps
- Choose the PSA backed film for use directly on aluminum platen or the magnetic backed film for use with a magnetic system.

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





# 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 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
	1000 [P2500]	8.4	16-08-1000	16-10-1000	16-12-1000
MicroCut	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

\*Contains 50 pcs

### 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 when holding bands are not used

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



# Grinding & Polishing Consumables

## PSA Backed (Qty 100)

Pressure sensitive adhesive (PSA) backing for easy application directly to platen.

	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

\*Contains 50 pcs

## Plain Backed (Qty 100)

Plain backing requires the use of an adhesive liner or holding band.

	Grit Size - ANSI [FEPA]	Approx. Micron Size	8in [200mm]	10in [250mm]	12in [300mm]
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

\*Contains 50 pcs



# 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.

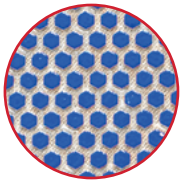
### Ideal Solution for Automation

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.

## DGD Mosaic™ (Diamond Grinding Discs) (Qty 1)



- Combines high material removal rate with good recovery to reduce prep time
- Available with magnetic backing

Grit Size ANSI [FEPA]	Approx. Micron Size	8in [203mm]	10in [254mm]	12in [305mm]
120 [P120]	125µm	41-708-0120	41-710-0120	41-712-0120
220 [P240]	60µm	41-708-0220	41-710-0220	41-712-0220
320 [P400]	40µm	41-708-0320	41-710-0320	41-712-0320
400 [P800]	30µm	41-708-0400	41-710-0400	41-712-0400
1000 [P2500]	10µm	41-708-1000	41-710-1000	41-712-1000

\*All DGD Mosaic discs includes dressing stick 11-1190 (Requires dressing before initial use)

## Application Methods for DGD Mosaic

Material	120 grit	220 grit	320 grit	400 grit	1000 grit
Low Hardness Surface Treated Steels			•		
Medium Hard Surface Treated Steels		•			
Very Hard Surface Treated Steels	•				
>60 HRC Steel	•				
50-60 HRC Steel		•			
40-50 HRC Steel			•		
Low Carbon Steel			•		
Cast Irons		•	‡		
Nodular Cast Irons (SG)		•	‡		
White Cast Iron	•				
High Alloy Steels		•			
Iron Based Superalloy		•	‡		
High Strength Alloy Steel		•			
Nickel		•	‡		
Cobalt			•		
Thermal Spray Coatings			•	‡	
Silicon, Boron, and Sintered Carbides			•	→	•
Capacitors, Diodes and Si Wafers				•	‡

•=recommendation #1 ‡=recommendation #2 Note: Recommendation may vary based on specific material and desired surface finish

### Accessories



Dressing Stick for Diamond Grinding Discs  
1 x 1 x 6in  
15-6190



Dressing Stick for Diamond Grinding Discs  
0.5 x 0.5 x 3 in  
11-1190



# Grinding & Polishing Consumables

## 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

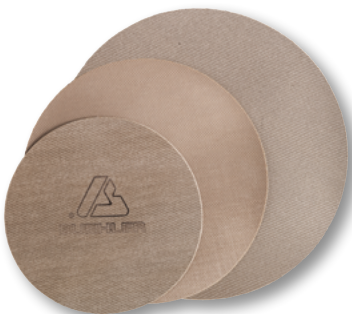
## DGD Terra (Qty 1)



- 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

## DGD Ultra (Qty 1)



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

Color	Micron	8in [203mm]	10in [254mm]	12in [305mm]
● Black	125µm	15-6199	14-2581	15-6299
● Red	70µm	15-6170	14-2582	15-6270
● Yellow	45µm	15-6145	14-2583	15-6245
○ White	15µm	15-6115	14-2585	15-6215
● Blue	9µm	15-6109		15-6209
● Purple	6µm	15-6106		15-6206



# Grinding Consumables

## Premium Polishing Cloths

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

### Easy to Use Magnetic Backing

Utilize the magnetic backing for an efficient and easy-to-use solution. The durable magnetic backed cloth provides consistent polishing results while reducing the change-over time between cloths.

### A Cloth for Every Application

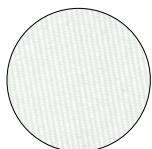
The type of cloth used depends heavily on the material being processed and the requirements for the final analysis. With a variety of fabrics, weaves and naps, there is a cloth to fit every application.

### Reliable Preparation Results

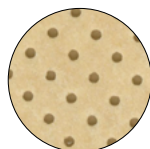
Buehler's cloths are thoroughly tested and developed with MetaDi Diamond to provide a complete solution that delivers reliable results for each sample processed.

### Polishing Cloth Selection Guide

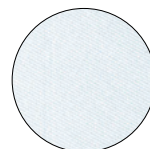
	Cloth	Backing	Quantity	8in [203mm]	10in [254mm]	12in [305mm]	Description
COARSE	UltraPad™	PSA	10	40-7118	40-7120	40-7122	Hard woven, no nap
		Magnetic	5	42-3008	42-3010	42-3012	
	UltraPol™	PSA	10	40-7448	40-7450	40-7452	Hard woven, non-aggressive silk
	TexMet™ P	PSA	5	40-7638	40-7640	40-7642	Hard non-woven, perforated
INTERMEDIATE	Nylon	PSA	10	40-7068	40-7070	40-7072	Medium hard woven, oil resistant, no nap
		Magnetic	5	42-3108	42-3110	42-3112	
	TexMet C	PSA	10	40-1108	40-1110	40-1112	Non-woven, pressed
		Magnetic	5	42-3208	42-3210	42-3212	
	TriDent™	PSA	10	40-7518	40-7520	40-7522	Soft woven synthetic, no nap
		Magnetic	5	42-3308	42-3310	42-3312	
	VerduTex	PSA	10	40-8018	40-8020	40-8022	Medium hard, synthetic silk
		Magnetic	5	42-3408	42-3410	42-3412	
	VelTex	PSA	10	40-8218	40-8220	40-8222	Short nap, synthetic velvet
		Magnetic	5	42-3508	42-3510	42-3512	
	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
Magnetic		5	42-3608	42-3610	42-3612		
FINE	MicroCloth™	PSA	10	40-7218	40-7220	40-7222	Soft synthetic rayon, long nap
		Magnetic	5	42-3708	42-3710	42-3712	
	MicroFloc	PSA	10	40-8318	40-8320	40-8322	Soft, long nap
		Magnetic	5	42-3808	42-3810	42-3812	
	MasterTex™	PSA	10	40-7738	40-7740	40-7742	Soft synthetic velvet, low nap
		Magnetic	5	42-3908	42-3910	42-3912	
	ChemoMet™	PSA	10	40-7918	40-7920	40-7922	Soft synthetic, porous, chemically resistant
		Magnetic	5	42-4008	42-4010	42-4012	



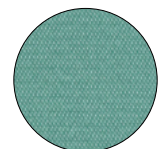
UltraPad™



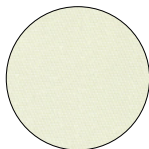
TexMet™ P



TriDent™



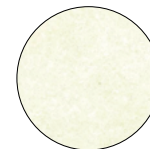
VerduTex™



UltraPol™



Nylon

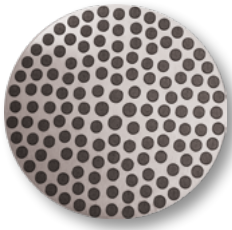


TexMet™ C



# Grinding Consumables

## Apex™ Hercules



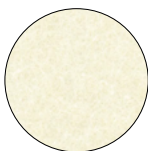
- Magnetic backed resin surface that provides excellent flatness and edge retention
- Use with MetaDi™ Diamond Suspension

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

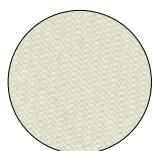
Recommended Micron Size	Abrasive Type	Applications
6µm & Up	Diamond	Ferrous materials and thermal spray coatings
6µm & Up	Diamond	Minerals, coals, ceramics, inclusion retention in steels, and refractory metals
6µm & Up	Diamond	Electronics, ceramics, carbides, petrographic, hard metals, glass, and metal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



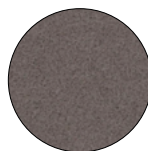
VelTex™



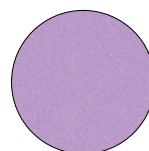
WhiteFelt™



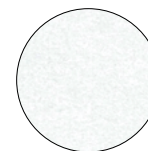
PoliCloth™



MicroCloth™



MicroFloc



MasterTex™



ChemoMet™



# 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 surface 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 provides 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		40-6629-128
● 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		

### MetaDi Monocrystalline Suspension

Monocrystalline suspension provides 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	40-5534-032

\*8oz and 16oz are supplied with spray nozzle.



# Grinding & Polishing Consumables

## MetaDi™ Diamond Pastes

### MetaDi Ultra Polycrystalline Paste

Polycrystalline paste provides 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	1µm	40-1-6301
Green	3µm	40-1-6303
Yellow	6µm	40-1-6305
Deep Red	9µm	40-1-6307
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	0.25µm	40-6112	40-6102
Blue	1µm	40-6138	40-6128
Green	3µm	40-6152	40-6142
Yellow	6µm	40-6172	40-6162
Deep Red	9µm	40-6192	40-6182
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.

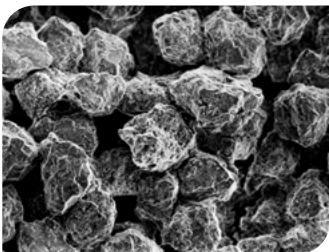
Color	Diamond Size	5g	20g
Grey	0.25µm	40-6241	40-6240
Blue	1µm	40-6244	40-6243
Green	3µm	40-6247	40-6246
Yellow	6µm	40-6250	40-6249
Deep Red	9µm	40-6253	40-6252
Brown	15µm	40-6256	40-6255

### Polishing Lubricants

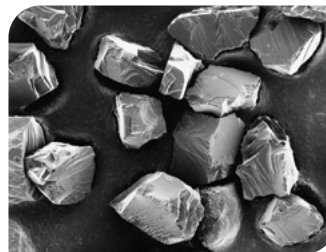
MetaDi Fluid is a water soluble lubricant for use with pastes and suspensions. AutoMet Oil is recommended for use with water sensitive materials.

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, 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



Sol-gel alumina suspension (0.05 $\mu$ m, ~8.5pH) is excellent for minerals, ferrous metals, carbides, precious metals, PWB's and electronics.

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

#### MasterMet Colloidal Silica



Amorphous colloidal silica suspension (0.06 $\mu$ m, ~10pH) that provides chemo-mechanical polishing and is excellent for metals, minerals, ceramics and polymers.

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

#### MasterMet 2 Colloidal Silica



Non-crystallizing amorphous colloidal silica suspension (0.02 $\mu$ m, ~10.5pH) that provides chemo-mechanical polishing action and is excellent for metals, minerals, ceramics and polymers.

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

#### MasterPolish Final Polish



Blend of high purity alumina and colloidal silica (0.05 $\mu$ m, ~9pH) that contains minimal water and is optimal for water sensitive materials.

40-10084 32oz [0.95L]

#### MasterPolish 2 Final Polish



Iron oxide suspension (0.06 $\mu$ m, ~10pH) that provides chemo-mechanical polishing and is excellent for sapphire, glass, alumina, silicon nitride and metal/ceramic composites.

40-6376-032 32oz [0.95L]

#### MicroPolish Alumina Suspension



Agglomerated alumina suspensions offering high removal rates and suitable for use on pure and alloyed lead and magnesium.

40-10083 0.05 $\mu$ m 6oz [0.18L]  
40-10082 0.3 $\mu$ m 6oz [0.18L]  
40-10081 1 $\mu$ m 6oz [0.18L]

#### MicroPolish Alumina Powder



Agglomerated alumina powders offering high removal rates and suitable for use on pure and alloyed lead and magnesium.

40-10075 0.05 $\mu$ m 1lb [0.45kg]  
40-10076 0.05 $\mu$ m 5lb [2.3kg]  
40-10077 0.3 $\mu$ m 1lb [0.45kg]  
40-10078 0.3 $\mu$ m 5lb [2.3kg]  
40-10079 1 $\mu$ m 1lb [0.45kg]  
40-10080 1 $\mu$ m 5lb [2.3kg]

#### MicroPolish II Alumina Powder



High quality deagglomerated alumina powders offering good surface finish and suitable for most minerals and metals.

40-6322-016 1 $\mu$ m 1lb [0.45kg]



# Grinding & Polishing Consumables

## 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

## UltraPrep™ 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