

# Apex<sup>®</sup> System



**BUEHLER**

Excellent Results. Easily Repeatable.™

# Innovative System Approach Offers Practical Solutions

Do you require multiple pieces of silicon carbide papers to planar grind your specimens? Do you need a simple and environmentally friendly way to attach your grinding surfaces and cloths to a platen? Do you require contaminant free storage of your surfaces between uses?

The Apex® System solves all these needs!

## Apex® M & B Quick Change Magnetic System

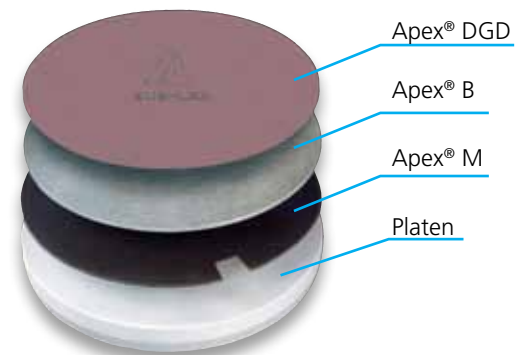
- Two component system that can be used on any conventional platen
- Apex® M Magnetic Disc is a reusable, long-life magnetic substrate with a pressure sensitive adhesive (PSA) layer to attach directly to the platen
- Apex® B Bimetallic Plate is a multi-layer design that is ferromagnetic on the side that attaches to the Apex® M and nonmagnetic on the side to which you attach the cloth or grinding surface
- Apex® B prevents accumulation of magnetic polishing debris on grinding surfaces
- Eliminates the need for more than one platen
- Makes use and reuse of surfaces as simple as 1-2-3

## Apex® MagnoSys

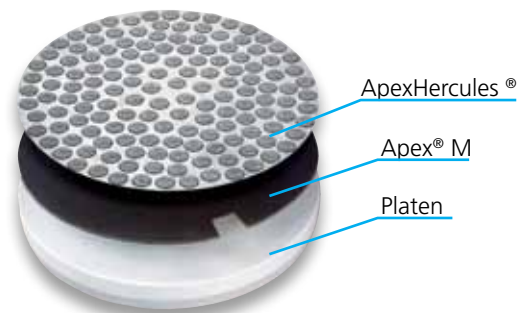
- Economical, convenient quick-change magnetic system for use when magnetic polishing debris is not a concern
- Apex® MagnoDisc aluminum platen already equipped with the MagnoFix magnetic disc - no assembly required
- Apex® MagnoMet and MagnoPad (Teflon® coated) are thin metallic plates for use with any PSA backed cloth or grinding surface
- Apex® MagnoMet and MagnoPad can be used with either Apex® MagnoDisc or MagnoFix

## Apex® Diamond Grinding Disc (DGD)

- Versatile system works on aluminum, ferrous materials, ceramics, thermal spray coatings, glass, tungsten carbide, cast irons, super alloys and more
- Long wear, resin-bonded, fixed abrasive surface provides high removal rates with superb edge retention and flatness
- Durable enough for unmounted specimens
- Choose from 10 micron sizes to cover from initial grinding to coarse polishing
- Just add water to use
- The consumable of choice for Zaxis Macro Material Removal System



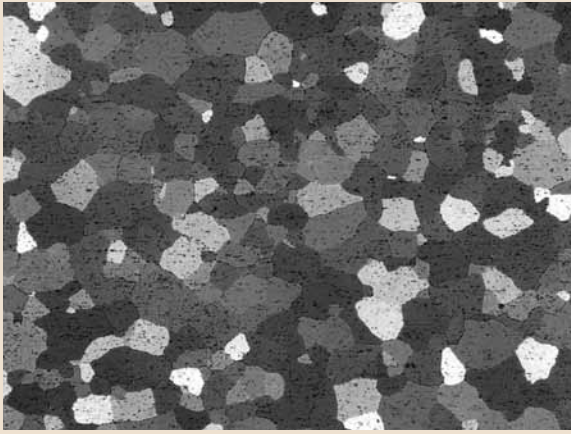
Apex Quick-Change Magnetic System



Apex Quick-Change Magnetic System

## Apex® M & B Quick-Change System vs. Apex® MagnoSys

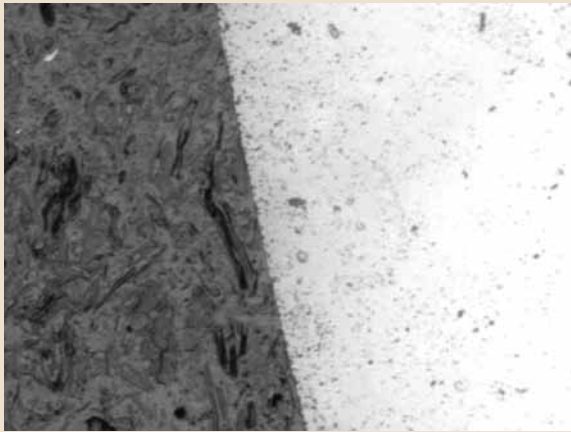
	PSA Backed Magnetic Substrate Available	Magnetic Platen Available	Bimetallic Plate Available	Teflon Coating Available	Stronger Magnet
Apex® M & B Quick Change System	X		X		X
Apex® MagnoSys	X	X		X	



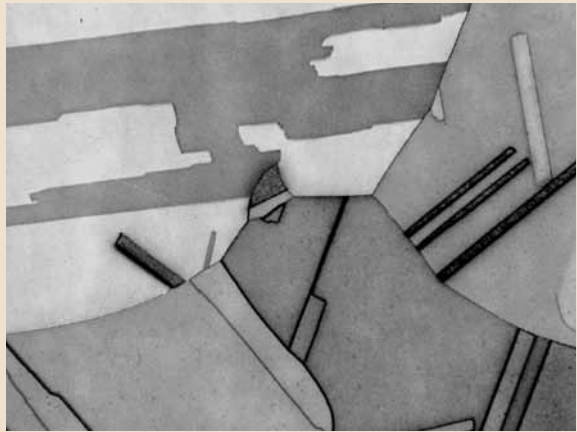
*Al 6005 Specimen etched with Barker's Reagent and prepared using: Apex DGD 30 $\mu$ m, Apex DGD 6 $\mu$ m, Apex DGD 3 $\mu$ m and MicroCloth<sup>®</sup> with MasterPrep<sup>®</sup>, 5X.*



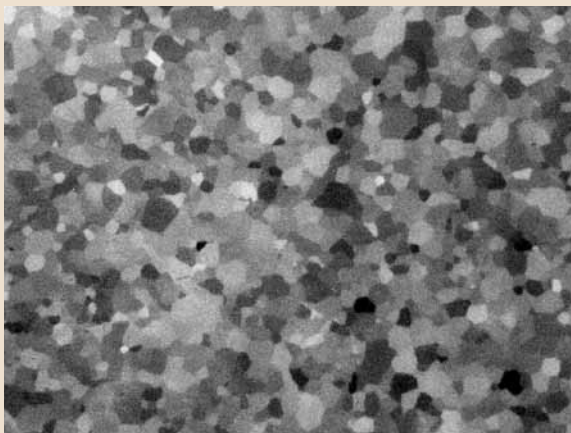
*Duplex Stainless Steel, etched with Grossbeck's Reagent and prepared using: Apex DGD 30 $\mu$ m, Apex DGD 6 $\mu$ m, Apex DGD 3 $\mu$ m, and ChemoMet<sup>®</sup> with MasterPrep<sup>®</sup>, 50X.*



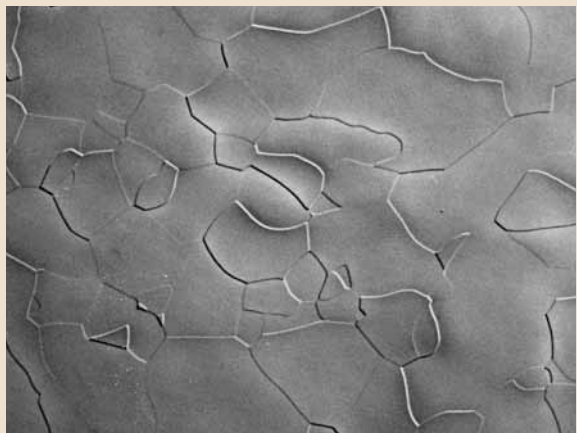
*Flat and damage free ceramic specimen prepared using: Apex DGD 45 $\mu$ m, Apex DGD 6 $\mu$ m, Apex DGD 3 $\mu$ m, and TexMet<sup>®</sup> with MasterMet<sup>®</sup>, 200X.*



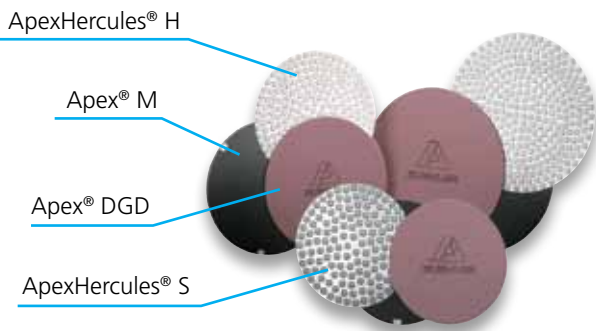
*Cu 99.99%, prepared using: Apex DGD Color Yellow, Nylon with 9 $\mu$ m MetaDi<sup>®</sup> Paste, TexMet<sup>®</sup> with 3 $\mu$ m MetaDi Paste, TexMet<sup>®</sup> with 1 $\mu$ m MetaDi<sup>®</sup> Paste and ChemoMet<sup>®</sup> with MasterPrep, etched with Waterbury-Stacks solution, 50X*



*Ti 99.999% prepared using: Apex DGD 35 $\mu$ m, Nylon with 9 $\mu$ m MetaDi<sup>®</sup> Supreme, and MicroCloth<sup>®</sup> with MasterMet<sup>®</sup> 2, as polished, viewed with polarized light, 200X.*



*Ta 99.99% prepared using: Apex DGD 35 $\mu$ m, Nylon with 9 $\mu$ m MetaDi<sup>®</sup> Supreme, TexMet<sup>®</sup> with 3 $\mu$ m MetaDi<sup>®</sup> Supreme, and ChemoMet<sup>®</sup> with MasterMet<sup>®</sup> 2, etched with 50ml HF, 10 ml HNO<sub>3</sub>, 50ml water, 100X.*



*Innovative magnetic-based system provides strength to hold during grinding/polishing operations, yet releases quickly with Apex Lift Tool.*



Apex® Coarse Grinding Discs

### Apex® DGD Color

- Long wear, resin-bonded, fixed abrasive surface provides high removal rates with superb edge retention and flatness
- Bonding characteristics allow these discs to be used on a wide variety of materials, including softer materials such as brass and copper
- Just add water to use
- Color coding used to identify abrasive characteristics
- Available in the following colors: Green (240µm), Black (125µm), Red (75µm), Purple (55µm), Yellow (35µm), White (15µm), and Blue (8µm)
- The consumable of choice for Zaxis Macro Material Removal System

### Apex® Coarse Grinding Discs (CGD)

- Metal bonded diamond grinding discs for very aggressive material removal
- Designed for continuous use
- High material removal rates on materials that are hard to grind
- Open structure allows swarf to wash away
- Does not require dressing
- Excellent for use on tool steels, tungsten carbide, hard ceramics, and titanium
- Available in the following colors: Grey (320µm), Green (240µm), and Black (125µm)
- Attaches to Apex® B
- Just add water to use

### ApexHercules® H & S Rigid Grinding Discs

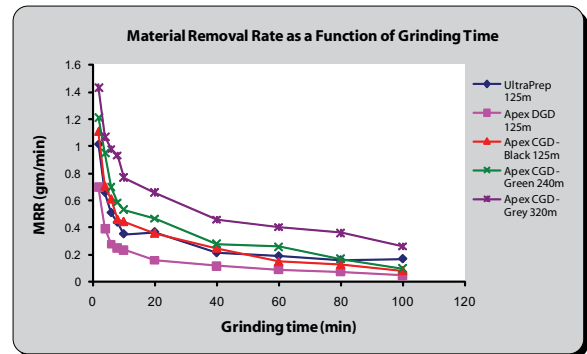
- Improves efficiency by reducing processing steps
- Use with MetaDi® and MetaDi® Supreme Diamond Suspensions
- Superb specimen flatness and edge retention
- Attaches to Apex® M, MagnoDisc or MagnoFix directly
- Long life - up to 200 sample holders
- Corrosion resistant

### Magnetic Backed (MB) Cloths

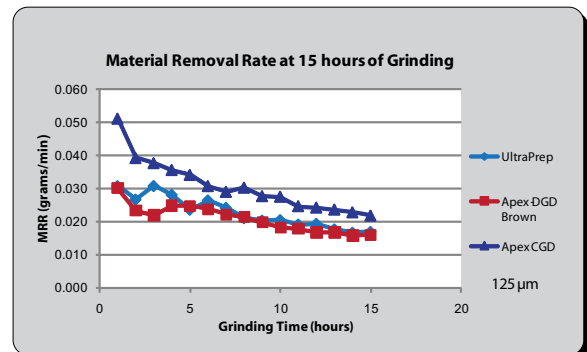
- Eliminates the possibility of air bubbles between the cloth and the platen
- Are easier to apply and remove than other types of cloths
- Eliminates the need for an Apex® B Disc
- Have an easy-to-use, soft, flexible backing
- Attaches to Apex® M, MagnoDisc, or MagnoFix

### Apex® Storage Cabinets

- Secure and organize your surfaces and platens
- Lockable
- Sturdy plastic construction
- 6 storage slots (4 additional available on 19-06-09)



Material Removal Rate



Durability

### Apex® Diamond Grinding Discs (DGD) vs. Apex® DGD Color

	Fixed Diamond Abrasive	10 Sizes Available	Suitable for Unmounted Specimens	Color Coded	Best for Soft Materials	Just Add Water
Apex® Diamond Grinding Discs (DGD)	X	X	X			
Apex® DGD Color	X		X	X	X	X

## Apex® Quick-Change Magnetic System

Recommended purchase: 1 Apex® M Disc per platen and as many Apex® B Plates as needed for your laboratory cloths and grinding surfaces.

### Apex® M Discs - PSA

Type	Size	Catalog Number
Magnetic Disc	2 7/8" (73mm)	41-10101
Magnetic Disc	8" (203mm)	41-2739-608-001
Magnetic Disc	10" (254mm)	41-2739-610-001
Magnetic Disc	12" (305mm)	41-2739-612-001

*Includes one Apex Lift Tool*

### Apex® B Plates

Type	Size	Catalog Number
Bimetallic Plate	8" (203mm)	41-2739-208-001
Bimetallic Plate	10" (254mm)	41-2739-210-001
Bimetallic Plate	12" (305mm)	41-2739-212-001

## Apex® MagnoSys

### Apex® MagnoDisc

Size	Catalog Number
8" (203mm)	162071
10" (254mm)	162571
12" (305mm)	163071

*Aluminum Platen with MagnoFix Installed*

### Apex® MagnoFix

Size	Catalog Number
8" (203mm)	162070
10" (254mm)	162570
12" (305mm)	163070

*PSA Backed Magnetic Disc*

### Apex® MagnoMet

Size	Catalog Number
8" (203mm)	162072
10" (254mm)	162572
12" (305mm)	163072

*Magnetic Plate*

### Apex® MagnoPad

Size	Catalog Number
8" (203mm)	162073
10" (254mm)	162573
12" (305mm)	163073

*Teflon Coated Metallic Plate*

## Apex® Diamond Grinding Discs (DGD)

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

## Apex® DGD Color

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

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

	Type	2 7/8" (73mm)	8" (203mm)	10" (254mm)	12" (305mm)
Coarse	Ultra MB	41-10096	41-10041	41-10042	41-10043
	TexMet® MB	41-10097	41-10035	41-10036	41-10037
Intermediate	Satyn MB	41-10098	41-10038	41-10039	41-10040
	Chemia MB	41-10099	41-10032	41-10033	41-10034
Fine	Micro MB	41-10100	41-10093	41-10094	41-10095

## Apex® Coarse Grinding Discs (CGD)

Type	8" (203mm)	10" (254mm)	12" (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

## ApexHercules® H & S Rigid Grinding Discs

Type	8" (203mm)	10" (254mm)	12" (305mm)
<b>ApexHercules® H</b> (for materials ≥ 20HRC, 236HV)	41-2740-308-001	41-2740-310-001	41-2740-312-001
<b>ApexHercules® S</b> (for materials < 20HRC, 236HV)	41-2740-408-001	41-2740-410-001	41-2740-412-001

## Apex® Storage Cabinets

**19-06-06 Apex® Storage Cabinets** for 8" (203mm) and 10" (254mm) discs and platens (Exterior dimensions 11¾" x 12¾" x 12 7/16" (W x H x D) or 298mm x 325mm x 370mm) *Right storage bin shown on cover.*

**19-06-09 Apex® Storage Cabinets** for all discs and platens up to 12" (305mm) (Exterior dimensions 13 3/16" x 12 1/8" x 13" (W x H x D) or 355mm x 298mm x 320mm) *Left storage bin shown on cover.*

**19-06-10 Four additional shelves for 19-06-09**

## Apex® Storage Cabinets

**BuehlerVanguard Platen**, required for use with Apex® M & B Quick-Change Magnetic System .....63-1008

**Apex® Lift Tool**, Extra .....1330S50

For a complete listing of consumables, please refer to our Consumables Buyer's Guide. Buehler continuously makes product improvements; therefore technical specifications are subject to change without notice.

## BUEHLER ANALYST® SECTION 7



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