



**BUEHLER®  
FINAL POLISHING SUSPENSIONS**

- Application Specific Suspensions for Superior Performance
- Consistent Polishing Results
- High Surface Removal Rates
- Low Deformation
- Full Range of Products for Virtually Any Material
- Convenient Applicator Packaging

# Mechanochemical Polishing Suspensions



## MASTERMET® Colloidal Silica Suspension

- Fine (0.06 micron) SiO<sub>2</sub> particles in an aqueous base
- Effective cutting by SiO<sub>2</sub> particles, without deformation
- Especially suited for non-ferrous materials, semiconductors, and hard materials such as ceramics (alumina)

NEW

## MASTERMET® 2 Colloidal Silica Suspension

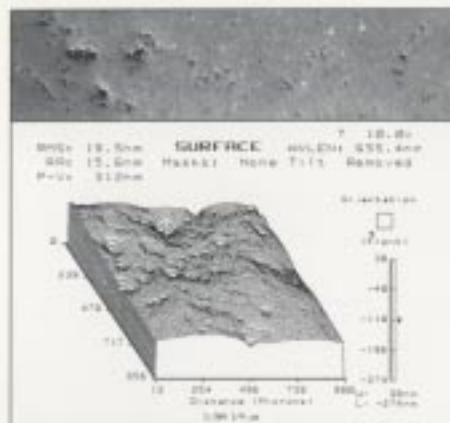
- Fine, non-crystallizing (0.06 micron) SiO<sub>2</sub> particles in an aqueous base
- Effective material removal, without deformation
- Non-staining
- For use on soft non-ferrous materials (copper and aluminum), ceramics (alumina and zirconia), and optical fibers (glass and plastic)

## MASTERPOLISH® Final Polishing Suspension

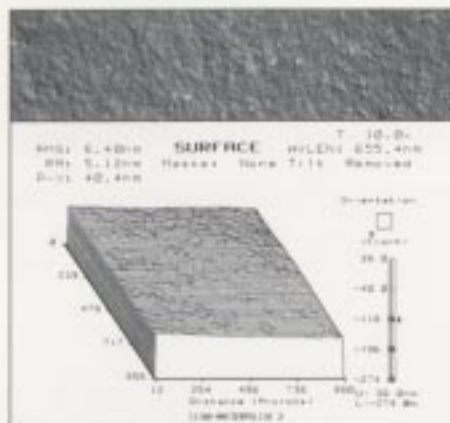
- A careful blend of high purity 0.05 micron alumina and colloidal silica
- Superior surface finishes
- Provides fast, efficient stock removal in addition to mild attack or chemical polishing action
- Effective for ferrous and non-ferrous materials and metal composites

## MASTERPOLISH® 2 Final Polishing Suspension

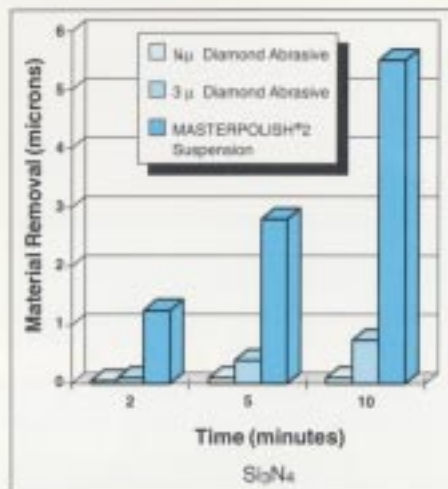
- Proprietary medium utilizing a mechanochemical polishing action
- Superior surface finishes
- Exceptional removal rates for ceramic materials
- Chemical reaction with ceramic material surfaces for more efficient cutting
- Ideal for alumina, glass, sapphire, silicon nitride, metal/ceramic composites, etc.



Surface of Si<sub>3</sub>N<sub>4</sub> prepared with 1/4μ diamond abrasive. DIC-200x.



Surface of Si<sub>3</sub>N<sub>4</sub> prepared with MASTERPOLISH 2 Suspension. DIC-200x.



Removal rates for MASTERPOLISH 2 Suspension vs. 1/4μ and 3μ diamond abrasive.



Aluminum silicon alloy prepared with MASTERMET 2 Colloidal Silica Suspension. Brightfield - 400x.

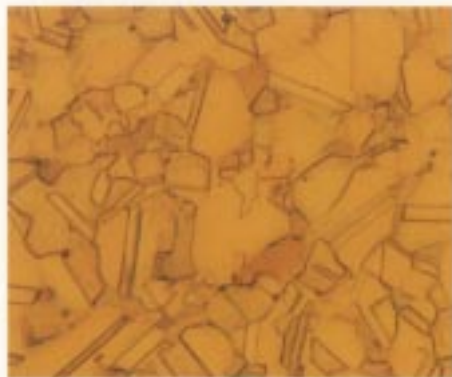
# Alumina Polishing Suspensions



## MICROPOLISH® Alumina Suspensions

Available in the high purity A, B, and C formulation of 0.3 micron Alpha, 0.05 micron Gamma, and 1.0 micron Alpha particle sizes:

- **MICROPOLISH® A 0.3 micron:** rapid cutting, high hardness abrasive for metal, composite, ceramic, and mineral surfaces
- **MICROPOLISH® B 0.05 micron:** slower cutting caused by smaller particle size and lower hardness abrasive needed for Final Polishing requirements
- **MICROPOLISH® C 1.0 micron:** chemically inert, fast cutting, hard structure abrasive for producing sharp, unsmearred sample surfaces

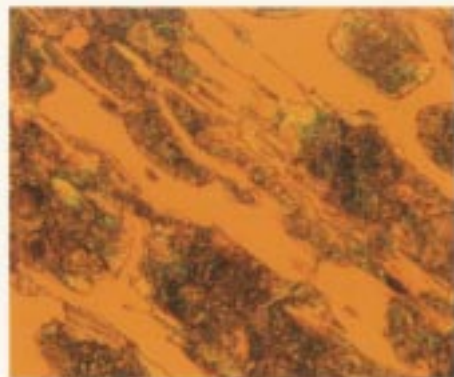


Aluminum bronze prepared with MASTERPREP Alumina Suspension. Brightfield - 400x.

## MICROPOLISH® II Deagglomerated Alumina Suspensions

■ Deagglomerated form of MICROPOLISH® Alumina

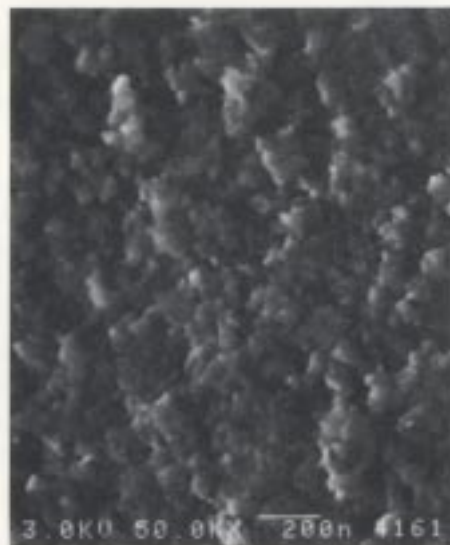
- More cutting edges exposed, producing fine surfaces quickly
- Generally superior to common aluminas for preparation of both ferrous and non-ferrous materials, especially softer materials



Low carbon steel prepared with MICROPOLISH II Deagglomerated Alumina Suspension. 2% nital etch, DIC - 400x.

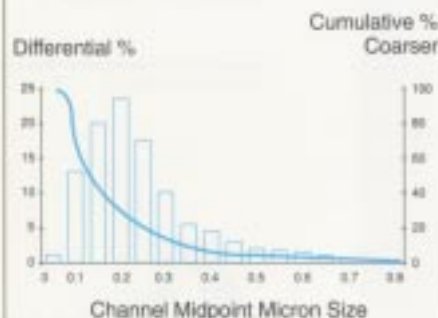
## NEW MASTERPREP® Alumina Suspension

- Finely dispersed, non-agglomerated particles (0.05 micron) of uniform size
- Produces superior surface finishes
- Can be applied through the BUEHLER METLAP® 2000 Fluid Dispenser or other automatic dispensing systems
- No dilution with water needed
- Available in the hard alpha phase
- Best for soft materials (aluminum, brass, and copper), ferrous (steels and irons), and non-ferrous materials



An electron micrograph (50,000x) shows the uniform size and shape of the abrasive used in MASTERPREP Alumina Suspension.

## MASTERPREP Alumina Suspension



MASTERPREP Suspension has aggregate particles that are  $\frac{1}{10}$  the size of conventional aluminas.

## *Additional Polishing Suspensions*

### **METPOLISH® Chromium Oxide Suspensions**

- Recommended for polishing of carbon and stainless steels
- Preparation of samples for spectrographic analysis where aluminum oxide contamination is not tolerable
- Available in 1.0 and 0.5 micron particle sizes

### **MIROMET® Cerium Oxide Suspension**

- Recommended for very soft materials including lead, solders, plastics, soft ores, and glass optical fibers – a universal glass polishing abrasive
- Particles fracture to sub-micron size during polishing



## **Ordering Information**

### **BUEHLER Final Polishing Suspensions**

Type	Particle Size (micron)	Quantity	Catalog Number
MASTERMET® Colloidal Silica	0.06	6 oz. (0.18l)	40-6370-006
MASTERMET Colloidal Silica	0.06	64 oz. (1.9l)	40-6370-064
MASTERMET 2 Colloidal Silica	0.06	6 oz. (0.18l)	40-6380-006
MASTERMET 2 Colloidal Silica	0.06	64 oz. (1.9l)	40-6380-064
MASTERPOLISH® Suspension	0.05	32 oz. (0.95l)	40-6375-032
MASTERPOLISH 2 Suspension	0.06	32 oz. (0.95l)	40-6376-032
MASTERPREP™ Polishing Suspension	0.05	32 oz. (0.95l)	40-6377-032
MASTERPREP Polishing Suspension	0.05	64 oz. (1.9l)	40-6377-064
MICROPOLISH® Alumina	5.0	6 oz. (0.18l)	40-6351-006
MICROPOLISH Alumina	1.0	6 oz. (0.18l)	40-6354-006
MICROPOLISH Alumina	0.3	6 oz. (0.18l)	40-6352-006
MICROPOLISH Alumina	0.05	6 oz. (0.18l)	40-6353-006
MICROPOLISH II Alumina	1.0	6 oz. (0.18l)	40-6361-006
MICROPOLISH II Alumina	0.3	6 oz. (0.18l)	40-6363-006
MICROPOLISH II Alumina	0.05	6 oz. (0.18l)	40-6365-006
METPOLISH® Chrome Oxide #1	1.0	6 oz. (0.18l)	40-6481-006
METPOLISH Chrome Oxide #2	0.5	6 oz. (0.18l)	40-6482-006
MIROMET® Cerium Oxide	1.0	6 oz. (0.18l)	40-6355-006

For a complete listing of BUEHLER Consumable Supplies for use with Grinder/Polishers, refer to the BUEHLER ANALYST®, Section 7.

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**BUEHLER ANALYST®**  
**SECTION 7**



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