





Epoxy Mounting Systems

High Performance Choices

Buehler epoxies are formulated to excel in a wide variety of applications. Whether the priority is speed, pore penetration, or low curing temperature, there is a Buehler epoxy suited for every sample type.

EpoKwick® FC



Spend less time preparing and more time analyzing.

- Combines very low viscosity and extremely low shrinkage with good hardness and a fast cure.
- Obtain the best sample prep quality even with highly porous samples.
- Recommended for aerospace coatings and other porous samples insensitive to heat.

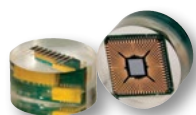
EpoThin™ 2



Protect samples with this gentle low cure temperature epoxy

- Combines low viscosity and low cure temperature
- Provides strong adherence and good pore penetration.
- Recommended for electronic boards and heat sensitive materials

EpoxiCure® 2



General purpose epoxy system optimized for routine application

- A balanced formula providing good hardness and low shrinkage
- Can be used with larger mounting cups

EpoHeat® CLR



Save time with long pot life

- Can remain mixed at room temperature for 3 hours and cures in 60 minutes in the oven.
- Water-like viscosity when heated
- Recommended for samples requiring maximum pore penetration.

Product Specifications

Material	Cure Time	Viscosity*	Shrinkage*	Shore D Hardness	Peak Exotherm*
EpoKwick® FC	2hrs @ room temperature	Best	Best	~82	250°F [121°C]
EpoThin™ 2	9hrs @ room temperature	Better	Better	~78	149°F [65°C]
EpoxiCure® 2	6hrs @ room temperatures	Good	Better	~80	104°F [40°C]
EpoHeat® CLR	1hr @ 149° F(65°C)	Best	Good	~82	324°F [162°C]

*values compared with other epoxies

*Peak exotherm is for 20g cured at 70° F

Ordering Information

Small Resin & Hardener

Large Resin & Hardener

Material	Resin	Hardener†	Resin	Hardener†
EpoKwick® FC mix ratio 4:1 by volume			20-3453-128 128oz [3.8L]	20-3453-032 32oz [0.95L]
EpoThin™ 2 mix ratio 2:1 by volume	20-3440-032 32oz [0.95L]	20-3442-016 16oz [0.48L]	20-3440-128 128oz [3.8L]	20-3442-064 64oz [1.9L]
EpoxiCure® 2 mix ratio 4:1 by volume	20-3430-064 64oz [1.9L]	20-3432-016 16oz [0.48L]	20-3430-128 128oz [3.8L]	20-3432-032 32oz [0.95L]
EpoHeat® CLR mix ratio 4:1 by volume	20-3423-064 64oz [1.9L]	20-3424-016 16oz [0.48L]		

† Restricted article, requires special packaging



Increased Mounting Throughput

With cure times as low as 5 minutes, our line of acrylics is designed to increase throughput in your mounting process while providing consistent results.

SamplKwick®



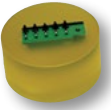
SamplKwick offers quick cure times and excellent wetting characteristics making it ideal for electronics and PWB applications.

VariKleer™



VariKleer produces a crystal clear mount when cured under pressure making it ideal for applications where clarity is required.

VariDur™ 10



VariDur 10 is a general purpose acrylic system offering a semi-transparent mount with a reduced odor while curing.

VariDur™ 200



VariDur 200 is a quick curing acrylic with good edge retention that is ideal for mounting hard materials.

VariDur™ 3003



VariDur 3003 is a three-part acrylic with minimal shrinkage and high hardness making it ideal for edge retention applications.

Product Specifications

Material	Cure Time	Viscosity*	Shrinkage*	Shore D Hardness	Peak Exotherm*
SamplKwick®	5-8min @ room temperature	Better	Good	~85	~179°F [81°C]
VariKleer™	5-15min @ room temperature	Better	Good	~84	~212°F [100°C]
VariDur™ 10	8min @ room temperature	Good	Good	~80	~212°F [100°C]
VariDur™ 200	5-8min @ room temperature	Good	Better	~85	~212°F [100°C]
VariDur™ 3003	15-30min @ room temperature	Good	Best	~90	~252°F [122°C]

*values compared with other acrylics

*Peak exotherm is for 20g cured at 70° F

Ordering Information

Powder			Liquid†	
Material	Part Number	Size	Part Number	Size
SamplKwick®	20-3562	1 lb [0.45kg]	20-3564	12oz [0.36L]
	20-3566	5 lbs [2.3kg]	20-3568	64oz [1.9L]
	20-3562-025	25 lbs [11.3kg]	20-3564-320	2.5gal [9.5L]
	20-3562-100	100 lb [45kg]	20-3564-640	5gal [19L]
VariKleer™	20-3591	2.2 lbs [1kg]	20-3592	16.9oz [500mL]
	20-3591-002	4.4 lbs [2kg]	20-3592-001	33.8oz [1L]
	20-3591-010	22 lbs [10kg]	20-3592-005	1.3gal [5L]
VariDur™ 10	11-1027	2.2 lbs [1kg]	11-1029	16.9oz [500mL]
	11-1031	22 lbs [10kg]	11-1033	1.3gal [5L]
VariDur™ 200	11-1030	2.2 lbs [1kg]	11-1029	16.9oz [500mL]
	11-1034	22 lbs [10kg]	11-1033	1.3gal [5L]
VariDur™ 3003 3-part system	20-3531	3.3 lbs [1.5kg]	20-3535	.65gal [2.5L] Liquid 1
	20-3534	16.5 lbs [7.5kg]	20-3536	1.3gal [5L] Liquid 2
			20-3532	Kit Contains: 16.9oz [500mL] Liquid 1 33.8oz [1L] Liquid 2

† Restricted article, requires special packaging

Consumables & Accessories



Mounting Consumables & Accessories

Pigments



Use with castable resins for color coding or creating contrast

20-8505 Black, 1.5oz [45mL]
20-8506 Red, 1.5oz [45mL]
20-8507 Blue, 1.5oz [45mL]

Release Agent



Liquid release agent for easier removal of mounts from castable molds or compression mounting presses

20-8186-004[†] 4oz [120mL]
20-8186-032[†] 32oz [950mL]

Mold Release Spray



Less hazardous spray release agent for use on castable mounting molds

20-3050-008 8oz [0.24L]

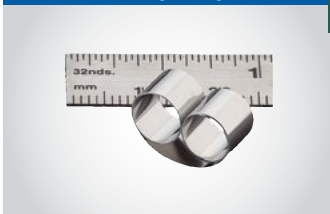
Mold Release Powder



Powder release agent for use on mounting presses

20-3048 2oz [45g]

SamplKlip



Stainless Steel support clip for use with all mounting systems.*

0.25 H x 0.550 W x 0.350in L
[6 x 14 x 9mm] 0.575g

20-4000-100 (Qty 100)

SamplKlip I



Plastic support clip best for castable mounting systems.*

0.25 H x 0.475 W x 0.3in L
[~6 x 12 x 8mm] 0.230g

20-4100-100 (Qty 100)

0.25 H x 0.425 W x 0.25in L
[~6 x 11 x 6mm] 0.230g
20-4100-100S (Qty 100)

Specimen Support Clip

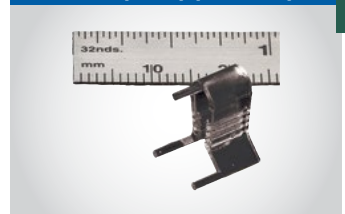


Plastic support clip best for castable mount systems.*

0.25 H x 0.290 W x 0.375in L
[6 x 7 x 9.5mm] 0.145g

20-4001-000 (Qty 1000)

UniClip Support Clip



Plastic support clip for use with all mounting systems.

0.4 H x 0.360 W x 0.500in L
[10 x 9 x 13mm] 0.290g

20-5100-100 Clear (Qty 100)
113043 Black (Qty 100)

Plastic Mixing Cup



Graduated Plastic Mixing cup for mixing castable mounting systems. 8.5oz [250mL] (Qty 100)

20-8176-100

Paper Mixing Cup



Non Graduated Paper Mixing cup for mixing castable mounting systems. 8oz [236mL] (Qty 100)

20-8178-100

Stirring Sticks



For stirring castable mounting systems. (Qty 1000)

20-8175

MetKleer® Adhesive Bases



For use with ring forms and castable systems.

4 x 5in [102 x 127mm] (Qty 10)
20-8188

Conductive Filler



Nickel-based filler makes castable mounting systems conductive

20-8500 2 lb [0.9kg]

Flat Edge Filler



Ceramic Powder enhances edge retention in castable mounting systems by increasing hardness of mount

20-8196 1 lb [0.45kg]

Thermoplastic Cement



For adhering samples to glass slides or other specialty holders

40-8100 Use at 266° F [130°C]
(Qty 12)

Crystalbond Mounting Wax



For adhering samples to glass slides or other specialty holders

40-8150 Use at 257°F [125°C]
20-8145 Use at 127°F[53°C]

* Compatible with specimens up to 0.200in [5mm] thick

[†] Restricted article, requires special packaging

• Compatible with specimens between 0.0035 - 0.090in [0.9 - 2.3mm]

Compression Mounting Compounds



Compression mounting compounds utilize heat and pressure to encapsulate a specimen. Buehler's compounds minimize shrinkage while protecting and preserving sample edges during the preparation process.

Wide Portfolio for Every Application

The choice of a mounting compound depends on the goals of the lab and requirements of final analysis. See below for the many different compounds that are available to meet the needs of a lab.

Excellent Edge Retention

EpoMet offers excellent edge retention making it ideal for processing harder materials. The fine particle size of EpoMet F is great for intricate structures and penetration while the granular size of EpoMet G optimizes ease of use.

Quick Cycle Set-Up with No Mess

Save time and maximize cleanliness by eliminating the measuring and pouring of powder. Simply place a PhenoCure premold into the mounting chamber and the cycle is ready to begin.

Material	Recommended Use	Color	Hardness (Shore D)	Edge Retention
PhenoCure®	General purpose metallography	Black, Red, Green	~88	Good
Diallyl Phthalate - Mineral Filled	Moderately hard material	Blue	~91	Better
Diallyl Phthalate - Glass Filled	Moderately hard material for etching	Blue	~91	Better
EpoMet® G (Granular)	Very hard material	Black	~94	Best
EpoMet® F (Fine)	Very hard material with complex geometries	Black	~94	Best
TransOptic™	When transparency of the mount is useful	Clear	~80	Good
ProbeMet®	Great for Electropolishing and electroetching. Can be used for SEM when copper is not of interest	Copper	~94	Better
KonductoMet®	SEM analysis when ProbeMet is not suitable	Black	~88	Good

General Purpose Compounds

PhenoCure® & PhenoCure® LP Powder



The Phenocure and Phenocure LP powders are wood-flour thermoset resins that provide good edge retention and moderate shrinkage. While the PhenoCure LP also provides a lower hazard level at the same performance.

PhenoCure

Size	Black	Red	Green
5 lbs [2.3kg]	20-3100-080	20-3200-080	20-3300-080
25 lbs [11.3kg]	20-3100-400	20-3200-400	20-3300-400
40 lbs [18.1kg]	20-3100-500	20-3200-500	20-3300-500

PhenoCure LP

Size	Black
5 lbs [2.3kg]	20-6100-080
25 lbs [11.3kg]	20-6100-400
40 lbs [18.1kg]	20-6100-500

PhenoCure® Premold



Premolds reduce mess and save time. Simply place the premold over the specimen in the mold cylinder. Premolds are sold 500/pack.

Size	Black	Red	Green
1in [25mm]	20-3111-501		
1.25in [32mm]	20-3112-501	20-3212-501	20-3312-501
1.5in [38mm]	20-3113-501	20-3213-501	20-3313-501
1.75in [45mm]	20-10090		



Compression Mounting Compounds

General Purpose Compounds

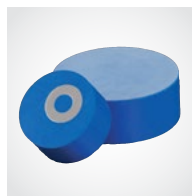


EpoMet® G (Granular)

A mineral filled epoxy thermoset with excellent edge retention for mounting hard materials.

20-3380-064	4 lbs [1.8kg]
20-3380-160	10 lbs [4.5kg]
20-3380-400	25 lbs [11.3kg]
20-3380-500	40 lbs [18.1kg]

Black ●



Diallyl Phthalate

A filled thermoset resin recommended for mounting moderately hard materials. Choose glass filled for etching or mineral filled for better abrasion resistance.

20-3330-080	Mineral Filled, 5 lbs [2.3kg]
20-3340-080	Glass Filled, 5 lbs [2.3kg]

Blue ●

Specialty Compounds



EpoMet® F (Fine)

A mineral filled epoxy thermoset with fine particles and excellent edge retention for mounting hard materials with complex geometries.

20-3381-070	4 lbs [1.8kg]
20-3381-160	10 lbs [4.5kg]
20-3381-400	25 lbs [11.3kg]

Black ●



TransOptic

A transparent thermoplastic acrylic that allows the user to easily extract the specimen from the mount with reheating. Requires a special cooling cycle available on the SimpliMet® 4000.

20-3400-080	5 lbs [2.3kg]
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Clear ○



ProbeMet®

A copper and mineral filled phenolic thermoset recommended for SEM analysis of specimens when copper is not the object of analysis. *Note:* Can cause a Cu-Al galvanic corrosion on aluminum specimen.

20-3385-064	4 lbs [1.8kg]
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Copper ●



KonductoMet®

A graphite and mineral filled phenolic thermoset recommended for SEM analysis of specimens when ProbeMet is not suitable.

20-3375-016	1 lbs [0.45kg]
20-3375-400	25 lbs [11.3kg]

Black ●

Compression Mounting Tips



You can minimize shrinkage and improve edge retention by cooling the mount to room temperature under pressure before removing it from the mounting press.



Uncured mounts can be caused by excess moisture in the mounting compound. Make sure to properly close the container between uses.



Radial splitting of mounts is often caused by sharp edges on the sample, by samples that are too large for the mold or samples that are too close to the mold wall. Round off sharp corners and move the specimen farther from the edge of the mount.



Bulging or soft mounts are a result of insufficient cure times. Increase the cure time.

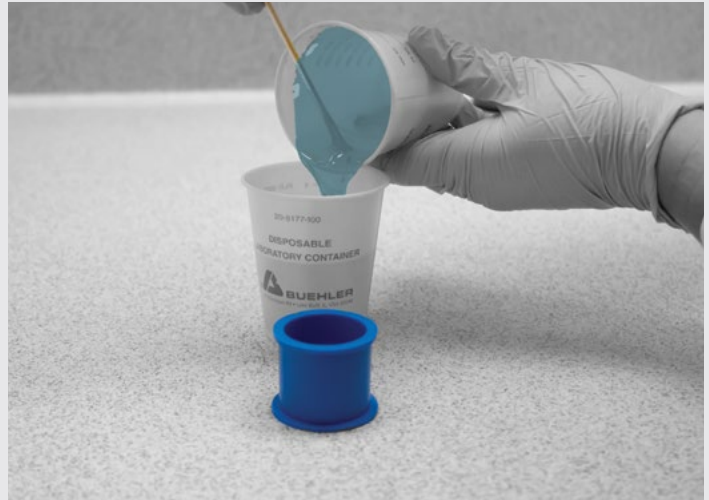


Unfused or frosted mounting compound is often a sign of insufficient molding temperatures or pressures. Ensure the temperature and pressure settings on the mounting press match the recommendations for the compression compound being using.



Epoxy Tips

- Some epoxies can be cured more quickly by gently heating, typically at 30-40° C. Use caution as higher cure temperatures can cause excessive heating during curing.
- When mixing, tilt the cup containing the resin and hardener slightly and gently work the resin and hardener together using a lift and stir motion.
- To get the best results, use a vacuum system to evacuate air trapped in epoxy systems and samples. This reduces or fills pores in the specimen with epoxy and enhances the end result.
- Epoxies are sensitive to the ratio of resin and hardener. Be sure to follow the recommended mass ratio for each product.



Acrylic Tips

- Acrylics cure quickly so it is highly recommended to pour the mixture into the mold immediately after mixing to prevent "gelling".
- Acrylic systems are not for use with Vacuum Systems because the vapor released can eliminate the vacuum nor are they for use with Disposable Mounting Cups because the heat of the reaction will degrade the plastic cup and produce a bad mount edge.
- To improve edge retention for acrylic systems, coat the sample in the liquid hardener before pouring in mixed compound.



See Mounting Guide for More Information