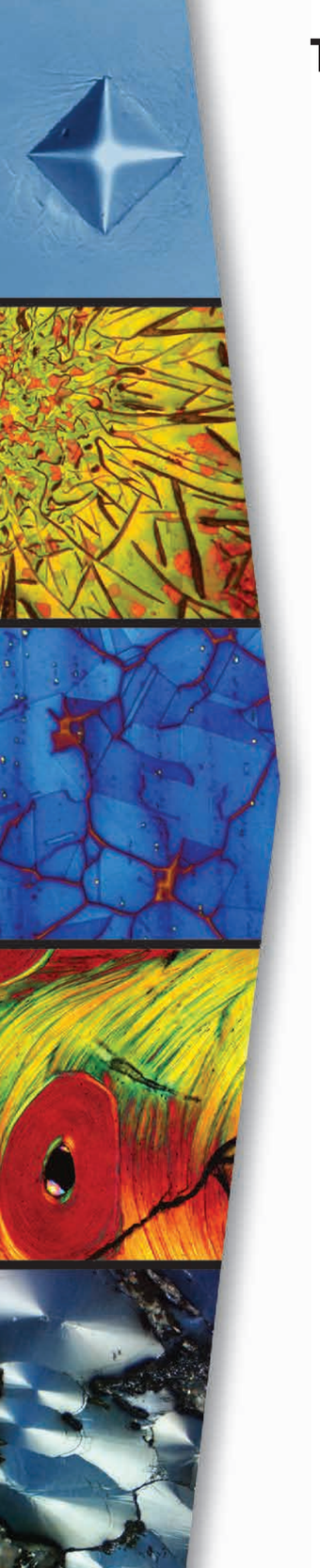
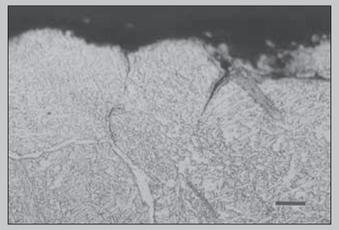


Technical Information Guide: Compression Mounting Compounds

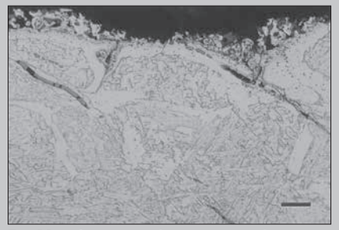
CHARACTERISTICS OF COMPRESSION MOUNTING COMPOUNDS

Materials	General Purpose	Best Edge Retention; Very Low Shrinkage	Near Zero Electrical Resistance SEM - EDS/WDS	Clear
Ceramics	PhenoCure™	EpoMet™ F (Fine) or EpoVit™	ProbeMet™	TransOptic™
Steels	PhenoCure	EpoMet G (Granular) or EpoVit	ProbeMet	TransOptic
Plated Layers	PhenoCure	EpoMet G or EpoVit	ProbeMet	TransOptic
Aluminum	PhenoCure		ProbeMet	TransOptic
Copper/Brass	PhenoCure		ProbeMet	TransOptic
				
Color	Black, Red or Green	Black	Copper	Transparent
Temperature	300°F [150°C]	300°F [150°C]	300°F [150°C]	350°F [177°C]
Pressure	4200 psi [290 bar]	4200 psi [290 bar]	4200 psi [290 bar]	2100 psi [145 bar]

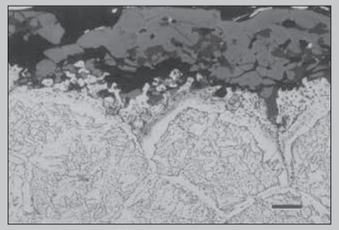
Comparison of Six Edge Retention Compression Mounting Compounds



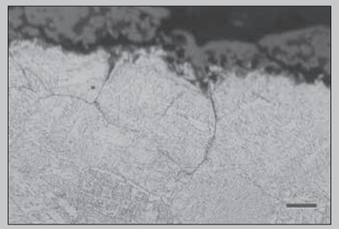
PhenoCure phenolic resin



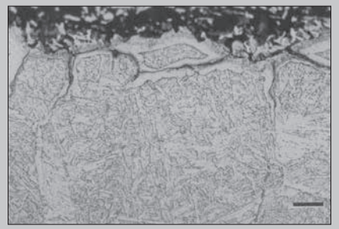
EpoMet thermosetting epoxy resin



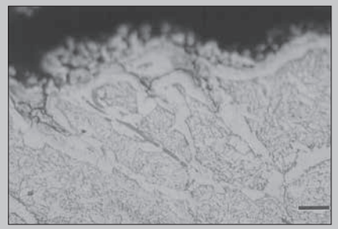
ProbeMet Cu-filled conductive resin



KonductoMet C-filled conductive resin



EpoxiCure cast epoxy resin with Conductive Filler particles



SamplKwick cast acrylic resin with Conductive Filler particles

Micrographs showing the as-forged surface of a hardened modified 5130 alloy steel part mounted using a variety of resins showing different degrees of edge retention. The specimens were polished simultaneously in the same holder and were etched with 2% nital. The magnification bars are 20 µm long. Best results were obtained with EpoMet, ProbeMet and EpoxiCure resin with the Conductive Filler particles.

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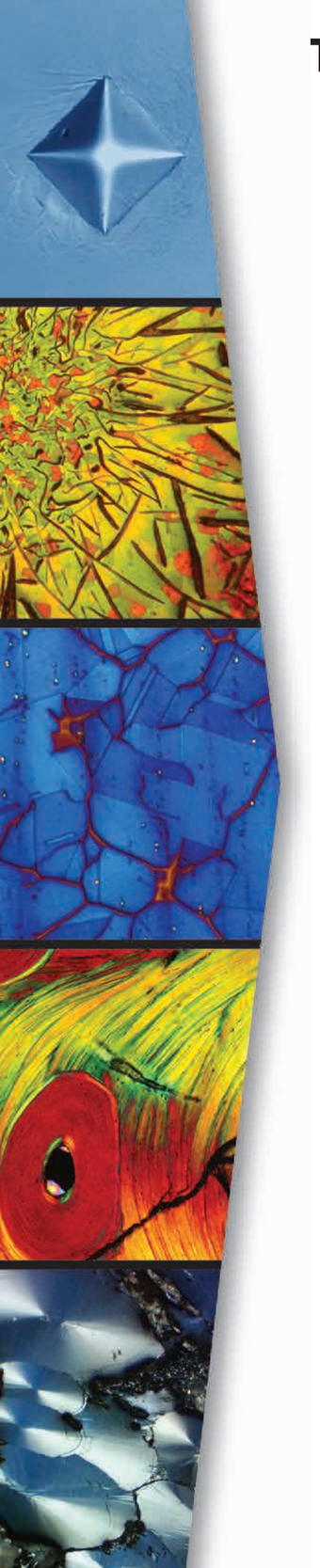
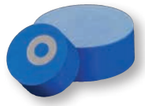


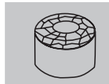
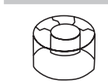
Technical Information Guide: Compression Mounting Compounds

COMPRESSION MOUNTING COMPOUNDS: COMPRESSION GUIDE

Thermosetting Phenolics		Thermosetting Epoxy			Thermosetting Diallyl Phtalate	Thermoplastic Acrylic
PhenoCure™ (Black, Red, Green)	**KonductoMet™**	**EpoMet™ (F = Fine, G = Granular)**	**EpoVit™**	**ProbeMet™**	**Diallyl Phtalate (Mineral and Glass)**	**TransOptic™**
						
For general use, most economical	Carbon filled	Best Edge Retention	Best Edge Retention	Copper filled	Chemical Resistance	Transparent
Fast cycle time	High Conductivity	Chemically resistant	Chemically resistant	High Conductivity	Good Edge Retention	Longer cycle time
Highest shrinkage	Eliminates interferance from Cu in compositional analysis	Lowest Shrinkage	Lowest Shrinkage	Lowest Shrinkage	Moderate Shrinkage	Lower Pressure
Lower Hardness (88 Shore D)	Lower Hardness (88 Shore D)	Highest Hardness (95 Shore D)	Highest Hardness (94 Shore D)	Highest Hardness (94 Shore D)	Highest Hardness (91 Shore D)	Highest Hardness (80 Shore D)
Black/Red/Green	Black	Black	Black	Copper	Blue	Transparent

COMPRESSION MOUNTING COMPOUNDS- TROUBLESHOOT GUIDE

Thermosetting Resins (Epoxies, Diallyl Phthalates and Phenolics)

	Defect	Probable Cause	Suggested Remedy
	Radial splits or cracks	Specimen cross sectional area too large; specimen with sharp corners	Use a larger mold size; decrease the specimen size; bevel sharp corners, if possible
	Shrinkage gaps	Specimen surfaces dirty; specimen cooled quickly after polymerization; wrong resin used	Clean and dry specimens carefully; after polymerization, cool under pressure to near ambient; use EpoMet G or EpoMet F
	Circumferential cracks	Resin contained moisture	Keeps resins dry during storage; keep containers closed when not using; dry resin by baking at 100-120°F [38-49°C]
	Bulging or soft mount	Inadequate curing (polymerization) time	Increase polymerization time and pressure
	Mount appears grainy and unfused	Time at temperature too short; temperature for polymerization too low; molding pressure too low	Increase polymerization time, temperature and pressure
Thermosetting Resins (Acrylics)			
	Cottonball	Incomplete polymerization of resin; not enough time at temperature	Use less resin; use longer heating and cooling periods; use controlled linear cooling
	Crazing	Relief of internal streses upon ejection of mount	Cool mount to a lower temperature before ejection; use controlled linear cooling

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