

UNIMETAL

TechnicalData: DIFFCOR/CR/06-18

Product Description UNIMETAL is a two component, solvent-free, cold-curing, high performance synthetic metal compound for all mechanical repairs. It has an outstanding adhesion to all metals, ferrous and nonferrous alloys as well as to glass, fiberglass and composites. It can be completely machinable after curing.

Application:

- Refurbishment or rebuild of worn or damage shaft.
- Repair of Cracked engine blocks, gear box, pump casings.
- Restoring tolerances to worn shafts, repairing worn keyways, repairing damaged housings, filling pitted surfaces in worn machinery, and restoring fit to bearing housings.

Unimetal is a nano silicon carbide filled epoxy resin system. It is extremely resistant to abrasion under typical dry service. It is ideal for restoring parts worn by mechanical and/or corrosion impact. Temperature range 20 °C to 150 °C.

Technology	Epoxy
Chemical Type	Epoxy
Appearance(Base)	Black
Appearance(Activator)	White
Appearance(Mixed)	grey
Components	Two component-requires mixing
Mix Ratio, by volume Resin: Hardener	3:1
Mix Ratio, by weight Resin: Hardener	3.5:1
Cure	Room temperature cure
Application	Abrasion resistance

TYPICAL PROPERTIES OF UNCURED MATERIAL

Base:

Viscosity: Paste
Weight per liter: 2.45 kg/liter

Hardener:

Viscosity: Paste
Weight per liter: 1.55 kg/liter

Mixed:

Viscosity: putty/Paste
Coverage: 0.37 m² @ 1mm thick/1kg

TYPICAL CURING PERFORMANCE

Curing Properties

Gel Time @ ambient temp: minutes 20 to 30

Curing time vs. Temperature

Ambient temp	20°C	25°C	30°C
Pot life	30-40min	25-30min	20-25min
Full cure	15hrs	10hrs	06 hrs.

Typical cured properties of material

Compressive strength (ASTM D642): 15000-15500 Psi
Flexural strength (ASTM 790): 8500-9000 Psi
Hardness shore D (ASTM D2240): 85-88
Tensile strength (ASTM D882): 5500-6000 Psi
Adhesion strength (ASTM D1002): 7500-8000 Psi
On grit blasted MS surface

Surface preparation: Surface to be coated should be cleaned with wire brush. Base component and Activator component must be mixed together immediately prior to use. Mix properly until it completely homogeneous. The mixed material must be used within 20 min of mixing at 30°C

Application Procedure:

Unimetal can be applied by applicator, Best application results are obtained with a good surface preparation. Once the material has cured for a minimum period of 3-4 hours at 30°C sanding, grinding and machining etc. can be carried out.