Product Datasheet

EpoPro® DR 23-25 Gel Mod 1 A/B

TOUGH, SEMI-RIGID EPOXY COATINGS & SEALING SYSTEMS

EpoPro® DR 23-25 Gel Mod1 is a 100% coating, potting, and sealing materials. It has a pourable viscosity with a gel like consistency to provide controlled flow and a higher build in coating and sealing applications. The system is formulated to be easy to use with a 1:1 by volume mix ratio and resistance to crystallization and blushing issues that other epoxy system experience. It also provides a unique combination of a long work-life at room temperature combined with rapid curing at elevated temperatures.

The cured system provides excellent adhesion to metals, glass, ceramic, concrete, and rigid plastics, and superior mechanical and electrical properties. It is also impact, moisture, and chemical resistance.

SUGGESTED APPLICATIONS:

- Industrial coating & sealer for indoor applications
- Sealing & potting material for electronic & electrical applications.

HANDLING PROPERTIES	VALUE	TEST METHOD
EpoPro® DR 23-25 Gel Mod 1 part A (resin)		
Visual Appearance	Tan to light brown liquid	Visual
Density	1.193 g/cm³	ASTM E-201
Viscosity at 25ºC	9,000 cps	ASTM D-2393
EpoPro® DR 23-25 Gel Mod 1 part B (hardener)		
Visual Appearance	Black liquid	Visual
Density	1.12 g/cm³	ASTM E-201
Viscosity at 25ºC	10,000 cps	ASTM D-2393
Mix Ratio by weight (pbw) and by volume (pbv)	100A:90B pbw	1A:1B pbv
Viscosity Mixed at 25ºC	5000 – 12000 cps	ASTM D-2393
Mixed System Solids Content	99%-100%	
Pot life, 100 grams in can at 21ºC / 70ºF	90 - 110 minutes	
Gel Time, 50 grams at 50ºC / 122ºF	20 – 30 minutes	
Gel Time, 1/8” thick film at 21ºC / 70ºF	120 – 150 minutes	
Gel Time, 1/8” thick film at 50ºC / 122ºF	20 – 28 minutes	
Gel Time, 10 mil thick film at 21ºC / 70ºF	4 – 5 hours	

Curing Options: This system can be cured at room temperature or with heat. Minimum cure time at room temperature (21-25ºC) is 20 -24 hours in a 3-10 mil thick film or as little as 12-16 hours in a 50 grams or larger mass. However, final properties may take as long as 3-4 days at room temperature to fully develop. Heat curing options include 3 hours at 50ºC or 2 hours at 65ºC.

To minimize shrinkage and stress on embedded components allow the epoxy to fully gel (about 4- 8 hours) at room temperature prior to heat curing. Allowing such a room temperature gel prior to heat curing can reduce curing shrinkage significantly.

PHYSICAL PROPERTIES (Tested at 25ºC unless otherwise noted – cured 3 hours at 75ºC)		TEST METHOD
Shore D Hardness at 25°C	80 ± 5	ASTM D-2240
Shore D Hardness at 50ºC / 122ºF	20 ± 5	ASTM D-2240
Tensile Strength	12,400 psi	ASTM D-638
Tensile Elongation	6.5%	ASTM D-638
Compressive Strength	16,200 psi	ASTM D-695
Ultimate Flexural Strength	12,400 psi	ASTM D-790
Flexural Modulus	420,000 psi	ASTM D-790
Izod Impact, notched	0.46 ft-lbs./inch	ASTM D-256
Heat Deflection Temperature	76.7ºC / 170ºF	ASTM D-648
Coefficient of Thermal Expansion	55 ppm / ºC	ASTM D-3386
Weight Loss at 150ºC / 300ºF	0.11%	
Moisture Absorption (24 hrs. RT)	0.15%	
Thermal Conductivity	0.19 W/mK	
Volume Resistivity (ohm-cm) at 25ºC	2.7×10^{14}	ASTM D-257
Volume Resistivity (ohm-cm) at 93.3ºC / 200ºF	7.8×10^{11}	ASTM D-257
Dielectric Constant at 25ºC & 1 MHz	3.83	ASTM D-150
Dissipation Factor at 25ºC & 1 MHz	0.010	ASTM D-150

NOTE: Values are based on laboratory or average production results – not for specification purposes. All properties tested at 25ºC unless otherwise noted. Samples cured 3 hours at 65ºC)

PROCESSING AND APPLICATION INSTRUCTIONS:

Mixed part A & part B at the indicated mix ratio by weight or volume. If manually mixing, blend for at least 2 minutes using a spatula or other mixing tool to ensure complete mixing. The system is also suitable for meter mixing and automated dispensing.

For potting and casting applications poured or dispensed into clean, dry components under ambient conditions. If desired, the system may be vacuum de-gassed and/or warmed to reduce its viscosity and help to eliminate any voids or air bubbles. Please note that heating will shorten the pot-life and gel time of the mixed material.

This product may be applied as a coating or sealant using a brush, roller, or squeegee. For coating applications, the fastest and most complete mixing may be achieve using a drill or Jiffy mixer. Once mixed, pour the coating in a serpentine pattern over the surface to be coated and then spread with a brush, roller, or squeegee.

PACKAGING AVIALABLE:

This product is available in 1-gallon and 5-gallon pails. Other package sizes are available by request. Please contact us if you have specific packaging requirements.

STORAGE GUIDELINES:

Store this system in a clean, cool, and dry environment in its tightly closed original containers. Both components are resistant to crystallization, but if exposed to low temperatures for long periods, crystallization can occur. If this happens, heat the entire container of the effected component for 4 hours at 60ºC to re-liquefy the material. Allow to cool to room temperature and then stir or use a paint shaker to ensure the material is uniform prior to use. Protect from extended exposure to moisture or high humidity by tightly re-sealing containers after use. If the recommended storage conditions are observed the products will have a minimum shelf-life of 12 months at 25ºC from the date of shipment.

HANDLING PRECAUTIONS:

Mandatory and recommended industrial hygiene procedures should be followed whenever these products are being handled and processed. For additional information please consult the corresponding material safety data sheets.

PERSONAL HYGIENE:

See SDSs for the latest safety information and handling precautions.

FIRST AID

In case of contact: **Skin** – Immediately wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Destroy contaminated shoes and other articles made of leather. **Eyes** – Immediately flush eyes with plenty of water for 15 minutes and get prompt medical attention. **Inhalation** - Remove effected personnel to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician. **Ingestion** - Do not induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person.

DISCLAIMER:

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Specialty Polymers & Services, Inc. (SP&S)
27822 Fremont Court **Tel: 661-294-1790**
Valencia, CA 91355 **Fax: 661-294-0640**
www.spolymers.com **info@spolymers.com**

Former Delta Plastics Company Product*

*Please note that this product was originally developed by Delta Plastics Company (also known as Epoxy Resin Innovators, Inc.). The Delta Plastics' products and intellectual property was acquired by SP&S in December 2019. The majority of the product data listed in this datasheet has been generated or verified by SP&S, but some test data is from historical Delta Plastics documentation and may not have been re-verified by SP&S.