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Technical Data Sheet:

Epoxy System PC107



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PC107 RESIN LIQUID EPOXY RESIN

DESCRIPTION

PC107 is a liquid type standard Epoxy Resin derived from Bisphenol-A. It has excellent adhesion, chemical resistance, heat resistance, etc. Due to its special properties, PC107 is generally used in many fields and is the most standard liquid resin for general use.

Application Areas/Suggested Uses

- Adhesives
- Flooring
- Electrical casting and encapsulation
- Grouting compounds
- High solids and solventless coatings

Resin Properties

Appearance	Visual	Clear, colorless to light yellow liquid
Color	ASTM D 1544-04	0.5 G max.
Epoxy Equivalent weight	ASTM D 1652-04	185 – 194 g/eq
Viscosity @25°C	ASTM D 2196-05	11,000 – 14,000 cP
Hydrolysable Chlorine	ASTM D 1726-03	0.05 % max.

Mixed Properties

Epoxide Value	ASTM D 1652-04	5.15 – 5.40
Density @25°C	ASTM D 1475-98	1.16 g/ml
Water content	ASTM E 203-01	0.05 % max.
ECH content	TEC-AS-P-023	10 ppm max.
Non-volatile content	ASTM D 1259-06	100 %
Flash point	ASTM D 93	> 150°C



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Performance Properties

Mechanical Properties

High performance, high strength materials are obtained when this resin is cured with a variety of curing agents. Unfilled systems in common use have tensile values greater than 10,000 psi (69 MPa) with modulus values greater than 400,000 psi (2750 MPa). Such systems are normally very rigid. If greater flexibility is needed systems can be formulated to provide up to 300% elongation.

Adhesive Properties

One of the most widely recognized properties of cured PC107 is strong adhesion to a broad range of substrates. Such systems exhibit shear strength of up to 6,000 psi (41 Mpa). One factor which contributes to this property is the low shrinkage shown by these systems during cure. Compared to other polymers, epoxy resins have low internal stresses resulting in strong and durable finished products.

Electrical Properties

PC107 cured systems have very good electrical insulating characteristics and dielectric properties. For example, systems can be obtained with anhydride and amine curing agents having volume resistivities up to 1×10^{16} ohm-cm, dielectric constants of 3-5 and dissipation factors of 0.002 to 0.020 at ambient conditions. Electrical encapsulations, laminates and molding compounds are frequently based on this resin.

Chemical Resistance

Cured resin is highly resistant to a broad range of chemicals, including caustic, acids, fuels and solvents. Chemically resistant reinforced structures and linings or coatings over metal can be formulated with PC107.

HANDLING PRECAUTIONS

Normal health and safety precautions should be observed when handling these products:

- ensure good ventilation*
- wear gloves, safety glasses and waterproof clothes.*

For further information, please consult the product safety data sheet.

STORAGE CONDITIONS

Shelf life of PC107 Resin is 24 months.