



Chemieresin Industries Pvt. Ltd.

Plot No. 901/A, Phase - 4, GIDC - Naroda, Ahmedabad - 382330

Technical Data Sheet

Product : CR 150 AC

Description :

CR 112 is a liquid, unmodified epoxy resin of medium viscosity which can be used with various hardeners for making fiber reinforced composites. Epoxy curing agent CR 712 is a low viscosity less sensitive to moisture acid anhydride. Both resin and hardener being in liquid form, they are very easy to mix. Gel time and viscosity rise with time can be controlled to suit the application process by variation in dosage of accelerator CR 150 AC. Cured system exhibits excellent mechanical and electrical and thermal properties along with good chemical resistance.

Applications :

High performance composite parts at elevated temperature

Processing :

Filament winding
Matched die-moulding
Pultrusion
Resin transfer moulding (RTM)

Typical specifications :

Properties	Unit	Values
Appearance	-	Clear liquid
Colour	GS	Max 2
Viscosity at 25°C	mPas	5 - 10
Density at 25°C	g/cm ³	0.88 - 0.92

Processing properties :

Properties	Unit	Test method	Values
Mixing ratio (by weight)	-	Visual	Resin:100 Hardener:95 Accelerator: 0.1 -2.0
Initial mix viscosity at 25°C	mPas	ASTM D2196	1,900 -2,100
Pot life at 25°C	Minutes	ASTM D2471	50 -55
Curing schedule	°C/hours	-	100°C /2hours +

120°C /2hours +
180°C /2hours

Gel time is taken with 1% CR 150 AC accelerator

To simplify the mixing process the resin can be preheated to about 30°C to 50°C before adding the cold hardener. Hardener and accelerator can be premixed thus allowing the use of two component mixing equipment. The processing of the system at elevated temperature of 30°C to 50°C shows the best results. The gelation temperature should not be very high. A higher gelation temperature induces high shrinkage and generates internal stresses. The premix is hygroscopic; precautions must be taken against moisture absorption.

Typical properties of neat cured system :

Curing schedule: 100°C /2hours +120°C /2hours +180°C /2hours Determined on standard test specimen at 25°C

Properties	Unit	Test method	Values
Tensile strength	MPa	ISO 527	45 -60
Elongation at break	%	ISO 527	1.5 -3.0
Elastic modulus in tension	GPa	ISO 527	2.7 -3.0
Flexural strength	MPa	ISO 178	100 -140
Flexural elongation at break	%	ISO 178	4 -7
Elastic modulus in flexural	GPa	ISO 178	2.9 -3.1
Glass transition temperature (DSC)°C		ISO 11357-2	165 -185
Water absorption 25°C/ 24hours	% w/w	ISO 62	Max 0.17

Packaging :

CR 150 AC is available in 25 kg Carboys. Other packing may be considered on request.

Storage and Handling :

Accelerator CR 150 AC have shelf-life of 2 years if stored in their original sealed containers. Resin may crystallise if stored below 15°C. Crystallisation may be reversed completely by heating the material between 60°C and 70°C. It is recommended to use resin and hardener only when they are clear and free from cloudiness. Hardener is sensitive to moisture. Container must be closed properly immediately after use. Both resin and hardener may cause irritation to sensitive skins. If contact does occur to such operators then the resin and hardener should be washed off immediately with soap and warm water, consult physician immediately. Please refer to the Safety Data Sheet (SDS) for detailed instructions on storage and handling.

Safety :

Wear personal protective equipment (PPE). Avoid contact with the eyes and skin. In case of direct contact and irritation, the resin should be washed off immediately with soap and warm water. Avoid breathing vapours, mist or gas. Please refer to the SDS for detailed safety instructions.

Spills and disposal :

In case of spills, sweep up and shovel the spilled material. Keep spilled material in suitable, closed containers for disposal. Soak up with an absorbent such as clay, sand or other suitable material. Flush area with water to remove trace residue. Do not allow the product to reach the sewage system. Waste must be disposed of in accordance with federal, state or local regulations, as applicable.