Aditya Birla Chemicals (Thailand) Ltd. (Epoxy Division)

EPOTEC YD 535 / TH 7354

Ambient Temperature Cure Epoxy Resin System

YD 535 100 Pbw
TH 7354 33 Pbw

Description

EPOTEC YD 535 is a low viscosity, modified bisphenol A based epoxy resin. This has very good wet out, and degassing properties and exhibit excellent adhesion to all types of reinforcements such as glass, polyester, carbon and Kevlar etc.
EPOTEC TH 7354 is cycloalipahatic amine hardener suitable to cure at room temperature. YD 535 with TH 7354 provides low viscosity, excellent wetting property and allows very short cure cycles above 45 °C, however, optimum strength can be achieved after post curing above 80 °C.

Processing

This system is suitable for wet lay-up, filament winding, RTM, resin infusion, pultrusion, casting, and encapsulation.

Application

This system is ideal for fabrication of cast and fiber reinforced molds and fixtures. This system is also suitable for high performance fiber reinforced components for sports, automobiles, marine, aeronautics and general chemical engineering applications.

Typical Properties

EPOTEC YD 535

Property	Test Method	Unit	Specification
Appearance	-	-	Clear liquid
Viscosity @ 25 °C	JIS K 7233 (86)	cPs	2,300 - 2,900
Color	ASTM D-1544 (89) TEC-AS-P-006	Gardner	2 Max.
Specific Gravity @ 25 °C	TEC-AS-P-004	-	1.1 - 1.2

EPOTEC TH 7354

Property	Test Method	Unit	Specification
Reactivity	-	-	Slow
Appearance	-	-	Clear, colorless
Viscosity @ 25 °C	JIS K 7233 (86)	cPs	80 - 150
Specific Gravity @ 25 °C	TEC-AS-P-004	-	0.95 - 1.05

Processing properties

Property	Unit	Specification
Resin : Hardener Ratio	Parts by weight	100 : 33
Pot Life @ 25 °C,100 gms.mix	Hours	8
Glass Transition Temperature, Tg	°C	130 - 145
Post Curing Condition to Achieve Optimum Strength @ 100 °C @ 120 °C @ 140 °C	Hour	 6 - 8 4 - 6 2 - 4

Typical performance

Property	Unit	Specification	
		Neat Casted Resin with Hardener	*Glass Fiber Reinforced Laminated Sheet
Tensile Modulus of Elasticity Resistance at Break Elongation at Break	 MPa MPa %	 3,300 75 5	 22,500 350 2.5
Flexural Modulus of Elasticity Maximum Resistance	 MPa MPa	 3,300 130	 26,000 500
Compression Maximum Flat Wise Compression	 MPa	 130	 380
Impact Impact Strength Charpy	 KJ/m^2	 45	 220
Water Absorption, 24 hrs 25 °C	%	0.38	0.15

* Laminated sheet of 4 mm thickness with E glass fabric and cured for 24 hours at ambient temperature followed by post curing at 120 °C for 6 hours.

Storage and Handling

EPOTEC YD 535 and TH 7354 can be stored up to 1 year in sealed original container. Storage condition below 15 °C may cause crystallization of the resin as well as hardener. Crystallization may be reversed completely by heating the material to 50 - 60 °C. It is advised to use resin and hardener only when they are clear and free from cloudiness.

It is also advised to follow standard procedures for handling chemicals. Contact with skin and eye may cause irritation and prolong, repetitive contact with skin may cause dermatitis.

For Additional Information:
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