



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

EPOTEC YD 1535G / TH 7254G

EPOTEC Epoxy Adhesive System

YD 1535G 100 Pbw

TH 7254G 45 Pbw

Description

EPOTEC YD 1535G/TH 7254G is a two component thixotropic epoxy adhesive system containing glass fiber reinforcement. The system is suitable to provide working time of more than 20 minutes at 25 °C with low exothermic heat of reaction even when used in thick sections of large components. The adhesive system is also capable to maintain thixotropy at higher working temperature up to 45 °C, and is suitable to fill wide gaps, up to 20mm, without sagging, slumping and cracking. The joints cured at room temperature provide excellent handling strength, the optimum properties, however, will only be reached after post curing at temperature of more than 60°C. Fully cured components prepared by this system are recommended to operate between -60 to +80 °C temperature.

Application

This system is suitable for bonding and repairing components made of: FRP, wood, mineral and metal.

Typical Properties of Components

Property	Unit	Resin YD 1535 G	Hardener TH 7254G
Color	-	Light yellow	Light blue
Color of mix	-	Green	
Viscosity @25 °C	-	500-800	500-1000
Density @25 °C	g/cm ³	1.40 - 1.50	1.20 - 1.25
Cured density	g/cm ³	1.30 - 1.40	

Viscosity is measured at 25 deg.C by Anton paar, MCR 301 Rheometer@2.5sec-1

Typical Properties in the Processing State

Properties	Unit	Value
Hardener required for 100 gms of resin	By weight	45
	By volume	50
Pot life 100 gms.mix @ 20 °C @ 25 °C	min.	40
	min.	30
Setting time (10mm thickness) @ 25 °C @ 40 °C @ 60 °C	hrs.	4-6
	hrs	2-3
	hrs	1-1.5
Glass transition temp. 25 °C/ 7 days 24 hrs/25°C+7hrs/80°C	°C	55 ± 2
	°C	85-90

Typical Properties of Cured System

Property	Unit	Method	Value
Tensile lap shear strength after 24hrs at 25°C. (green strength) a. GRE / GRE (Cohesive failure) b. Steel / steel	MPa	ISO 4587	10-15 15-20
Tensile lap shear strength After full curing at, 70°C/7hrs a. GRE / GRE (Cohesive failure) b. Aluminum / aluminum c. Steel / steel	MPa	ISO 4587	12 - 20 20 - 25 25 - 30
Tensile lap shear strength (full cure) after 1000hrs in demineralized water a. GRE / GRE b. Steel / steel	MPa	ISO 4587	12-20 20-30
Tensile lap shear strength, (full cure) after 1000hrs at 80 °C a. GRE / GRE b. Steel / steel	MPa	ISO 4587	13-15 25-30
Heat Distortion Temperature (HDT)	°C	ISO / R 75	80-85
Sag resistance at 45 °C (40wX20h triangular bead)	mm	ABC-ADC-002	No slump No slide

General Information**Surface preparation**

The surface must be clean and free of dirt, grease and other foreign matter and prepared by cleaning with suitable solvent, sand blasting, mechanical abrasion, or acid etching. Remove water and dust from all surfaces with an oil free blast immediately prior to application.

Mixing

To obtain good results, thorough mixing of the ingredients is essential. Yellow color of resin and blue color of hardener turns in to green when homogeneous mixing takes place. Usually the resin and hardener are mixed in small lots as and when it is required. Manual mixing is possible, but electric dosing static mixer is more appropriate for homogeneous blending of resin and hardener.

Application

To ensure good adhesion to the substrates, it is recommended to apply rich layer of homogeneous blend uniformly on the surface and fill all the dents and pinholes. Adequate curing normally takes place with in 24 hours, although full cure require post curing at temperature more than 40 °C.

Cleaning and maintenance of equipments

Tool and equipments are best cleaned immediately after use since removal of cured resin is difficult and time consuming. It is recommended that the bulk of the resin be removed using a scraper and the remainder washed away using solvents such as toluene, xylene, or acetone.

Storage and Handling

EPOTEC resin YD 1535G and hardeners TH 7254G 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 follow standard procedures for handling chemicals. For details please refer material safety data sheet (MSDS).

Disclaimer

All recommendations for use of our products whether given by us in writing, verbally or to be implied from the results of tests carried out by us are based on the current state of our knowledge. Although, the information contained in this sheet is accurate, no liability can be accepted in respect of such information. We warrant only that our product will meet the designated specifications and make no other warranty either express or implied, including any warranty of merchantability or fitness for a particular purpose as the conditions of application are beyond our control.

For Additional Information

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