CRYSTIC® 349E PA

Class 0 HET Acid Based Fire Retardant Resin

Introduction
Crystic® 349E PA is a filled, halogenated (HET based), pre-accelerated, fire retardant laminating resin, designed for both hand lay up and spray lay up applications. Crystic® 349E PA has higher viscosity as compared to a standard Isophthalic laminating resin due to the presence of fire retardant fillers. This resin also has handling characteristics that are suitable for use in tropical climates.

Approvals
Crystic® 349E PA when used in combination with Crystic® Gelcoat 76PA can achieve the following fire ratings:

- ASTM E84 – Class A
- BS 476 part 6 & 7 – Class 0 / 1

Product Characteristics

Formulation
Crystic® 349E PA should be allowed to attain workshop temperature (18°C - 20°C) before use. It requires only the addition of a catalyst to start the curing reaction. The recommended catalyst is MEKP (50%), which should be added at 1% - 2% into the resin. The catalyst should be thoroughly incorporated into the resin, using a low shear mechanical stirrer where possible.

Due to the high specific gravity of Crystic® 349E PA, a resin to glass ratio of roughly 2.8 : 1 is recommended.

N.B Catalyst and accelerator must not be mixed directly together since they can react with explosive violence.

Additives
Crystic® 349E PA contains wetting and dispersing additives to minimise the settlement of the fire retardant fillers. However, mild settling may occur after prolonged storage, so it is always recommended to stir before use to ensure uniform filler distribution.

The addition of pigments, fillers or extra styrene may adversely affect the curing properties or the fire retardance of the laminates so, for critical applications, customers should satisfy themselves that any additions made will give the performance required.

Typical Properties
The following table gives typical properties of Crystic (Product Name) when tested in accordance with BS 2782.

Typical Liquid Resin Properties		**Crystic® 349E PA**
Appearance		Thixotropic
Viscosity (Brookefield) @ 25ºC, sp 3 at 12rpm	poise	5000
Viscosity (C&P) @ 25ºC, 0-5P	poise	6
Volatile Content	%	22.5
Specific Gravity	-	1.46
Geltime at 25°C using 2% Butanox M50	Minutes	30
Geltime at 25°C using 1% Butanox M50	Minutes	70
Stability from date of manufacture when stored in accordance with storage recommendations	Months	6

Typical Cast Resin Properties		Crystic® 349E PA
Barcol Hardness	-	50
Deflection Temperature under load † (1.80 MPa)	ºC	95
Tensile Modulus	GPa	6.5
Tensile Strength	MPa	45
Tensile Elongation at break	%	1

† Curing schedule 24hours @ 20ºC then 3 hours at 80ºC

Post Curing
Satisfactory laminates for many applications can be made from Crystic® 349E PA by curing at workshop temperature (25°C). For optimum mechanical and fire retardant properties, laminates should be post cured before being put into service. The laminate should be allowed to cure for 24 hours at 25°C, and then be oven cured for either 3 hours at 80°C, or 16 hours at 40°C.

Storage
Crystic® 349E PA should be stored between 5°C and 25°C in the original, unopened container in a dry, well-ventilated place. Protect from freezing and direct sunlight. Avoid contact with oxidising agents. If stored outside of these recommendations, shelf life will be significantly reduced.

Packaging
Crystic® 349E PA is supplied in 25kg and 250kg containers.

Health and Safety
Please see separate Material Safety Data Sheets

Version: Crystic_349E PA_resin_EN_Jan22
Group tech class: C30095

SCOTT BADER MIDDLE EAST
Dubai, United Arab Emirates, PO Box 16785
Telephone: +971 (0) 481 50222
www.scottbader.com