SCOTT BADER

COMPOUNDS & STRUCTURAL RESINS

CRYSTIC VE 677 PA

Epoxy Bisphenol Vinyl Ester Resin

Introduction

CRYSTIC VE 677 PA is a vinyl ester resin based on epoxy bisphenol A. It is thixotropic and pre accelerated.
CRYSTIC VE 677 PA has excellent chemical resistance to a wide range of substances (acids, alkalies and oxidising agents). **Crystic VE 677 PA** utilises isophthalic UP resin as an additive in order to achieve favourable handling performance characteristics.

Application

CRYSTIC VE 677 PA is suitable for the production of fibre reinforced composites by many conventional techniques (contact moulding, spray up, filament winding).

Approval

CRYSTIC VE 677 PA is approved by Lloyd's Register of Shipping for use in the construction of craft under their survey.

Typical Properties

Liquid resin:

Viscosity at 25°C Brookfield RVT, sp2 – 20 rpm	mPas	650 – 1000
Thix Index, sp2, 2/20rpm		2,5 – 3,5
Specific gravity		1,1
Acid value	mg KOH/g	Max 10
Volatile content	%	43 – 48
Aspect		Violet, thixo
Stability under recommended storage conditions	months	4
Geltime at 25°C, 100 parts of resin + 1.5 ml of catalyst M	min	25 – 35
Reactivity, 25°C - Tmax	min	35 – 50
Exotherm peak	°C	155 - 185

Cured Resin:*

Barcol Hardness (Model GYZJ 934-1)		42
Water absorption (7 days at 23°C)	mg	38
Heat deformation temperature (1.80 MPa) †	°C	100
Specific gravity		1,2
Tensile strength	MPa	80
Tensile modulus	GPa	3,4
Elongation at break	%	5
Flexural strength	MPa	150
Flexural modulus	GPa	3,8

1MPa = $1MN/m^2$ = $1N/mm^2$ = 10,2 kgf/cm^2

* Curing Schedule - 24 hrs at 20°C, 3 hrs at 80°C

† Curing Schedule - 24 hrs at 20°C, 5 hrs at 80°C, 3 hrs at 120C

Trial before use
It is recommended to try the product on a small scale before the resin is used for long run production.

Post Curing
Satisfactory laminates for many applications can be made from **Crystic VE 677 PA** by curing at ambient temperature (20°C) .For optimum properties and long term performance laminates should be post cured before being put into service. The laminate should be allowed to cure for 24 hours at 20°C and then be oven cured for a minimum of 3 hours at 80°C; the time will be dependent upon the thickness of the laminate. Post curing at 100°C is advisable for high operating temperatures.

Storage
Crystic VE 677 PA should be stored under cover in the dark in the container in which it is supplied. Storage temperatures should be around 20°C to 25 °C, and should never exceed 28°C. Storing the resin at above 28°C will modify the properties and will reduce the shelf life of the product.

Packaging
Crystic VE 677 PA is supplied in 200 kg drums, 1000 kg containers or in bulk by road tanker.

Health and safety
Please refer to the specific MSDS of the product

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