espol™ 17.00

Technical Data Sheet

Introduction

espol™ 17.00 is a non-accelerated orthophthalic polyester resin which rapidly wets out reinforcements. It has been specifically formulated for Rooflite applications & brings in excellent light transmittance and weather resistance.

Applications

espol™ 17.00 is designed for hand lamination, spray up & continuous lamination processes. It can be used with all types of E-glass such as chopped strand mat, woven roving and multi axial fibres. It brings in excellent mechanical strength & rigidity along with long term durability. It finds end use in products like Greenhouses/ Translucent roofing/ Domes/ Architectural panelling,

Formulation

espol™ 17.00 should be allowed to attain workshop temperature (25°C - 30°C) before use. Stir well by hand, or with a low shear mixer to avoid aeration, and then allow to stand to regain thixotropy. espol™ 17.00 requires the addition of accelerator and catalyst to start the curing reaction.

The recommended accelerator is Cobalt (1% solution in styrene) which should be added to the resin at 1 - 2% and thoroughly incorporated into the resin, using a low shear mechanical stirrer where possible.

The recommended catalyst is MEKP (50%) which should be added to the resin at 1 - 2% and thoroughly incorporated into the resin, using a low shear mechanical stirrer where possible.

(Please consult our Technical Support Department if other catalysts are to be used).

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

Physical data - uncured

The following tables give typical properties of espol™ 17.00 when tested to IS 6746-1994 (Reaffirmed 2005).

Property	Unit	Value
Appearance	-	Clear colourless liquid
Specific gravity	-	1.06 - 1.10
Viscosity at 25ºC*	cP	200 - 300
Acid Value	mg-KOH/gm	22 - 28
Volatile Content	%	35 - 41
Geltime at 25ºC**	Minutes	9 - 15
Peak Exotherm Temp**	ºC	170 - 190
Stability from date of manufacture when stored in accordance with storage recommendations.	months	3

*Viscosity measured using Brookfield (RVT Model) Viscosity SPL 1 / SPD 10
**100g resin + 1 ml Cobalt 2% + 1.5ml MEKP (50%) Catalyst.

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Physical data - cured

Property	Unit	Fully cured*
Barcol hardness		40
Deflection temperature under load* (1.80MPa)	ºC	70
Tensile strength*	MPa	50 - 60
Tensile modulus*	MPa	3000 - 3100
Elongation at break*	%	2 - 3
Flexural strength*	MPa	80 - 90
Flexural modulus*	MPa	3000 - 3200

*Curing Schedule - 24 hours at 20°C, 6 hours at 80°C.

Post Curing

Satisfactory laminates for many applications can be made from espol™ 17.00 by curing at workshop temperature (25°C). For optimum properties, however, 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 a minimum of 6 hours 80°C.

Storage

espol™ 17.00 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

espol™ 17.00 is available in 35kg, 220kg and bulk containers.

Health and Safety

Please see separate Material Safety Data Sheet.