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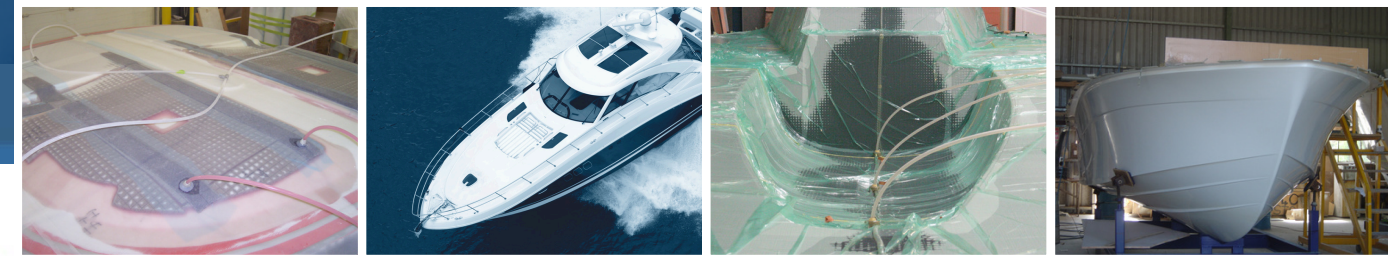
PRODUCT GUIDE

ES300 Epoxy Infusion Resin



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Designed for the infusion moulding manufacturing of marine and structural parts

ES300 Infusion Series is an ultra low viscosity Epoxy Resin system. This system achieves high mechanical properties, as it does not contain unreactive diluents or plasticizers. The low viscosity and surface tension enables both fast and safe wet out of composite laminates.

Mixing and Handling

To obtain best flow rates, the epoxy mix should be infused between 45°C and 50°C, depending on the size of the composite part.

	Standard	Slow	Test Method
Mixed Viscosity (cP) @ 20°C	200-300	100-200	HTM-002-92
Geltime (mins) for 100g mass	20-30	60*70	HTM-001-03
Mixing Ratio w/w (Resin:Hardner)	4:1	4:1	

Only use digital scales to weigh resin and hardener components before mixing

Typical Physical Properties

The following data is based on a 16 hour post cure time @ 50°C.

Test	Result	Test Method
FLEXURAL Modulus Strength Break Point (80mm span)	7,600 MPa 170 MPa 3.4m	ASTM D790-90
TENSILE Strength Elongation at Break	35 MPa 3.5%	ASTM D790-90
COMPRESSION Elastic Modulus Compressive Stress Yield % Offset Yield	1400 MPa 100 MPa 7.6 90 MPa	ASTM D695-91
Heat Deflection Temperature 1820 KPa 16 hrs @ 50°C 5 hrs @ 80°C	72°C 91°C	ASTM D648
Linear Shrinkage	1.02%	

Working Conditions

The ideal shop environment is between 15°C & 30°C. At these temperatures pot life and the resultant cured material will exhibit good physical properties. Colder conditions may prevent good resin flow and wetout, and impair resin cure. Higher temperatures will shorten the gel and cure times.

Storage

Store the components at 15-20°C, in a dry and covered area. Under these conditions the product will have a shelf life of at least 12 months. After this date, the product may be processed only following re validation. Partly empty containers should be closed tightly immediately after use, and stored away from sources of heat and ignition.

For more information on waste disposal and hazardous products please refer to the MATERIAL SAFETY DATA SHEETS (MSDS) for the particular products.

Clean Up

Any spillages should be cleaned up as they occur. Use dry sand or sawdust to soak up the bulk of the spill and dispose of in waste drums. Clean up small spillages before they set with toluene or warm water and detergent.

Handling Precautions

These products have been formulated with the objective of being as safe as possible, however in common with most epoxy resins and hardeners, consistent skin contact with uncured materials may cause irritation of sensitive skins. For this reason contact with the uncured materials should be avoided at all times.

Recommended working procedures are as follows.

Before commencing work: make sure that there is a good supply of:

- Clean overalls, rubber gloves, thin cotton inner gloves and face shields
- Barrier cream
- Waterless hand cream
- Water
- Apply barrier cream to exposed skin

During work:

- If material comes in contact with skin, wipe off immediately with paper towel or rags, and wash with water (use water less hand cleaner if necessary).
- DO NOT use solvents to wash skin.
- If overalls or inside of gloves become contaminated, remove immediately and replace with clean overalls and gloves.
- Reapply barrier cream after washing
- If the material is used in fully confined spaces, a means of removing fumes should also be provided as well as it is recommended to wear a respirator.

Note: all mandatory and recommended industrial hygiene procedures should be followed.

For more information on handling precautions, please refer to the MATERIAL SAFETY DATA SHEETS (MSDS) for the particular products.

First Aid

If material enters eyes, flood with water for at least 15 minutes, and then consult a doctor.

If skin rashes or allergic responses (such as wheezing or swelling) occur, consult a doctor.

If swallowed, DO NOT induce vomiting. Drink copious amounts of water and contact a doctor or the Poisons Information Center. The information given in this publication is based on the present state of our knowledge. Buyers and users must make their own assessment of our product under their own conditions for their own requirements.

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