



Glass Fibre Reinforced Plastic



GRP – Glass Fibre Reinforced Plastic

- Vapour barrier for cold insulation systems
- UV light curing
- Mechanically strong
- Excellent weathering performance
- Outstanding resistance to chemical environments
- Compatible with all insulation materials



Technical Advantages

Our Glass Fibre Reinforced Plastic (GRP), comes in an easy to use system on rolls, 600mm wide (24") x 10m long, 1-2mm thick. No mixing is required and after curing with UV light the GRP provides a strong, weather-resistant and waterproof lining.

The GRP system has excellent mechanical properties, fire retardancy, vapour barrier, weathering and UV performance (assured for minimum of 10 years). Compatible with all types of insulation material different systems can be designed for hot or cold insulation protection. GRP bonds to itself and to commonly used cold insulation systems like PIR/Foil, cellular glass and elastomers. By protecting the vapour barrier and insulation system from water and mechanical damage GRP provides a long-term solution for optimising plant operations.

GRP Construction

Carrier films on either side of the reinforced resin layer provide clean handling and protection and are removed after application. The exposed film is often left on to slow down the hardening process and/ or to optimize the surface finish. A veil of 'C'-glass gives the GRP laminate exceptional long-term weathering performance and added chemical resistance. The glass mat provides flexural strength and toughness.

GRP, the preferred resin system for insulation protection, provides good UV and weathering performance combined with fire-retardancy (type FR).

E-glass chopped strand mat is randomly orientated in between the resin-layers to give the same degree of flexural strength and toughness regardless of the direction in which the product is applied. Glass content is \pm 20-22% of total laminate weight.

Preformed PIR shells are covered with foil in the factory or at site. Adhesive faced foil tapes are applied over horizontal and circumferential joints. GRP is applied as a 'cigarette' wrap on straight sections and as strips on bends. GRP adheres to itself and foil without adhesives and is delivered in standard roll sizes of 60cm wide x 10m long.

GRP ISO

Product Description: an isophthalic polyester laminate reinforced with glass fibre. The product cures with UV light in the wave length 365-420 nm. Isophthalic polyesters have outstanding resistance to chemical environments and especially acids. This product has been used extensively for tank linings and structural parts.

GRP FR

Product Description: Based on a Polyester resin reinforced with chopped strand glass fibre. The product cures with UV light in the wavelength 365-420nm. GRP FR provides resistance to fire and to chemicals. GRP FR 1.5mm has attained Class 1 rating to BS 476 Part 7. Test carried out by Warrington Fire Research.

GRP VECR

Product Description: Based on an Epoxy Novolac Vinyl Ester resin reinforced with E-Glass mat, protected by a "C" glass or a polyester veil. The product cures with UV light in the wavelength 365-420nm. GRP VECR provides excellent chemical and temperature resistance.

Recommended Use: Lining bunds, tanks and gutters made from concrete, wood or steel against a wide range of acids, alkalis and solvents.

Product specifications	GRP ISO	GRP FR	GRP VECR
Flexural strength (ASTM D 790)	184,3	84,1	161,9
Flexural modulus (ASTM D2344)	6,41 GPa	1,2 GPa	6,07 GPa
Interlaminar strength	18,95 MPA	16,1 MPA	16,29 MPA
Tensile strength (ASTM D3039M)	85,74 MPa	67,4 MPa	72,42 MPa
Tensile modulus (ASTM D3039M)	8,69 GPa	9,2 GPa	7,87 GPa
Water absorption	0,36%	0,15%	0,56%
Rockwell hardness	92	87	90
Heat deflection temp.	105 °C	97 °C	170 °C