

the following standards.

- a. BS EN 14020-1, BS EN 14020-2 and BS EN 14020-3 for roving.
 - b. BS 3396 for woven fabric.
 - c. BS EN 14118-1, BS EN 14118-2 and BS EN 14118-3 for chopped strand mat.
5. All glass shall be corrosion resistant glass, unless otherwise approved by the Engineer.
 6. Roving size shall not exceed 2400 Tex.
 7. Chopped strand mat shall not exceed 450g/m².
 8. Sand aggregate used for non-slip surfaces on benching shall be clean graded silica sand, nominal size 2mm.

10.2.5.2 Preformed GRP lining.

1. All linings shall be designed to protect the concrete for a period of at least 60 years. They shall be keyed and bonded into the concrete at the time of concrete casting. They shall be designed to withstand a backpressure of 2 bars without deflection.
2. Lining shall be composed of a minimum 1.5 mm thick inner layer (layer in contact with liquid) and a minimum 5.5 mm structural layer as follows:
 - a. The inner layer shall comprise one layer of glass surface veil 30g/m² and two layers of chopped strand mat 300 g/m², "Advantex" powder bound corrosion resistance or equivalent approved, impregnated with vinylester resin of approved type. Resin to glass ratio shall be 70% to 30% by weight with a tolerance of $\pm 5\%$. Fillers and aggregates shall not be used.
 - b. The structural layer shall comprise six layers of chopped strand mat 450 g/m², "Advantex" powder bound corrosion resistance or equivalent approved, impregnated with isophthalic resin of approved type and 0.5 mm flow coat on the external surface with vinylester resin of approved type. Resin to glass ratio shall be 70% to 30% by weight with a tolerance of $\pm 5\%$. Fillers and aggregates shall not be used.
 - c. Overall properties of the lining shall be as given in Table 10-4 below.

Table 10-4:- GRP Lining Properties

Property	Test Method	Value
Axial tensile strength	ISO 527-2	100 N/mm ²
Water absorption maximum	ASTM D570	0.15% not short term boiling method
Barcol hardness	ASTM D2583	Min 35 prior to dispatch