

- Liner layer
 - i. The inner liner layer shall comprise minimum 1.5 mm thick pure Vinyl ester Resin without Glass reinforcement and sand aggregates.
 - ii. The pure resin used in this inner liner layer must conform to requirements given in BS/DIN EN 14364 and to stipulation of section “a” as above.
 - iii. Resins shall be cured to achieve 90% of the manufacturer’s recommended Barcol hardness value.
 - Structural layer
 - i. The structural layer shall consist of glass reinforcement and a thermosetting isophthalic polyester resin with sand aggregates.
 - ii. Aggregates can be used as per the manufacturing techniques applied, however ensure no aggregate becomes embedded in the internal resin rich liner.
 - Outer layer
 - i. This layer shall be formed of mortar in vinyl ester resin with sand aggregates and without reinforcement of glass or synthetic filaments.
 - ii. The resin used in the outer layer will be Vinyl ester and in accordance to BS/DIN EN 14364 shall have a Glass Transition temperature of at least 75 °C. In addition a sample shall be tested for HDT in accordance with Method A of DIN EN ISO 75 - 2.
 - iii. The outer protective layer shall have a sand content with a minimum percentage of 65 % of sand for corrosion protection.
 - iv. The use of special constructions is permitted when the pipe is expected to be exposed to extreme climatic, environmental or ground conditions, for example provision for the inclusion of pigments or inhibitors for extreme climatic conditions or fire retardation, upon the approval of the Engineer.
- e) Wall thickness