the linings shall be constructed behind the penstock frame with a minimum gap of 50 mm. Subsequent to the grouting in of the frame the joint between the lining and the frame shall be satisfactorily sealed with materials approved by the Engineer.

9. Joints between sheets shall be laminated over with a 100mm wide resin rich glass tape of minimum thickness 4mm to provide a gas and watertight seal. The strip shall be formed using the same resin and glass used for the lining. The joint shall be finished with a resin rich layer to give a surface to match the lining.
10. Joints in the lining at internal corners shall have a GRP covering bonded with adhesive to the lining and laminated over as described above.
11. Where non-slip surfaces to GRP linings are specified or shown on the drawings the surface shall be ground to receive a coat of catalyzed vinylester resin. The resin shall be dusted with an approved silica sand to produce the non-slip finish and surplus sand shall be brushed off no less than 24 hours after application.

10.3.7 Application of In-Situ GRP Lamination

1. Contractor shall demonstrate all his methods, equipment and materials for the Engineers approval before any work commences.
2. GRP lamination shall only be carried out by experienced, trained personnel, familiar with GRP lamination techniques.
3. Contractor shall ensure that working areas are well ventilated when insitu GRP lamination is being carried out.
4. Prime surfaces with catalysed isopthalic resin primer to a maximum 0.125 mm thickness by rolling, brushing or spraying.
5. Once the primer coat has set, fill up voids in concrete surface with a resin paste.
6. Lamination is to be applied as agreed with the Engineer and shall comprise:
    a. In situ lamination shall be a total of 7 mm minimum thickness.
    b. The first six layers applied to the concrete surface shall consist of chopped strand mat 450 g/m2, “Advantex” powder bound corrosion resistance or equivalent approved, impregnated with isophtalic resin of approved type. Resin to glass ratio shall be 70% to 30% by weight with a tolerance of ± 5% to provide a lining of 5.5 mm thickness
    c. The next two layers shall consist of chopped strand mat 300 g/m2, “Advantex” powder bound corrosion resistance or equivalent approved, impregnated with vinyl ester resin of approved type. Resin to glass ratio shall be 70% to 30% with a tolerance of ± 5%.