

**Proposed scope of work for INSUWRAP waterproofing system for
Underground Structures.**

1. Scope of Work:

1.1 Installation (Horizontal area)

- A. Blinding concrete surface should be smooth, clean & free from sharp projections, otherwise, a protection layer (non-woven polyester 140 gr./m²) must be used to receive PVC membrane.
- B. Apply (PVC 1500 TNL) membranes loose laid for horizontal areas with 50mm overlap by using hot air welding technique. Horizontal PVC membranes shall be installed to 300mm height on the vertical walls to enable the welder to join the horizontal membranes at the corners properly with the followed vertical PVC membrane.
- C. Apply horizontally protection layer Non-woven polyester 140gr./m²) with 100mm overlap over the entire horizontal PVC membrane or as required.
- D. Cover sheets with permanent overlying construction as soon as possible. This can be by applying a minimum 50mm thick concrete protection layer.
- E. Lay steel reinforcement and concrete as specified.

1.2 Installation (Vertical area)

- A. Vertical surfaces should be smooth, clean & free from sharp projections, otherwise a protection layer (non woven polyester 140 gr./m²) must be used to receive PVC membrane.
- B. Apply (PVC 1500 TNL) membrane vertically by mechanical fixing using PVC coated galvanized metal strips (50mm width) fixed horizontally to the walls by fasteners and receiving PVC membrane by using hot air welding technique over the strips. PVC rolls should be joined vertically with 50mm overlaps using hot air welding technique.
- C. Pipes, ducts, cables, etc. where passing through sheets, must be completely watertight using pre-formed collars fully bonded/sealed to both pipes and sheets. Dressing can be made at site using the same PVC liner.

2. PROTECTION:

Cover external walls of tanking system with at-least (10mm thick) fiberboards provide a temporary support or Insurbond-106 contact adhesive to ensure full contact of boards to tanking system during back filling operation.

3. TEST METHOD:

To check welding quality at the overlaps, Visual test, Needle test or Vacuum test can be used when necessary.