



NILE TOWERS-MASPERO Egypt

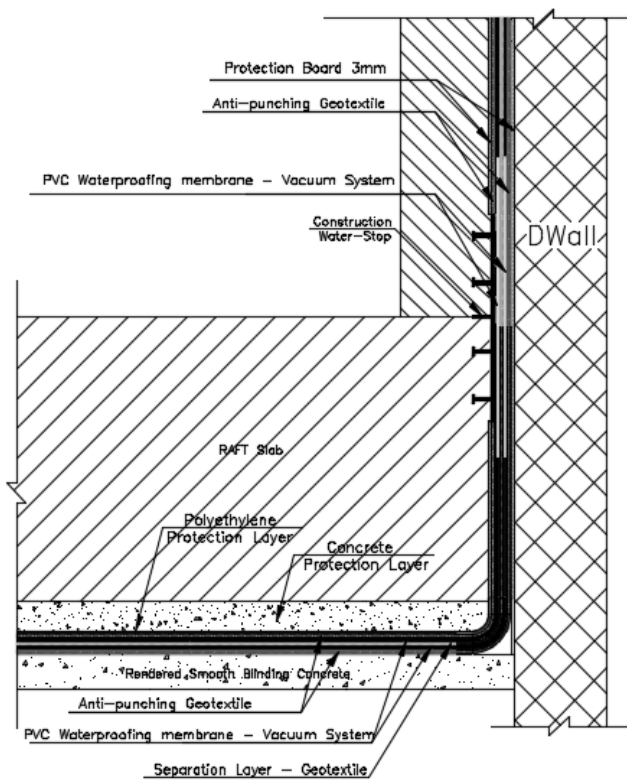
Project Name: Nile Towers – Phase 1
Scope: Watertightness Works
City: Cairo
Country: Egypt
Main Contractor: ORASCOM Construction
Applicator: Sodeco Specialties S.A.E
Construction Period: 2022 - 2023
Owner: New Urban Communities Authority
Consultant: ACE – Moharram.Bakhoum



The main purpose of watertightness is to keep the raft & the retaining wall dry & away from any moisture.

Raft :

- Install a layer of geotextile 500gm/m².
- The P.V.C membrane shall be installed loosely laid on top of the above of geotextile.
- Make sure that the membrane surface is dry, clean, free of dust, oil, and grease etc.
- Apply a separation layer using geotextile 150 gm/m² between the 1st layer & the 2nd P.V.C membrane shall be installed loosely laid.
- The 2nd P.V.C membrane shall be installed loosely laid on top of the separation layer.
- Vacuum System include welding the 1st & 2nd layer of the PVC waterproofing membrane along the line of the water bar to create compartment areas of 130 - 150 m² for the 1st layer.
- P.V.C. External Water-Bar profile will be welded to 2nd P.V.C membrane by hot air to divide the horizontal area to compartments.
- 4 Injection flanges will be fully welded on the 2nd PVC Layer



Technical Information

Products Used: PVC membrane 1.50 mm thick-
VACUUM system
Geotextile + Polyethylene +
Protect board

Areas Treated: 18,000m²

The project was studied to choose the suitable waterproofing system for the project, as the VACUUM system was chosen with a total thickness of 3 mm, noting that this system is used for projects of a distinctive and unique nature, and it is a complete system for all its elements, which results in the success of the insulation by 100%.



- Install a layer of non-woven polypropylene geotextile 500gm/m², on the top of the PVC.
- Install a layer of polyethylene 250 micron on the top of the geotextile.
- A concrete protection layer must be cast over the geotextile layer.
- Water-Bar must remain exposed and the PVC Injection Flanges.



- P.V.C. External Water-Bar profile will be welded to 2nd P.V.C membrane by hot air to divide the horizontal area to compartments.
- 5 Injection flanges will be fully welded on the 2nd PVC Layer
- Install a layer of geotextile 500gm/m², on the top of the PVC.
- Install a protection board 3 mm thick above the geotextile as a protection layer before the erection of steel reinforcement mesh.

Retaining walls

- Apply boards (as surface preparation for the DWall)
- All concrete surfaces must leave to dry prior to the application of waterproofing layers (for curing purpose)
- Install a layer of geotextile 500gm/m².
- The P.V.C membrane shall be installed loosely laid on top of the above of geotextile.
- Apply a separation layer using geotextile 150 gm/m² between the 1st layer & the 2nd P.V.C membrane shall be installed loosely laid.
- The 2nd P.V.C membrane shall be installed loosely laid on top of the separation layer.
- Vacuum System include welding the 1st & 2nd layer of the PVC waterproofing membrane along the line of the water bar to create compartment areas of 130 - 150 m² for the 1st layer.

