



## City Light Project , Alexandria, Egypt

**Project Name:** City Light Project  
**Scope:** Raft & Retaining Walls Waterproofing + Pile Heads Treatment  
**City:** Alexandria  
**Country:** Egypt  
**Owner:** City Light for Investment  
**Applicator:** Sodeco Specialties S.A.E  
**Construction Period:** 2009-2011  
**Consultant:**



Construction site City Light Project



**Technical Information**

**Products Used:** Vandex Super  
 Vandex Unimortar 1  
 Sodgrout MC  
 PVC membrane 1.5mm thick  
 Sotextile

**Areas Treated:** 30000m2 W.P.membrane  
 +7000Piles

❖ **Sodgrout MC**

- is a high strength, shrinkage compensated cementitious micro concrete & include aggregate which permits grouting of thickness more than 80mm.
- is high strength, non-shrink cementitious mortar, and acceptable depth is 10mm min & 50mm max.

**Pile Heads Insulation Works**

1. Chipped off irregularities and sharp edges of pile head surface.
2. Chisel out a cone shape around each steel bar and fill it with special waterproofing & repairing mortar "Vandex Unimorter1"
3. Apply a layer of waterproofing works "Vandex Super" on the top of the pile.
4. Apply T- Lining around pile head perimeter before the grout.
5. Sodgrout MC Cementitious grout with an average thickness of 20mm should be applied on top of pile head for leveling purpose.

❖ **Vandex Super Capillary Active Material.**

- in-depth waterproofing and protection
- permanent active
- applied to pressure or non-pressure concrete face
- approved for potable water contact.

❖ **Vandex Uni Mortar1 Waterproofing & Repairing Mortar.**

- for horizontal and vertical concrete surfaces
- resistant to frost and deicing salts
- approved for drinking water structures

❖ **PVC Membrane**

- ❖ homogeneous, translucent, flexible, polyvinyl chloride (PVC) geomembrane – 1.5mm thick
- ❖ Materials : Vinitex TR

## Raft :



1. The bedding concrete layer to be executed on the horizontal surface should be smooth and leveled to receive the P.V.C layer.
2. Install a layer of non-woven Polypropylene geotextile (Sotextile) with a density of 500gm/m<sup>2</sup> on the horizontal surface.
3. The P.V.C membrane for the foundation – 1.5mm thick - shall be installed on top of the non-woven geotextile (Sotextile).
4. The P.V.C membrane is installed using a wedge welding allowing 80mm overlap & tested with 2bars pressure.
5. Leister hot air welds allows for 50mm overlap at corners & edges.  
Spark tests & vacuum tests are used to ensure the quality of welds.
6. PVC membrane welded at the T – Lining around the pile heads using leister hot air.
7. Fixing the P.V.C waterstop for Construction Joints & Expansion Joints.
8. An upper protection layer of non-woven polypropylene geotextile (Sotextile) with a density of 250gm/m<sup>2</sup> shall be applied on top of P.V.C. membrane.
9. Pour a screed – 15cm thick –and reinforced with wire mesh 5 Ø 6 mm/m<sup>2</sup>.



## Retaining walls



1. The concrete layer to be executed on the vertical surface should be smooth to receive the P.V.C layer.
2. Install a layer of non-woven geotextile (Sotextile) with a weight of 500gm/m<sup>2</sup> on the vertical surface.
3. The P.V.C membrane for the vertical wall – 1.5mm thick - shall be installed on top of the non-woven polypropylene geotextile (Sotextile).
4. The P.V.C membrane is installed using a wedge welding allowing 80mm overlap & tested with 2bars pressure.
5. Leister hot air welds allows for 50mm overlap at corners & edges.  
Spark tests & vacuum tests are used to ensure the quality of welds.
6. Fixing the vertical P.V.C waterstop for Construction Joints & Expansion Joints on the wood work before pouring the concrete for the vertical walls.
7. A protection layers of Cartonal board 3mm thick shall be applied on top of P.V.C. membrane as protection.
8. Install the brick wall – 12cm thick – as a vertical protective layer.
9. Pour concrete for the vertical walls.