Section A : General Comments

Equipment

It is suggested that the following list of protective clothing ,equipment , tools ,accessories and list of testing equipments are available :

Protective clothing

1- Protective overalls
2- Good quality gloves

Application equipment

A- LEISTER TRIAC PID (control electric): for single welding (hot air gun)
B- LEISTER VARIMAT : for automatic single welding
C- LEISTER TWINNY T/S : for automatic double seam welding

Application tools

A- knife cutters
B- one arm rubber and metal rollers for LEISTER TRIAC PID
C- screw drivers with hook finish

Accessories

A- Fosroc solvent 102 (cleaner) or Equipment Cleaner
B- Fosroc Proofex Metal Strip

Testing equipments

A- Air pressure testing needle with gauge.
B- Air pressure pump. *(Calibration Certificate should be attached)*

Section B : Application Method

1.0 Surface Preparation

1.1 Clean all concrete surfaces and assure them to be free of laitance, dust, dirt, cavities, projecting nibs etc.

1.2 Surfaces must be dry and smooth.

1.3 Wall/Floor slab junctions should be made smooth using a sand/cement mortar fillet.

1.4 Check pile height to ensure it is greater than waterstop size. If less, then at the concrete blinding construction stage sufficient depth must be created around the pile to ensure full encapsulation of the grout.

2.0 Application – Pile treatment below ground

2.1 Prepare the shuttering around the pile for the re-profiling purposes

2.2 Cut and fabricate a strip of waterstop around the uneven surfaces of the pile to act as part of the formwork for re-profiling the pile.

2.3 Re-profile the uneven surfaces of the pile using Supercast PC or Conbextra GP at 25 mm thickness making sure that the waterstop is integrated in the pile.

2.4 Cast Supercast EPT or Proofex WG on top of the pile to a minimum thickness of 15 mm

2.5 Apply Fosroc Proofex OGP/ORG waterproofing membrane onto the re-profiled pile head, dress it properly around the pile & hot air weld the overlap to the waterstop , extending the membrane with the horizontal membrane.

3.0 Application – Horizontal below ground

3.1 Lay a separation Geotextile membrane (non woven polypropylene min 340 gr/m2) over the blinding layer as loose laid with 100mm overlaps to protect the Fosroc Proofex OGP/ORG from friction and abrasion stresses .

3.2 Lay the Fosroc Proofex OGP/ORG making sure that 80mm overlap is achieved .

3.3 Prepare the LEISTER welding equipment (or equivalent) to the required temperature of approximately 350 degree C.

Note: carrying out a sample of the welding after temperature calibration is recommended to achieve correct consistency of weld.

3.4 Spot weld the first 30mm of the overlap area (from inside) at 300-500mm centres along the membrane using the LEISTER TRIAC PID

3.5 After completing the spot welding pre-weld the joints using the LEISTER TRIAC PID

3.6 Complete the full welding using the LEISTER TRIAC PID with rubber roller

3.7 When using the other automatic welding machines LEISTER VARIMAT and LEISTER TWINNY T/S there is no need for the spot and pre-welding process

3.8 Extend the ends of the horizontal membrane for a further 300 mm for subsequent welding with vertical membrane.

3.9 When changing the directions of the membrane where T-case is expected then all joints under the over lapped locations should be welded and melted again using the metal rollers along with LEISTER TRIAC PID. Otherwise patch strip to be used.

3.10 After completing the installation of the Fosroc Proofex OGP/ORG, the horizontal area shall be divided into 200-300m^2 compartments (or otherwise agreed by the design engineer). Compartments achieved by welding water stops to the Fosroc Proofex OGP/ORG membrane.

3.11 The horizontal areas shall be protected by either a cement sand screed of minimum thickness 50mm or by using a non woven polypropylene geotextile of 140 gr/m^2

3.12 Make sure that the waterstops are not covered by the protection screed or separation layer.

4.0 Application – Vertical below ground

4.1 Lay a separation Geotextile membrane (non woven polypropylene min 340 gr/m2) over the walls as loose laid with 100mm overlaps.

4.2 Fix the Geotextile at 1.5 to 2.0m cross centres in all directions.

4.3 Fix the Fosroc Proofex OGP/ORG at the top of the wall and hang the membrane down the wall.

4.4 Weld the vertical Fosroc Proofex OGP/ORG to the existing horizontal membrane.

4.5 Weld all the overlap joints using either the TRIAC PID or TWINNY T/S application machines

4.6 After completing the installation of the Fosroc Proofex OGP/ORG, the vertical area shall be divided into 200-300m^2 compartments (or otherwise agreed by the design engineer). Compartments achieved by welding waterstops to the Fosroc Proofex OGP/ORG membrane.

5.0 Application – Horizontal above ground

5.1 Lay a separation Geotextile membrane (non woven polypropylene min 340 gr/m2) over the concrete roof slab as loose laid with 100mm overlaps to protect the Fosroc Proofex OGP/ORG from friction and abrasion stresses. There is no requirement for geotextile when applying the membrane on top of EPS insulation.

5.2 Lay the first roll of Fosroc Proofex OGP/ORG and mechanically fix it to the substrate along the roll edge with 5.5mm dia thread x 45mm dia plate and fixed at least 25mm into the concrete substrate.

5.3 Lay adjacent roll making sure that 80mm overlap is achieved, continue with other rolls.

5.4 Prepare the LEISTER welding equipment (or equivalent) to the required temperature of approximately 350 degree C.

Note: carrying out a sample of the welding after temperature calibration is recommended to achieve correct consistency of weld.

5.5 Spot weld the first 30mm of the overlap area (from inside) at 300-500mm centres along the membrane using the LEISTER TRIAC PID

5.6 After completing the spot welding pre-weld the joints using the LEISTER TRIAC PID

5.7 Complete the full welding using the LEISTER TRIAC PID with rubber roller

5.8 When using the other automatic welding machines LEISTER VARIMAT and LEISTER TWINNY T/S there is no need for the spot and pre-welding process

5.9 Extend the ends of the horizontal membrane for a further 300 mm for subsequent welding with vertical membrane at upstands.

5.10 When changing the directions of the membrane where T-case is expected then all joints under the over lapped locations should be welded and melted again using the metal rollers along with LEISTER TRIAC PID. Otherwise patch strip to be used.

5.11 Non permanently exposed horizontal areas shall be protected by either a cement sand screed of minimum thickness 50mm or by using a non woven polypropylene geotextile of 140 gr/m^2

6.0 Application – Vertical above ground

6.1 Fix Fosroc Proofex Metal Strip at required height of upstand with TPO coated face exposed.

6.2 Weld Fosroc Proofex OGP/ORG to Fosroc Proofex Metal Strip then to adjoining horizontal membrane. (See standard CAD details)

6.3 Finish off with Nitoseal MS60 sealant and Flashing to suit.

7.0 Testing

7.1 Screw driver with hook finish

After completing the welding of any joint it is recommended to pass this screw driver with hook finish along the joints with some side push to make sure that the joints are welded properly.
Defects rectified by welding a fresh piece of membrane over the affected area.

7.2 Air pressure gauge for double welded joints

A - Fix the needle and connect it to the gauge
B - Close both sides of the double welded joint created air seal
C - Connect the machine and the compressor and start pressurising to reach 2 bar pressure
D - Maintain the pressure for 10 minutes
E - If the pressure remains constant or looses less than 20% of the original reading (2 bar) then weld is accepted.
F - If the pressure looses more than 20% of the original reading (2 bar) then it is deemed to have failed .
G -To determine the leakage point, foam (water + soap) can be used

7.3 Vacuum box method

A- Apply some foam (water and soap) on top of the location to be tested
B- Fix the vacuum box on top of this location
C- Connect the vacuum box to a suction pump
D- The membrane will start showing bubbles if there are punctures in the membrane or there has been a substandard welding of the joints

Section C : Approval and variations

This method statement is offered by Fosroc as a ‘standard proposal’ for the application of Fosroc Proofex OGP/ORG. It remains the responsibility of the Engineer to determine the correct method for any given application. Where alternative methods are to be used, these must be submitted to Fosroc for approval, in writing, prior to commencement of any work. Fosroc will not accept responsibility or liability for variations to the above method statement under any other condition.