

TL – Best Practices for Waterproofing of Pipe Cluster & Grounding Rods

The waterproofing of service penetrations is a critical part of a total structural waterproofing solution.

Typically service penetrations exist through walls and floors, and incorporate areas where ducts, vents and pipework are required to enter the building. Water follows the weakest link in any waterproofing system, penetrations typically have the potential of being the weakest link.. Single pipes are standard and details are provided to seal these with easy access to all sides of a pipe for detailing. Pipe clusters increase the difficulty of detailing with limited access to all sides equally for a watertight installation.

This is why it is critical to adopt the best waterproofing practices.

Pipes Clusters: Pre-Applied and or Post Applied Systems

Substrate Preparation in these locations: Pre-Applied and or Post Applied Systems

- Secure pipes and cables firmly in position prior to waterproofing to avoid any movement of pipes that are to be waterproofed.
- Pipes are required to be clean and free of all contaminants that are required to be waterproofed.
- Avoid clustering pipes whenever possible (clustering of pipes is identified as installing pipes in a tight configuration with insufficient space between each pipe to properly detail the pipe as shown in typical details BITUTHENE® or PREPRUFE® 800 PA Detail 16 and or PREPRUFE® Detail 34 pipe penetrations).
- Follow standard waterproofing details and techniques for standard pipe penetration when waterproofing for all individual pipe penetrations. If the standard details CAN NOT be followed and completed as shown in the standard details listed then the pipes are too close together and must be separated. 6" spacing is recommended.
- Provide a fitting free pipe surface (no bells or hubs at the waterproofing membrane) a minimum of 9" to 12" long/high above the surface of the waterproofing membrane.
- All pipes must penetrate the waterproofing membrane at a 90° angle to the membrane.
- If clustering of pipes are required on the project, space all pipes 6" or greater apart. As a non-standard details spacing should be minimum 4" or greater apart.
- All substrates are required to be flat and true as defined with no protrusions or wear points in contact with the GCP membrane. This would be especially noted/required to be flat and continuous especially where concrete substrate/surfaces are present. Avoid rough poorly consolidated surfaces as in aggregated substrates – confirm well compacted – dense and tightly placed cement type grout (always grout with concrete around the pipe penetrations). No voids for PREPRUFE® greater than ½" and for Post Applied GCP Sheet Membranes no voids greater than ¼". If these conditions exists, then substrate preparations or modifications will be required prior to installing any of the GCP waterproofing materials.

Electrical Grounding Rods:

- All Grounding Rods are required to be secure/firmly in position prior to waterproofing to avoid any movement of the rods that are required to be waterproofed.
- For penetrations through the waterproofing material, a solid grounding rod is recommended.
- At the point of contact with the GCP waterproofing membranes Post or Pre-Applied – braided cables can not be waterproofed or made watertight.
- When braided cables could possibly penetrate the waterproofing membrane the braided cable will be required to have a solid rod at this location. Firmly anchor the grounding rod to receive waterproofing at the point of penetration of the waterproofing membrane.

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