

Application Guide
for
MasterSeal[®] 909
Re-injectable Hose System

1. Surface Preparation

- 1.1 The surface where the injection hose will be installed must be clean and smooth.
- 1.2 The surface generated by an internal vibrator while compacting the concrete will usually be suitable without any need for additional trowelling.
- 1.3 Remove all loose materials from the surface, such as stones, dust, etc., before installing the hose.
- 1.4 Before injection, patch up all surface honeycombs located close to the joint, by using a suitable MasterEmaco mortar.

2. Hose Assembly *(see Appendix 1 for assembly pictures)*

- 2.1. Fabricate **MasterSeal 909** hose in lengths of maximum 10 m.
- 2.2 To both ends of the hose, securely fix approximately 400mm (or as required by the structure) lengths of vent hose and cover the joints with 60mm of heat shrinkable plastic sleeve.
- 2.3 The vent hose is used as an injection port and hence does not have discharge holes. The different colours of the vent hoses are to identify the function of each (green input or clear exhaust) during injection.

3. Placing

3.1. Concrete substrate *(see appendix 2 for installation arrangements)*

- 3.1.1 Place **MasterSeal 909** along the centerline of the concrete section. In very thick sections, position the hose approx. 200-300mm from the water entry side.
- 3.1.2 Drill 6mm diameter holes, approx. 50mm deep and 250mm apart, along the line of the hose.
- 3.1.3 Clamp the hose firmly using **MasterSeal 909** clips to hold the hose in contact with the surface without allowing it to float up when fresh concrete is poured. Do not fasten the hose to reinforcement bars. (Fig. 1)
- 3.1.4 After installation, all **MasterSeal 909** hoses should be protected from oil, dirt, concrete splatter and mechanical damage and should be left clean to receive concrete cover.
- 3.1.5 Ensure that the hose and at least 50mm of the nylon vent hose are encased in at least 50 mm of concrete, with the vent ends (injection ends) clearly visible outside after pouring the concrete.
- 3.1.6 The minimum distance between two parallel hose sections shall have a clearance of approximately 50mm.

3.2 Metal Substrate

- 3.2.1 Place **MasterSeal 909** along the centreline of the substrate. Clamp the hose firmly using welded clips to hold the hose to the substrate.
- 3.2.2 If there is any change of direction on the substrate or for uneven surfaces when MasterSeal 909 is not fixed firmly then the gap should be filled with MasterSeal 912 (swellable gasket).
- 3.2.3 After installation, all **MasterSeal 909** hoses should be protected from oil, dirt, concrete splatter and mechanical damage and should be left clean to receive concrete cover.
- 3.2.4 Ensure that the hose and at least 50mm of the nylon vent hose are encased in at least 50mm of concrete, with the vent ends (injection ends) clearly visible outside after pouring the concrete.
- 3.2.5 The minimum distance between two parallel hose sections shall have a clearance of approximately 50mm.

3.3 Floor- Wall Installation

3.3.1 Refer to Figure 2 for details.

3.4 Floor- Floor Installation

3.4.1 Refer to Figure 3 for details.

3.5 Junction Box Installation

3.5.1 Refer to Figure 4.1 and 4.2 for details.

4. Injection

- 4.1 The waiting time for injection after the pouring of concrete is dependent on the curing time of concrete. The minimum period should be 28 days.
- 4.2 Use **MasterSeal 901** (swellable vinyl ester methacrylate based resin) for injection depending on the nature of job.
- 4.3 Start injection always at one end.
- 4.4 Fill the hose with injection material using an injection pump until it flows out at the other end and plug that end with a special packer.
- 4.5 Ensure the pump achieves an injection pressure of at least 2 bars and continue pumping while material is being consumed.
- 4.6 When the pressure stabilizes and no more material is being injected, increase the pressure to approximately 5 bars for 5 minutes only. When no drop in pressure is noticed, stop the injection.
- 4.7 Apply the same procedure from the other end of the **MasterSeal 909** hose to make sure that over the whole length of joint, a similar pressure distribution is achieved.
- 4.8 Immediately after injection, clean the hose of unset injection material by applying a vacuum pump and flushing with water. The hose is now ready for re-injection should it ever become necessary.
- 4.9 Note: If other materials are injected through the hose like PU/PUR or silicates alternate cleaning medium should be used consult the individual material datasheets for details. Some products like foaming PU's materials may not be able to be cleaned out and **MasterSeal 909** will be a one use only hose.

5. Mixing of the injection resin

Fill bottle for hardener solution (empty) with 500ml water, add 1 bag of hardener water. Shake bottle until powder is completely dissolved.

Mix the required amount of resin with hardener solution, 1 Litre resin requires 50ml of hardener solution. Prior to use add accelerator according to the supplied chart. The amount of accelerator per litre depends on the required pot-life at the present ambient temperature. Mix the injection resin until colour is uniform and inject within pot life.

Pot Life Chart

Application Temperatures	Pot-life Required (in minutes)				
	20 minutes	30 minutes	40 minutes	50 minutes	60 minutes
5°C			120	105	
10 °C		142	105	80	
15°C		82	72	65	62
20°C	77	65	55	47	42
25°C	68	55	45	37	25
30°C	50	35	30	27	25
35°C	42	30	25	22	20
40°C	32	25	20	20	
45°C	27	22			
Amount of (in mls) accelerator per 1 litre of Resin					

Appendix 1: Assembly of Hose

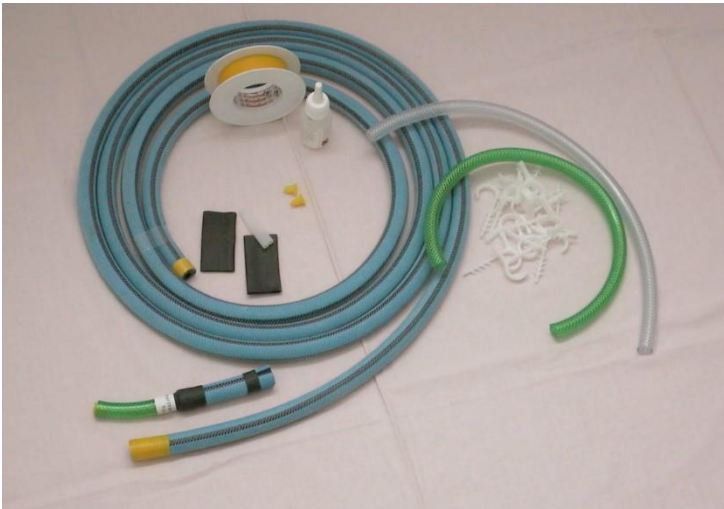


Figure 1: Hose components



Figure 2: Wrap tape on hose to facilitate cutting

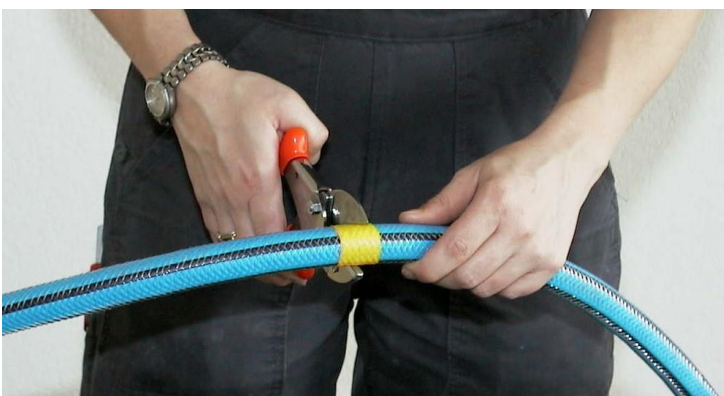


Figure 3: Use shears to give clean cut

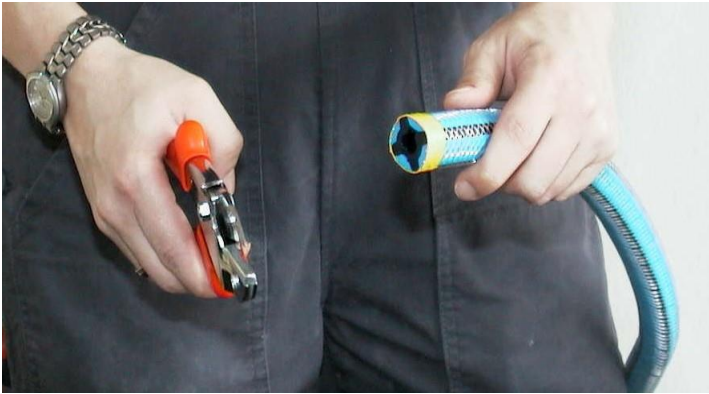


Figure 4: Clean vertical cut



Figure 5: Insert connector after applying super glue



Figure 6: Put super glue on protruding section and insert inlet or outlet hose into the MasterSeal 909 hose



Figure 7: Put inlet and outlet hose together after applying super glue



Figure 8: Place the shrink sleeve over the join



Figure 9: Use hot air gun to shrink sleeve to seal join



Figure 10: Finalised join showing inlet hose



Figure 11: Cap the ends to prevent blockage prior to installation

Appendix 2: Set out of the hoses

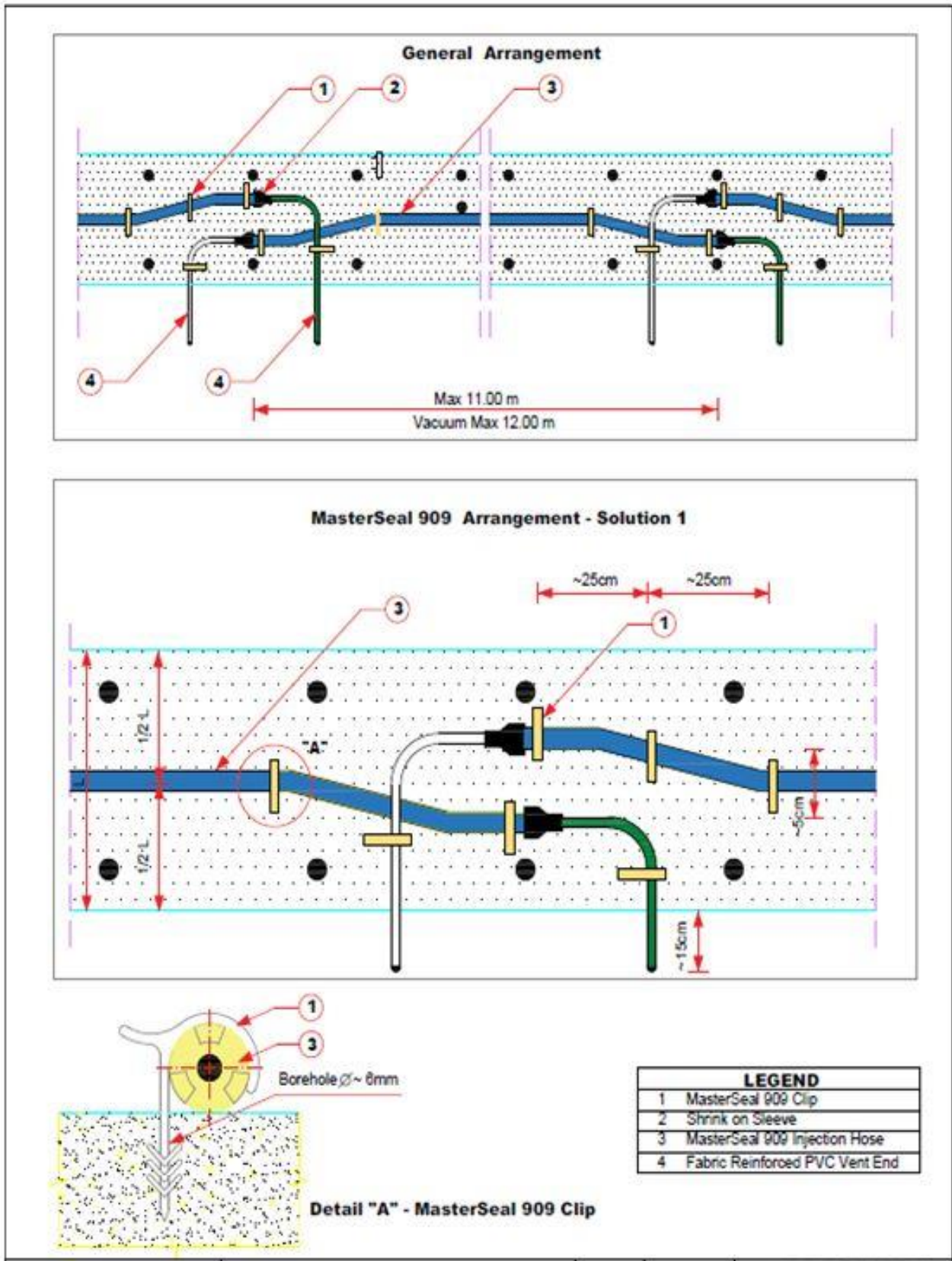


Figure 1: Hose placing

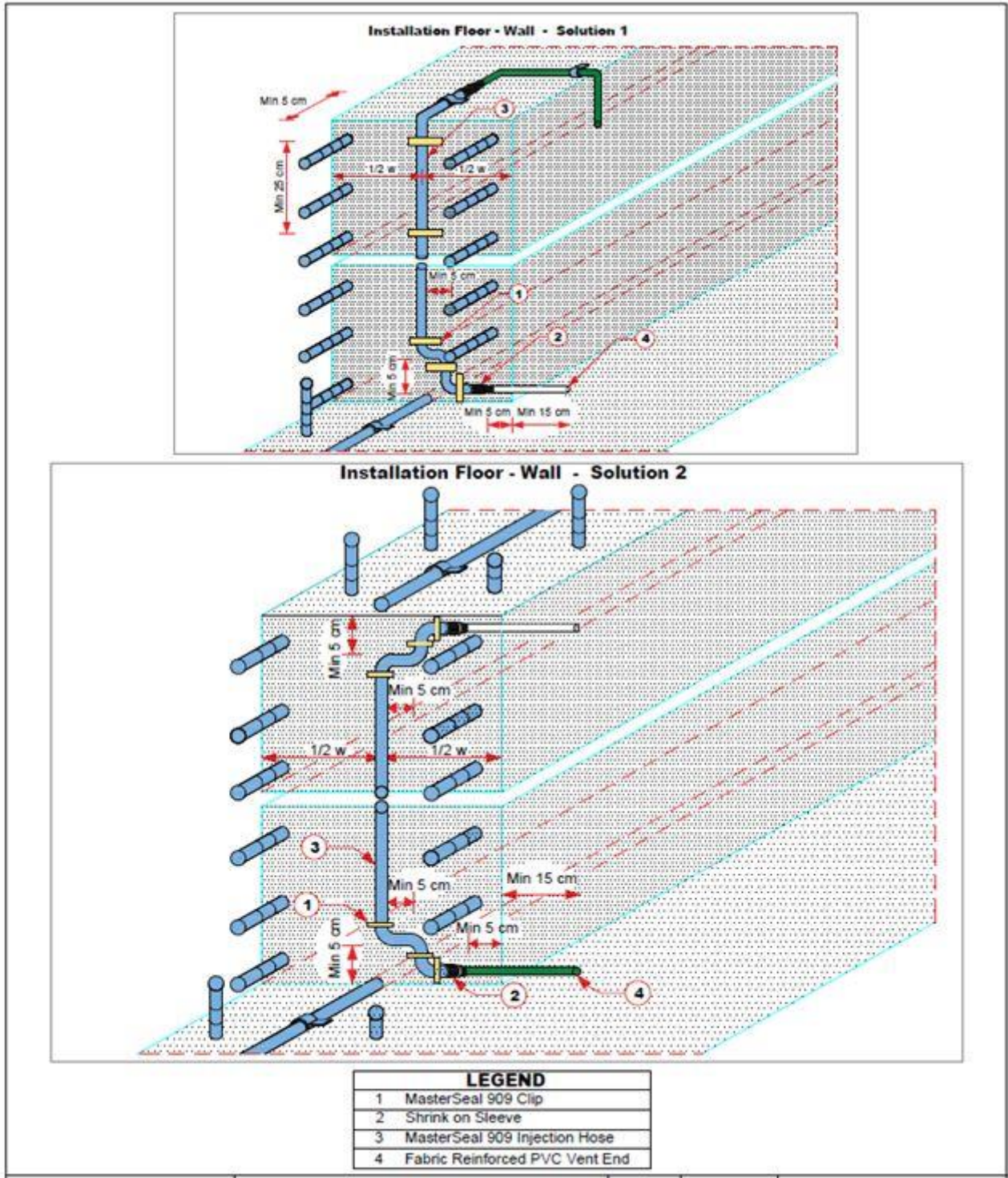
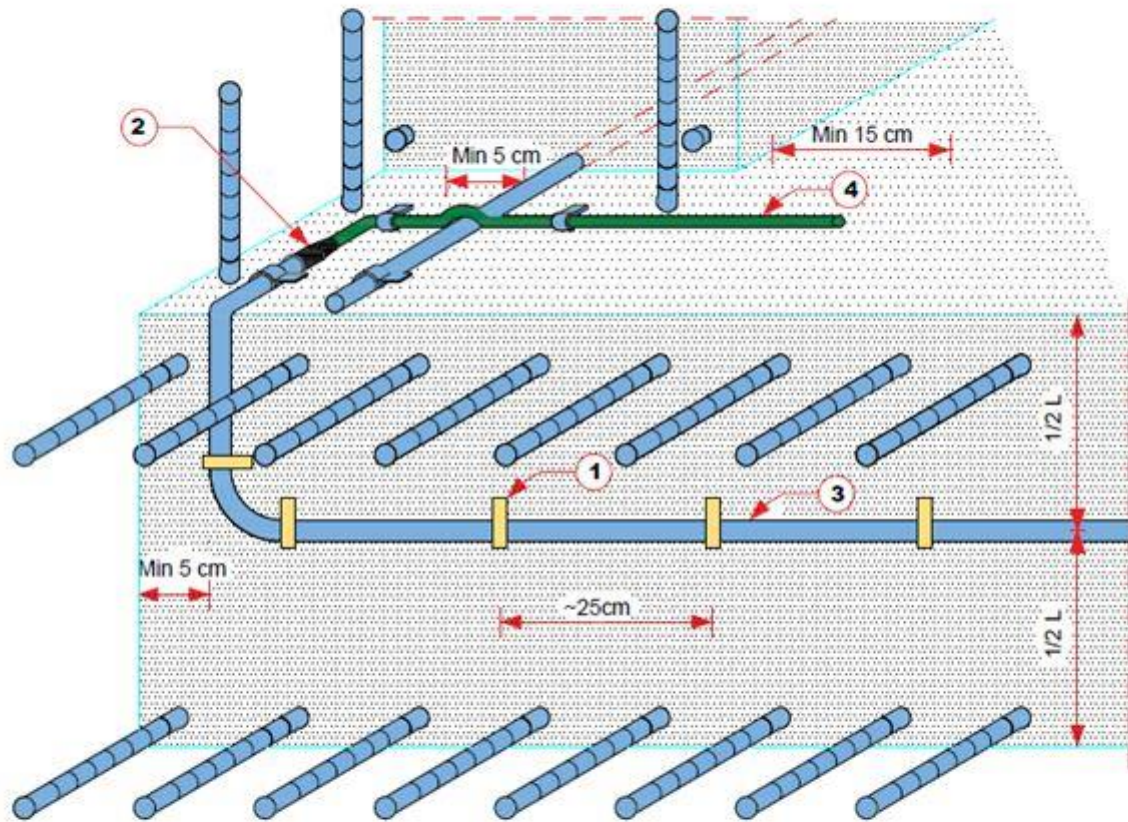


Figure 2: Floor-Wall Installation

Installation Floor - Floor - Solution 2



LEGEND	
1	MasterSeal 909 Clip
2	Shrink on Sleeve
3	MasterSeal 909 Injection Hose
4	Fabric Reinforced PVC Vent End

Figure 3: Floor-Floor Installation

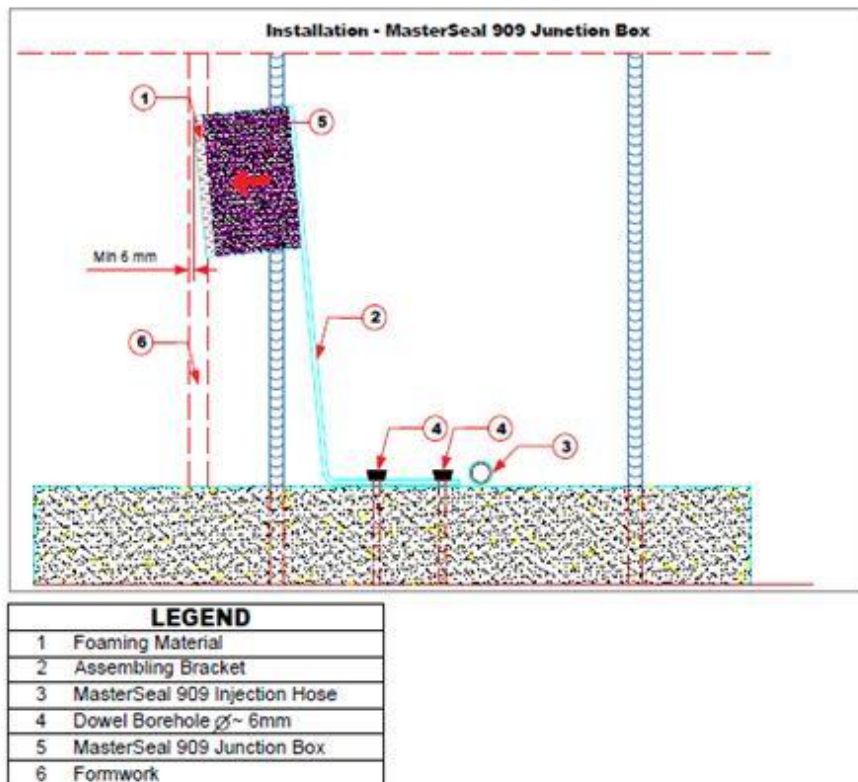
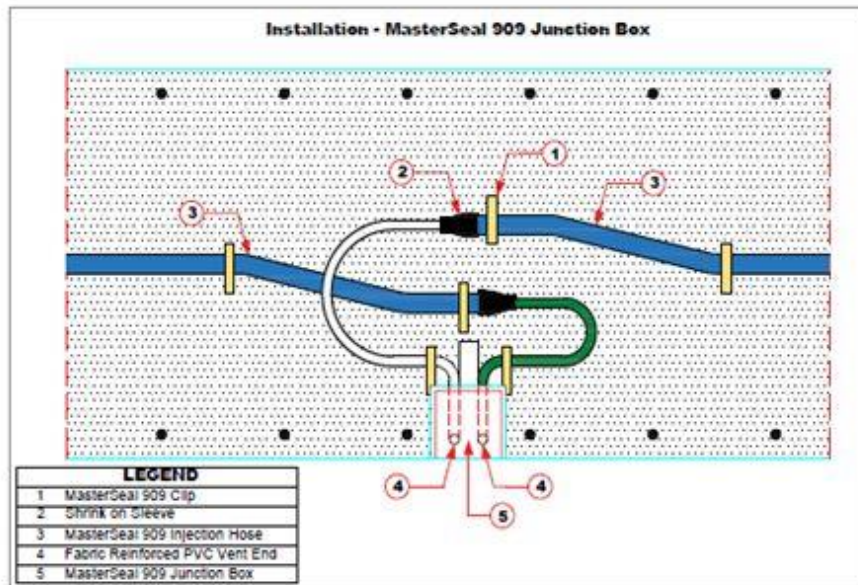
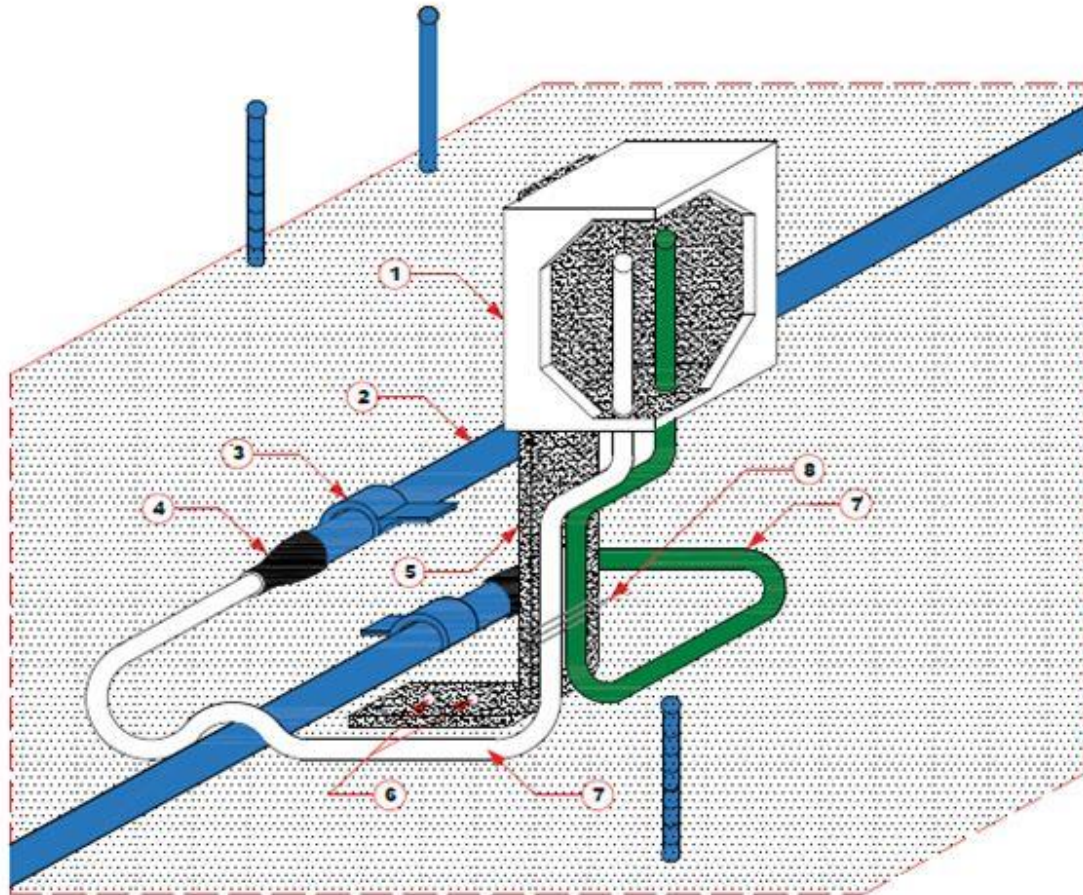


Figure 4.1: Junction Box Installation

Installation - MasterSeal 909 Junction Box



LEGEND

1	MasterSeal 909 Junction Box
2	MasterSeal 909 Injection Hose
3	MasterSeal 909 Clip
4	Shrink on Sleeve
5	Assembling Bracket
6	Dowel Borehole $\varnothing \sim 6\text{mm}$
7	Fabric Reinforced PVC Vent End
8	Twisted Wire

Figure 4.2: Junction Box Installation

DISCLAIMER

Application Guide for MasterSeal 909 V7 032021

STATEMENT OF RESPONSIBILITY

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