

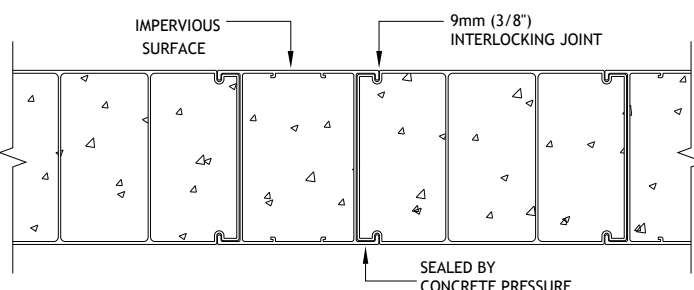
The Water Resistance of CONFORM® walls is provided by the 2 impervious layers of PVC that form the exposed faces of the CONFORM® components. However an understanding of this water barrier and the appropriate detailing are required to achieve a water resistant wall, especially for walls that are left exposed and do not receive an additional exterior finish.

CONFORM® WATER BARRIER PERFORMANCE

The individual CONFORM® components that make a CONFORM® wall, provide two continuous surfaces of 2.54 mm (0.100") thick PVC that are completely impervious to water.

The connections between components are made with 9 mm (3/8") interlocking joints at each face of the wall.

Testing has shown that the concrete pressure seals the interlocking joints. There has been no evidence of leakage across the wall at the joints when the concrete was placed monolithic and consolidated.



Cracks in the concrete do not affect the performance of the water barrier. Vertical cracks inside the components are contained between the two impervious faces of the wall. Vertical cracks at the joints between the components pull the interlocking joints tighter and provide greater resistance to water penetration. Horizontal cracks in the concrete are covered by the two impervious faces of the components and do not affect the water barrier performance.

At the joints between components the water penetrates to the depth of the grooves in the panel components, approximately 9 mm (3/8") inward from the face of the wall. Water that enters the joints flows down the interlocking grooves to the base of the wall and exits at the bottom of the grooves.

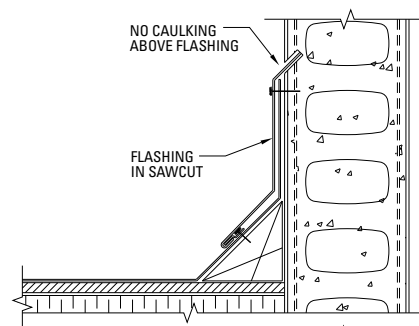
Water penetration is limited to locations where the interlocking grooves penetrate from the exterior to the interior of the building, such as roof flashing and to locations where horizontal joints occur in the face of the CONFORM® components such as opening, joints between wall sections and base joints.

It is critical that construction details take into account the water that penetrates 9 mm (3/8") inside the face of the wall at the interlocking joints

CONFORM® DETAIL at FLASHINGS

Water flowing in the interlocking joints will flow behind any flashing or caulking that is applied on the face of the wall.

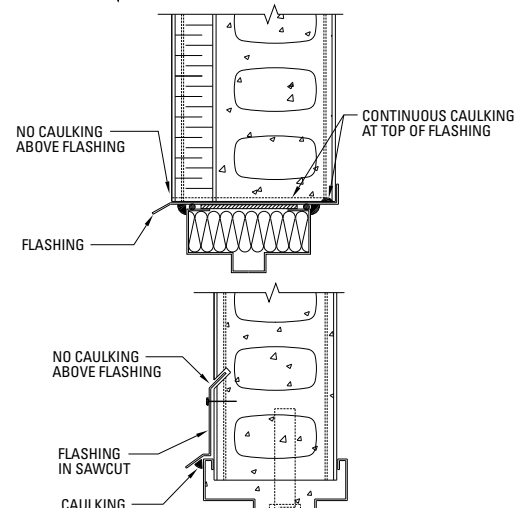
Flashing applied to the face of the wall must be installed in a sawcut that cut slightly deeper than the interlocking joints.



CONFORM® DETAIL at OPENINGS

Water flowing in the interlocking joints will be trapped by any upturned flashing at the head of openings.

Flashing with a downturned exterior leg is required at the head of all openings in order to drain the water from the interlocking joint.

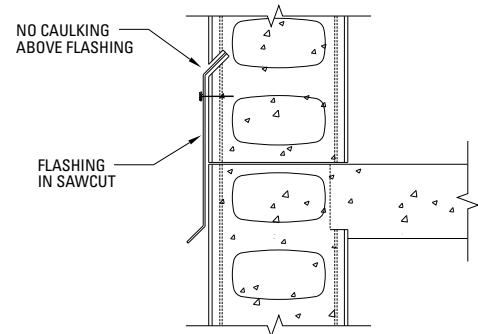


If an opening frame has an upturned leg, an additional flashing must be installed in a sawcut above the upturned leg.

CONFORM® DETAIL at WALL JOINT

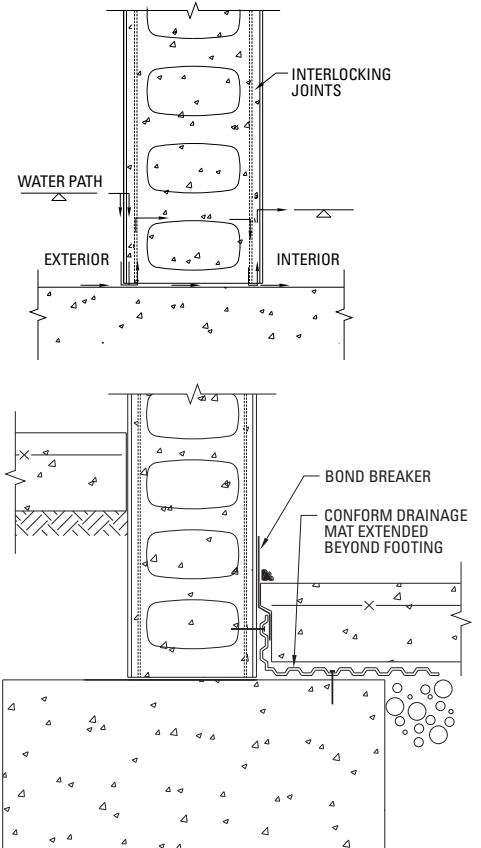
Water flowing in the interlocking joints may be able to penetrate the wall at horizontal joints between wall sections at floor or roof joints.

A flashing is required to cover the joint and must be installed in a sawcut above the joint.



CONFORM® DETAIL at BASE JOINT

At the base of a wall, water may find a path across the wall in the gap that occurs between the concrete and the inside face of the CONFORM® components. Water at the exterior face of the wall or in the exterior interlocking joints will flow down the wall and may flow under the outer face of the wall. The water may enter the small gap between the concrete and the inside face of the PVC and flow up the inside, across the wall at the webs between the coring, down the opposite inside face and under the other face of the wall. The water may appear at the base on the interior of the wall or flow up the interior interlocking joints to the top of a floor slab. Since the gap between the concrete and the PVC is very minute, the rate of flow is small but it may result in an unsightly leak over time.



The recommended solution to prevent water flowing up the interlocking joint on the interior face of the wall is to provide a 'halogonian' drain that provides a drainage path for the water below the interior floor. Also, it is necessary to provide a bond breaker against the face of the wall to prevent cement paste from the floor slab from filling the interior wall joints and drawing water to the top of the slab by capillary action.

A waterstop placed at the base of the wall will not prevent water rising on the inside of the wall in the gap between the concrete and the PVC and crossing the wall above the waterstop. The water level can rise on the inside of the wall to the height of the hydrostatic head.

It should be noted that applying waterproofing to the wall, will only be effective if it is applied full height and capped with a flashing in a sawcut. If water penetrates the interlocking joints above any waterproofing it will flow behind the waterproofing unless the appropriate flashing is provided.

A horizontal drainage mat is required at exterior and interior CONFORM® walls where the walls act a water barrier and the slab on grade is poured on the same footing as the CONFORM® walls. This may occur at interior walls where there is a change in slab elevation and at exterior walls in climates where the footings are placed directly below the slab on grade.

CONFORM® DETAIL at BASEMENT WALLS

A drainage mat and bond breaker are required horizontally at the base of the interior face of foundation walls for basements and crawl spaces that are constructed with CONFORM®. The horizontal drainage mat is required to provide a 'halogonian' drain that allows water penetrating below the wall at the top of the footing, to flow below the slab on grade. The bond breaker is required to seal the top of the drainage mat and to prevent the cement paste from the slab on grade, creating a 'wick' effect in the joints between the wall components. Cement paste in the joints draws water by 'capillary action', from the footing up to the top of the slab. The provision of a drainage mat and a bond breaker are essential to maintain the water resistance of foundation walls constructed with CONFORM®. For additional information refer to 'CONFORM® Detail at Base Joint'.

An additional drainage mat is recommended on the exterior face of the foundation walls. The mat is required to ensure that water is allowed to flow to the weeping tile and does not collect on the footing at the base of the foundation wall. The use of contaminated backfill or non-free draining backfill can result in the water being trapped against the wall. The drainage mat is installed in a manner similar to the interior mat.

At all foundation walls for basements and crawlspaces, a perimeter weeping tile system must be installed to properly drain the soil around the perimeter of the foundation. The use of a dampproofing material or a full height drainage mat is not required for walls constructed with CONFORM®.

The contractor must provide a weeping tile system suitable for the site soil and ground water conditions, to ensure that the soil around the perimeter of the building is drained. The contractor must provide additional water control measures such as interior under-slab drainage tile as warranted to suit the site conditions.

- INSTALLATION of DRAINAGE MAT

- The drainage mat is provided in rolls 365 mm wide by 20 meters long (14 1/2" by 65'-6") and is dimpled 6 mm (1/4") deep at 30 mm (1 1/4") on center. The drainage mat is shipped with bags of 250 plugs and with 100 mm (4") tape in 55m (180') long rolls. One bag of plugs and one roll of tape are provided for every 3 rolls of drainage mat.
- After the concrete is placed in the CONFORM® forms and the walls are cleaned, the drainage mat is cut to length and placed with the dimpled side on the footing and extending 60 mm (2 3/8") vertically on the face of the CONFORM® wall. The drainage mat must extend a minimum of 30 mm (1 1/4") beyond the edge of the footing. An additional layer of drainage mat may be required at wide footings. The drainage mat is nested and lapped 150 mm (6") at all overlaps joints and corners.
- The drainage mat is fastened to the face of the CONFORM® wall at 333 mm (13") on center and to the footing at 1000 mm (3'-4") on center. The drainage mat is fastened at the dimples using plugs and 30 mm (1 1/4") concrete nails with an appropriate power nailer for concrete. 'Green' concrete can be hand nailed.
- The 100 mm (4") tape is applied continuously at the top of the drainage mat to the CONFORM® wall. The tape is lapped a minimum of 25 mm (1") onto the drainage mat and extends onto the wall a minimum of 25 mm (1") above the finished floor.
- After the floor slab is poured and set, the tape projecting above the finished floor is cut at the top of the slab with the tip of a knife and removed.

