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Integrated Technical Solutions

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Negative - Side Waterproofing is not a Primary Seal

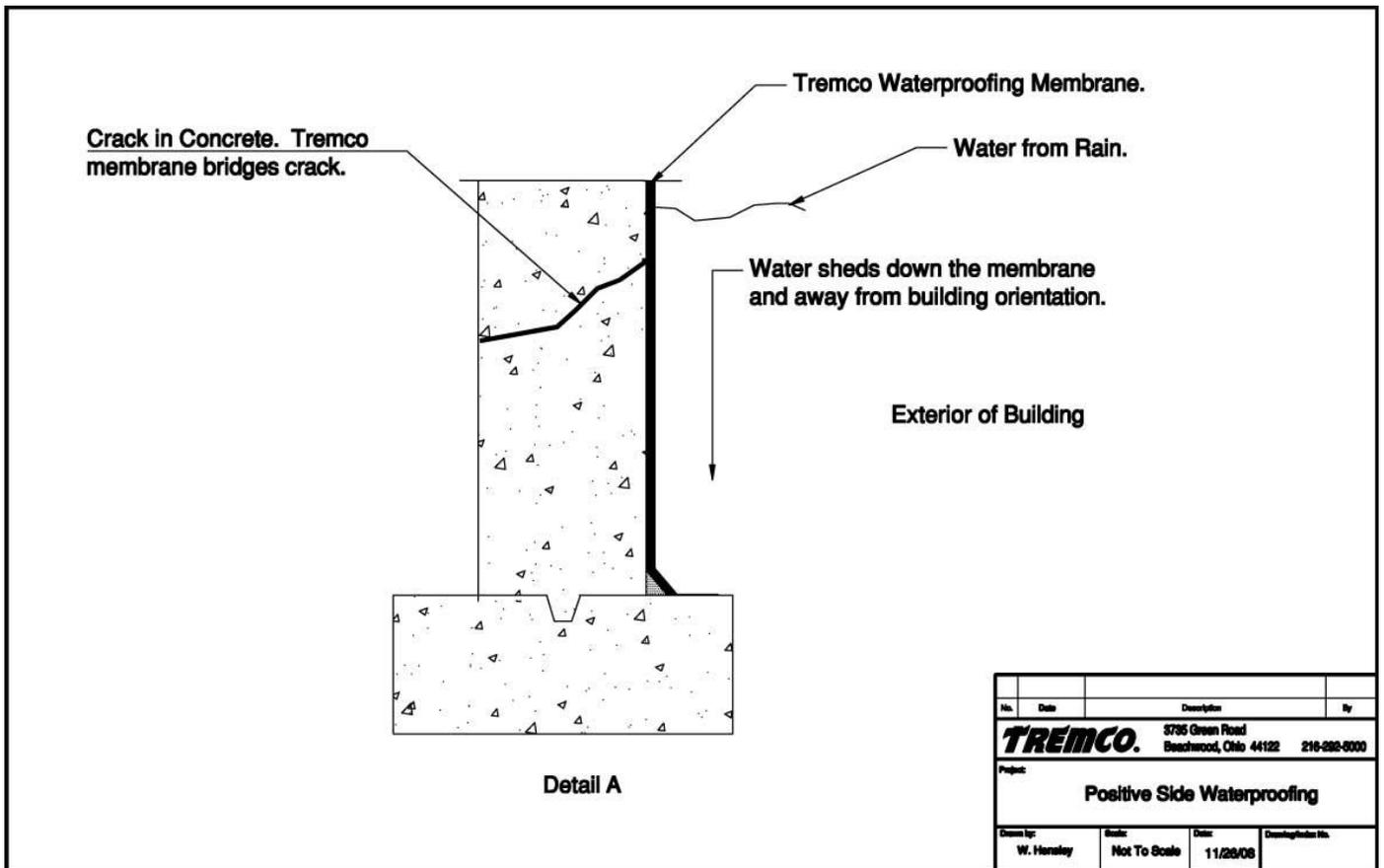
There has been some recent discussion and inquires on the Tremco PQ 200. PQ 200 is Tremco's crystalline waterproofing product and it should not be considered as a primary waterproofing membrane in below grade applications. This question arises typically in regions where there is little rain and dry holes. Positive-side waterproofing by definition is applied to the outside (wet) face of the subsurface building components, by contrast to negative-side waterproofing which is applied to the inside (dry) face of the subsurface building components.¹ When considering waterproofing products in new construction there should be no doubt that positive side waterproofing membranes should be the first option of choice.

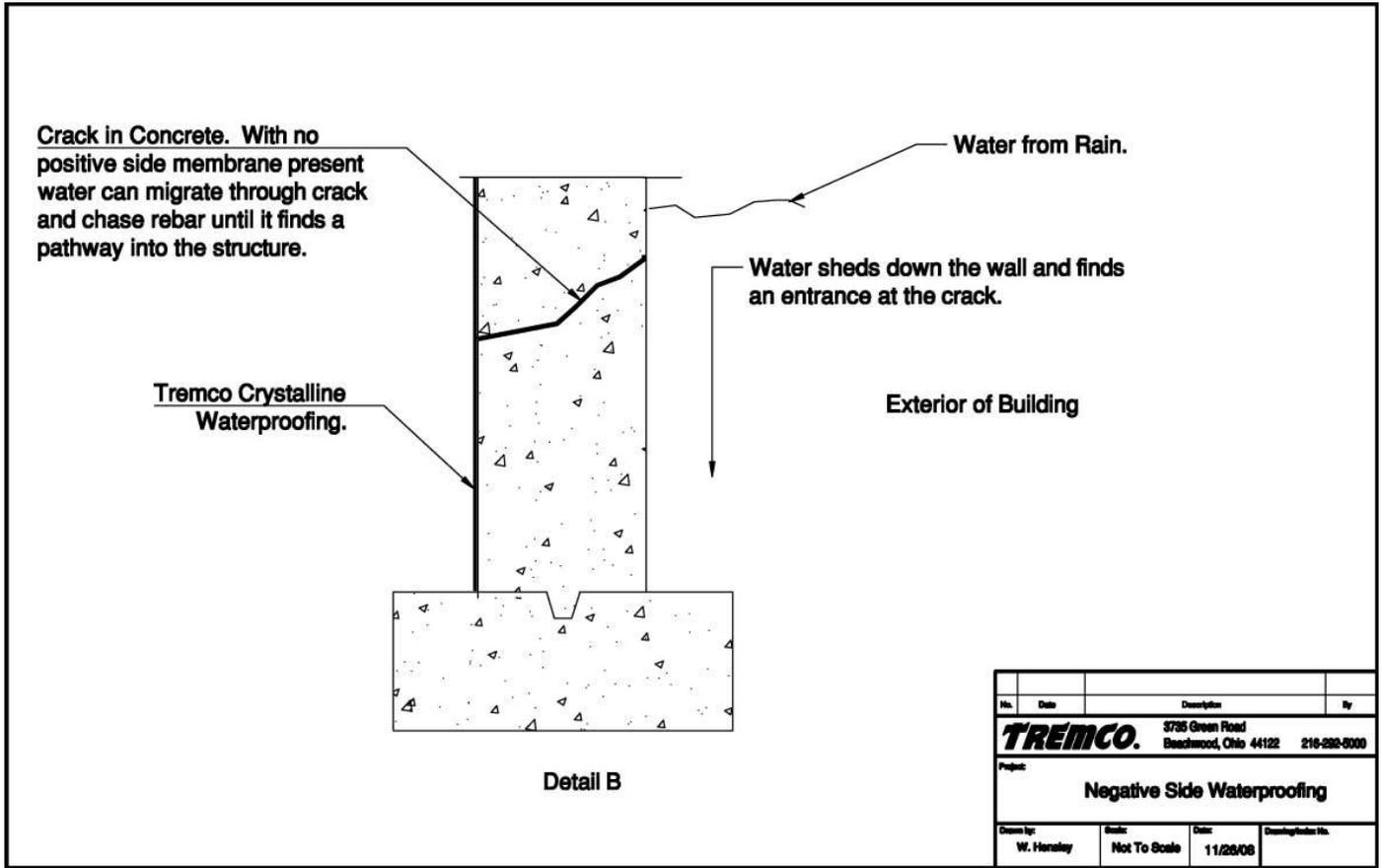
Please refer to detail A below. As seen by detail (A) positive-side waterproofing creates a barrier between the wall and the water. When cracks form within the concrete which is inevitable over time, they create a pathway for the water to migrate into the interior of the structure. Positive-side waterproofing membranes from Tremco are manufactured to bridge these cracks and have the necessary elastomeric properties to move or stretch with the crack(s) to keep the water out of the building. This ability to provide smooth transitions from horizontal to vertical especially between slab to vertical wall gives the positive-side membrane another benefit over that of negative-side waterproofing. There is the possibility of applying the negative-side waterproofing to the ceiling of the structural slab, however this is impractical as gravity works against the application. Two additional areas where positive-side waterproofing membranes excel are in protecting the concrete from corrosive soils or contaminants found within the soil and the reduction of high vapor permeability within the building interior. Where such cases exist, Tremco's positive-side waterproofing membranes also protect the building from hydrostatic head pressures of water.

Please refer to detail B below. As seen in this detail, it is not possible for the negative-side crystalline waterproofing material to create a barrier between the wall and the water. However, this method of waterproofing does have its positive attributes. Typically, it is easy to install (substrate preparation is minimal), and if the work is remedial it is obviously much less expensive to apply from the interior of the building than to remove earth and unbury the outside wall. Leak detection, easy maintenance, and resistance to high hydrostatic pressures are also clearly positive attributes.

Where the distinction becomes more obvious (as noted above) is the subject of cracks that occur over time within the concrete and the ability of the positive-side membranes to bridge them and keep the water away from the building structure. This is the most serious liability of negative-side waterproofing. Crystalline coatings can close hairline cracks (.012 in – 0.3 mm) wide and moisture reactivation of the sealing process gives the coatings the ability to self-seal.¹ However, there is not a negative-side crystalline waterproofing system in the industry that can bridge dynamic cracks or reseal ruptures.

Therefore, Tremco believes that it is absolutely necessary to provide a positive-side waterproofing membrane to prevent water infiltration through cracks that develop within the building structure over the life of the building. It is also necessary to include the positive-side waterproofing within specifications because of the performance issues noted above. Without them, there is a great risk of water infiltrating your building and causing damage that would otherwise be a non issue had they been specified from the beginning.





Please contact Tremco Technical Service at 866-209-2404 with any questions regarding this bulletin

1. The Manual of Below-Grade Waterproofing Systems (Justin Henshell)