REDUCE POTENTIAL
OF ENTRY DOOR WATER INFILTRATION

PLYCO

INSTRUCTIONS

Objective: reducing water infiltration for any door series or type. There are some general guidelines that will be beneficial and helpful in most applications.

1

The first and best option is by reducing or eliminating the door exposure to the elements.

● Anything to reduce the elements from hitting the door will be very beneficial.

- Porch with overhang
- Storm Door
- Canopy – limited use depending on the size and overhang

2

Swing of the Door

● An outswing door will have a greater ability to reduce water infiltration due to the door sitting on the outside of the frame and thus water that hits the door and frame will generally go down each and drain to the exterior of the building. (make sure concrete or approach is sloped away).

● Inswing doors are more susceptible to water infiltration since the door sits on the interior of the frame and swings into the building. Water could go down the door and to the threshold, thus providing a more difficult weeping away the water towards the exterior of the building. See the following items to find ways to reduce the threat of water entering the building.

● At some level, no matter what is done, if there are high winds and/or large amounts of rain, any opening may be compromised. There is nothing that provides 100% certainty for no water to enter.

3

Installation Support items

● Regardless of whether the door is an inswing or outswing door, there are several things that should be done at the time of install to help prevent water infiltration on or below the threshold.

● **Best:** Sill pan. A Sill pan is “pan” that the door sits on top of that is designed to capture any water around the lower portion of the door. any water that makes it’s way through the door and threshold will fall into the pan. The pan slopes outward so the captured water will follow the slope and drain out the exterior of the door.

● **Good:** Sill plate sealer (like Protecto Dual Guard Threshold Tape). Conventional caulking generally has some pitfalls. The amount of caulk, the location of the caulk, the long term durability of caulk and the contact point with the legs of the threshold typically does not completely close off the area to water. In addition, over caulking with sometimes discoloration just doesn’t look good. So, a very good sill sealer can go a long way to closing the gaps. The example of Protecto Dual Seal Wrap is a good one. It has a bottom layer of thick waterproofing membrane with a closed cell polyethylene foam surface layer.

● **Average:** Caulk. A good bead of caulk can work, but it requires a very solid application with contact in the right locations. Generally speaking caulk will dry or break down over time so further “touch up” applications will be required.

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4 Thresholds

- **.Universal** - A universal threshold is used for 4-way universal swing doors. As a result, the threshold must be uniform whether used as an inswing or outswing application. So, it must be “neutral” in how it is designed – meaning it generally is level or straight across the top. The negative is that water does not find a slope to weep to the exterior of the door. Generally it is recommended that universal swings are used in applications whereby some water infiltration does not cause a problem.
- **Dedicated swing threshold** - A dedicated swing threshold is one that is designed specific to the swing and is sloped from inside to outswing to better weep the water. On an inswing door, the threshold will be at the highest point right under where the door sits and then have a pretty good slope leading to the outside. So when water rolls down the door it will hit the threshold at the point where the slope happens and weep down the slope to the exterior.

5 Sweep/weather-seal/fit

- Often overlooked is the sealing properties of the bottom door sweep and the jamb weather-seal. At the bottom of the door, the sweep should make good contact with the top of the threshold to ensure water does not have a direct opening into the building. That also means that the sweep should remain flexible in extreme temperatures. Rigid fingered or bulb sweeps could potentially lose shape or tear providing gaps for water to find.
- The door jamb and head weather-seal and overall fit is less critical as it doesn’t have quite the impact of the sweep, but it also should make good contact with the door and not provide gaps for air or water. During installation of the door make sure to check this as installing the door out of square or with the jambs toed in or out will provide the opportunity for this condition to happen.

SUMMARY

Doors are an integral part of a building and at some level, because it is the method people walk into and out of the building, it becomes a critical factor in the overall perception of the quality of the building. The overall appearance is important for a door, but so is the ability to act in the manner it is intended for. So, the insulating properties, security level, and air and water infiltration all play a part in decision process for what doors to use and the options within each type of door to select.

PLYCO™ CORPORATION
ELKHART LAKE, WI • 800.558.5895