Horizontal Water-Resistive Barrier: Why it's a Bad Idea

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What is a Water-Resistive Barrier (WRB)?

Per the 2021 International Building Code (Chapter 2, Definitions):

Water-Resistive Barrier: A material behind an exterior wall covering that is intended to resist liquid water that has penetrated behind the exterior covering from further intruding into the exterior wall assembly.

Examples: Grade D Paper (felt paper), Synthetic fibers (high-density spunbound polyethylene)





When is a WRB required?

Chapter 14 "Exterior Walls," Section 1403 "Materials"

1403.2 Water-resistive barrier. Not fewer than one layer of waterresistive barrier material shall be attached to the studs or sheathing, with flashing as described in Section 1404.4, in such a manner as to provide a continuous water-resistive barrier behind the exterior wall veneer. Water-resistive barriers shall comply with one of the following:

- 1. No. 15 felt complying with ASTM D226, Type 1.
- 2. ASTM E2556, Type I or II.
- 3. ASTM E331 in accordance with Section 1402.2.

4. Other approved materials installed in accordance with the manufacturer's installation instructions.

What do the manufacturers say?

Special Considerations

- When performance requirements exceed ASTM E1677, 65 mph equivalent structural load and 15 mph equivalent wind-driven rain water infiltration for buildings less than 5 stories, it is recommended to install a high pressure skirt to help prevent water intrusion at the sill or threshold and follow the *DuPont*[™] Flashing Systems Commercial Installation Guidelines.
- DuPont[™] Tyvek[®] StuccoWrap[™] and DuPont[™] Tyvek[®] DrainWrap[™] must be installed with drainage grooves vertical, going up and down.

https://www.dupont.com/knowledge/weather-barrier-faqs.html

Can Tyvek[®] be used on roofs? Under floors?

No, these uses are not recommended. All Tyvek[®] products in Canada and the U.S. have been tested and approved as products to be installed behind exterior walls. However DuPont[™] Tyvek[®] Protec[™] provides a high-quality roof underlayment choice.

What do the manufacturers say?

INSTALLING JUMBO TEX® THIS GUIDE APPLIES TO ALL GRADES OF JUMBO TEX AND HYDRO TEX™

Limitations: Product should be covered as soon as possible. Inspect product to insure it is free of any protrusions or damage which may detract from the weather-resistive barrier integrity. Holes, tears or punctures should be sealed with Moistop[®] Sealant or Fortifiber Sheathing Tape. This product is not recommended for horizontal, roofing or below grade applications.





Foam capped archway, terminates into stucco-clad exterior wall. Wood structural sheathing on wood stud frame. Note lack of flashing at intersection, and splits in the sealant joint. Water gets in through the cracked sealant.





Upon removing the foam cap and stucco, the WRB is exposed, and has suffered significant water damage due to horizontal application and moisture exposure.





The Grade D paper has basically disintegrated, offering essentially zero protection to the wood structure underneath.





Probable biological growth due to longterm moisture exposure.

How does the wood structure hold up underneath?





Thank you!

