

# PWA-104 Water Resistant Barrier (WRB)

Many designers and contractors prefer to put the Water-Resistive Barrier over or on top of the foam in PWA 104. It would seem obvious and logical, as we do that with gypsum and wood based sheathing. The Western Conference of Wall and Ceiling Institutes has experience and given the issue much debate. There are three considerations about applying the WRB over the foam that should be thoroughly discussed before making that decision.

1. **Cantilevering:** Similar to cement plaster over masonry, the WRB can act as a bond breaker. The Western Conference has found that the assembly performs better when the cement “bonds” to the foam. A bond breaker or WRB between the foam and the cement creates a condition where the cement plaster is fully cantilevered out from the supporting framing. While the Western Conference has engineering reports that state the cantilever issue is not a substantial concern, the Western Conference prefers to error on the side of caution.
2. **Flashing:** It is easier, simpler and more practical to apply the WRB in conjunction with flashing in a single flat plane; essentially over the gypsum or wood based sheathing that is typically in line with the flashings of the penetrating items. Applying the WRB over two inches of foam would have the WRB snaking up and down the wall, unless one plans to hang windows and other items on the foam, which is doubtful. The Western Conference prefers the WRB in as straight a line as possible, for ease of installation and most effective weep plane for incidental moisture intrusion.
3. **Fastener Leaks:** Attaching a lath over a WRB applied to a foam board is not like attaching lath and the WRB to gypsum or wood based sheathing. These sheathings are very rigid and do not give or deflection readily under pressure. Foam will give or depress as the fastener is pressed to insure a secure attachment. The amount of installation care to insure that excess pressure is not excreted against the foam substrate that could tear the WRB, is considered beyond reasonable expectations for installers to adhere to.

The PWA -104 assembly recommends the WRB under the rigid foam, but does not forbid designers from choosing the option of applying the WRB over the foam. The Western Conference encourages new ideas and approaches, but only after careful consideration of all potential problems, ramifications and benefits of WRB over the foam.