

PWA-104: Insulation Board: Rigid Foam

The **type of** rigid foam used for PWA -104 shall have a minimum rating density of 1.5 pounds per cubic square foot. This density helps minimize the hard brittle membrane over a softer more flexible substrate.

Experience has demonstrated the EPS and XPS rigid foam panels provide a blend of adequate density (when 1.5 pounds or more) and a good bond to the cement to work well with PWA-104. In addition, the higher density boards typically are less porous and more resistant to moisture penetration. Polyisocyanurate boards typically have good density, but due to a facing product can lack the ability to allow cement to bond to the foam panel adequately. Designers are encouraged to verify from the polyisocyanurate foam manufacturer the appropriate density and bond capability prior to using any rigid foam insulation.

Tongue and groove foam panels may be used, but are not required for PWA-104.

Fire ratings: PWA-104 are maintained when the rigid foam used meet certain criteria. The criteria established herein are intended to keep the combustible fuel level below the maximum limits allowed by established fire and building codes.

- Smoke Develop index of not more than 450
- Flame Spread index 25 or less
- Maximum Thickness – Code allows 4” max for fire. WCWCI recommends 2” max.

Drainage: It is recommended to use foam panels with shallow channels to promote moisture drainage between the foam and the underlying WRB. An alternate to channeled foam is the use of a drainage mat or a water-resistive barrier that promotes bulk-water drainage.

Installation: is recommended to be in a horizontal fashion with vertical joints staggered a minimum of 16 inches. Panels should be installed in moderate contact with each other. Moderate contact means “essentially touching along edges and ends.” small gaps are acceptable, as air has measurable insulation value. Gaps should not exceed 3/16 inch in width. Gaps that are wider can be filled with slivers or a spray-in product compatible with the rigid foam base (check with the foam manufacturer).

Attachment of the rigid foam should be to the framing or furring members with plastic washer type fasteners spaced no further 24 inches on center.

Weathering: The foam panels should be stored in their original plastic bags and away from direct sunlight and heat sources. Foam panels installed on the wall surface should be covered with the stucco coating as soon as possible. Do not allow installed foam panels to “yellow” from UV degradation. Any panels that may have yellowed should either be replaced (severe

degradation) or cleaned off. Cleaning can be achieved by the brushing off of the UV damaged surface (yellowed) and washing the surface to remove all dust particles.