



Protecting STYROFOAM Brand Insulation Below Dark Roofing Membranes and Fabrics

STYROFOAM* brand insulation has a maximum use temperature of 165°F. When this temperature is exceeded, STYROFOAM brand insulation can exhibit unacceptable levels of dimensional change. This dimensional change can result in bowing, curling, or board shrinkage.

Dark roofing membranes, such as black EPDMs and heavy (ME) geotextile fabrics (>4.5 OB/sq. yard), can reach temperatures of 190°F when exposed to direct sunlight on hot days. This TechNote provides some guidelines on protecting the foam during summertime installation.

Dark Membrane or Geotechnical Fabric, Loose-Laid and Ballasted

In loose-laid, ballasted, conventional roofing or PMR applications, the dark roofing membrane or geotechnical fabrics over the foam is exposed to direct

sunlight until the ballast is installed. This direct exposure prior to ballasting may vary from a few hours to a few weeks.

Dow experience has shown that when the foam is exposed to both direct sunlight and an outdoor air temperature over 90°F, distortion of the foam can occur in as little as thirty minutes when a black membrane or heavy (ME) geotextile fabric is installed directly on top of STYROFOAM brand insulation. This phenomenon can be further aggravated at locations near adjacent windows or light-colored reflective walls.

To prevent this phenomenon from occurring, the following precautionary measure can be taken:

During hot weather, temporarily place white opaque polyethylene film on

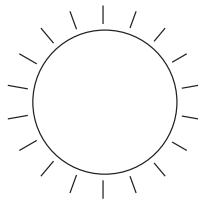
top of the dark single-ply membrane or heavy fabric to keep it cool until the ballast can be placed (see Sketch A). The film can be held down with tires or other temporary ballast. The film can be reused by removing it as the permanent ballast is installed. This film should keep the membrane or fabric well below the maximum use temperature of the foam insulation.

Dark Membrane, Mechanically Attached

In mechanically-attached applications with dark membranes, a protective overlayment board must be installed on top of the STYROFOAM brand insulation (see Sketch B). This overlayment board serves both as a heat sink and as insulation and should keep the foam insulation below its maximum use temperature.



Protecting STYROFOAM Brand Insulation from Excessive Heat



Precautions Must Be Taken With...

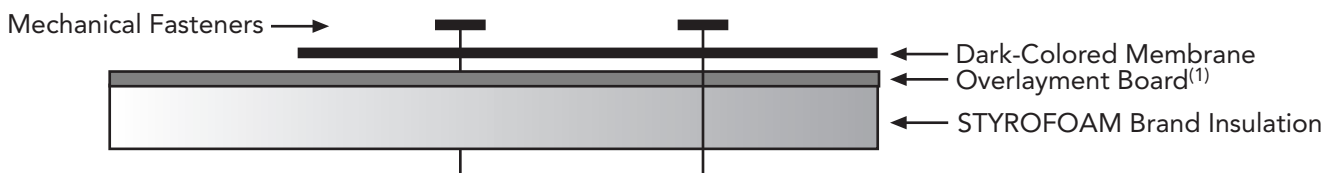
Sketch A: Dark-Colored Membrane, Ballasted



If ambient outside temperature is 90°F or higher, use white opaque polyethylene film to cover the membrane temporarily until ballast is placed.

Precautions Need Not Be Taken With...

Sketch B: Dark-Colored Membrane, Mechanically Attached



(1) In most cases, an overlayment board of 1/4" thick Dens-Deck offers adequate protection. Extremely high temperature may be reached on the surface of the dark membrane if the roof has areas with adjacent light-colored sidewalls or windows. This is because these walls or windows reflect sunlight onto the surface of the membrane. In these areas, minimum 1/2" thick wood fiberboard must be used as an overlayment board.

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NOTICE: STYROFOAM brand insulation is combustible. Protect from flame and other high heat sources. For more information, consult MSDS and/or call Dow (1-800-441-4369). In an emergency, call (1-517-636-4400). Local building codes may require a protective or thermal barrier. Contact your local building inspector for more information.

For technical information, call 1-800-441-4369

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