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●●● Innovative solutions for a sustainable future

April 15, 2016

Cindy Masiko  
Insulation Corporation of America  
2571 Mitchell Ave  
Allentown, PA 18103

Dear Cindy:

Per your request we are providing information on the effects of UV exposure to expanded polystyrene (EPS) building insulation. Prolonged exposure to sunlight may cause slight discoloration and surface dusting of EPS insulation but will not significantly affect its insulating properties. It is suggested that EPS, when stored outside, should be protected with a light-colored opaque material.

If not covered immediately, it is recommended that it be covered within 60 days at which time gradual color fading and/or surface dusting may occur. The rate at which ultra-violet light affects polystyrene is a function of the intensity of the UV exposure, including geographical and weather influences.

There are three stages of polystyrene reaction to UV exposure:

- 1) Fading and/or discoloration typically occurs within 2-4 weeks depending on exposure rates. This does not impact physical performance properties in any way.
- 2) Dusting results in a thin layer covering the surface which can deteriorate the outermost cell structure of the polystyrene. This does not impact the integrity of the overall material.
- 3) Over extended periods of time, when the outermost cells experience ongoing deterioration, the material thickness can erode to a point where r-value loss is possible due to the proportional reduction in insulation thickness, (e.g. if 1-inch EPS Type I has a 3.6 r-value then ¾-inch would have a ~3.15 r-value—*whether exposed to sunlight or not*).

Please let us know if we can provide any further assistance.

Sincerely,

EPS INDUSTRY ALLIANCE

A handwritten signature in black ink, appearing to read "Betsy Steiner".

Betsy Steiner  
Executive Director