

The Use of Dark Colors with EIFS

Conventional EIFS assemblies incorporate expanded (EPS) or extruded (XPS) polystyrene rigid insulation boards with a maximum sustained service temperature of approximately 165°F (74°C). Using dark colors contribute significantly to the surface temperature of the wall cladding, potentially causing deformation of the rigid insulation by exceeding its service temperature. Additional factors that should be considered:

- **Adjacent reflective surfaces** such as metal roofing, windows, metal flashing, etc. Reflective surfaces adjacent to or reflecting on the cladding can intensify the sun's effect, significantly increasing the surface temperature and potentially resulting in localized deformation of the expanded polystyrene insulation.
- **Building geometry, setting/orientation, location.** South, west and east facing elevations sustain higher temperatures depending on sun's location. The more direct (or closer to 90 degrees) the angle of the sun to the wall surface, the higher the surface temperature.
- **Aesthetic features** including sills and slopes. Sloped or horizontal surfaces will generally have a higher mid-day surface temperature than vertical surfaces because the angle of the sun is more direct.

If the use of dark colors is required to meet your design needs, areas subject to elevated, sustained service temperatures can potentially be addressed through adjustments such as:

- Selecting colors with Light Reflective Values (LRV) of 20% or greater.
- Reduce large regions of angled shapes. Surfaces perpendicular to the sun absorb more heat.
- Limit use of dark colors to small areas.
- Use of thicker/multiple layers of base coat with high impact reinforcing mesh can provide some relief.

These guidelines are provided to offer assistance to the owner and/or design professional. Final design of any building is the responsibility of the design professional.



For the most current version of this literature, please visit our website at senergy.master-builders-solutions.com/en.

A brand of
MBCC GROUP