

November 24, 2014

**California Energy Commission**  
Dockets Office, MS-4

Re: **Docket No. 14-BSTD-01**  
Eliminating 1000ft<sup>2</sup> exception in Section 110.6(a)

California Energy Commission

**DOCKETED**

**14-BSTD-01**

TN 74054

**NOV 24 2014**

I recommend eliminating the exceptions that allow the use of the calculation method in Reference Nonresidential Appendix NA6 to calculate U-factor, SHGC and VT in most cases. This exception and its predecessors have long been used by the nonresidential construction industry to avoid the use of National Fenestration Rating Council (NFRC) ratings on nonresidential fenestration products. One example of how severe this lack of ratings is that in the last 4 years NFRC has issued only about 40 component modeling label certificates to California addresses.

Fenestration products have a key impact on building energy performance and encouraging rated products helps to ensure that products meeting the building standards are actually installed. NFRC ratings have been referenced by the building energy standards since the early 1990's. The residential market transitioned to having labels by the late 1990's. However, it appears that most nonresidential projects continue to avoid using rated products. Ratings are now more important than ever as the 2013 and 2016 standards generally prescribe thermally broken metal frame products (for low U-factors) with extra low solar gain low emissivity coatings (for low SHGC and high VT). Accurate performance values for this type of product requires ratings, not default equations like those in NA6.

It is now time to eliminate these exceptions as proposed below. This proposed language also clarifies the alteration exceptions for glass-only replacement.

**RECOMMENDATION:** Delete Exception 1 and modify Exception 2 to Sections 110.6(a)(2), 110.6(a)(3) and 110.6(a)(4) as suggested below:

2. **U-factor.** The fenestration product's U-factor shall be rated in accordance with NFRC 100, or use the applicable default U-factor set forth in TABLE 110.6-A.

~~**EXCEPTION 1 to Section 110.6(a)2:** If the fenestration product is a vertical skylight or is a site-built fenestration product in a building covered by the nonresidential standards with less than 1,000 square feet of site-built fenestration, the default U-factor may be calculated as set forth in Reference Nonresidential Appendix NA6.~~

**EXCEPTION 2 to Section 110.6(a)2:** If the fenestration product is part of an alteration consisting of any area that includes the replacement of glass, but not the frame, in a

skylight product or in a vertical site-built fenestration product, in a building covered by the nonresidential standards, the default U-factor may be calculated as set forth in Reference Nonresidential Appendix NA6.

3. **Solar Heat Gain Coefficient (SHGC).** The fenestration product's SHGC shall be rated in accordance with NFRC 200, or use the applicable default SHGC set forth in TABLE 110.6-B.

~~**EXCEPTION 1 to Section 110.6(a)3:** If the fenestration product is a skylight or is a vertical site-built fenestration product in a building covered by the nonresidential standards with less than 1,000 square feet of site-built fenestration, the default SHGC may be calculated as set forth in Reference Nonresidential Appendix NA6.~~

**EXCEPTION 2 to Section 110.6(a)3:** If the fenestration product is part of an alteration consisting of any area that includes the replacement of glass, but not the frame, in a skylight product or in a vertical site-built fenestration product, in a building covered by the nonresidential standards, the default SHGC may be calculated as set forth in Reference Nonresidential Appendix NA6.

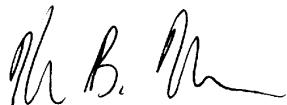
4. **Visible Transmittance (VT).** The fenestration product's VT shall be rated in accordance with NFRC 200 or ASTM E972, for tubular skylights VT shall be rated using NFRC 203.

~~**EXCEPTION 1 to Section 110.6(a)4:** If the fenestration product is a skylight or is a vertical site-built fenestration product in a building covered by the nonresidential standards with less than 1,000 square feet of site-built fenestration, the default VT may be calculated as set forth in Reference Nonresidential Appendix NA6.~~

**EXCEPTION 2 to Section 110.6(a)4:** If the fenestration product is part of an alteration consisting of any area that includes the replacement of glass, but not the frame, in a skylight product or in a vertical site-built fenestration product in a building covered by the nonresidential standards, the default VT may be calculated as set forth in Reference Nonresidential Appendix NA6.

Thanks for considering this proposal. As a matter of disclosure, Enercomp, Inc. operates WESTLab, an NFRC accredited lab that provides NFRC ratings to the fenestration industry.

Sincerely,



**Ken Nittler, P.E.**  
Enercomp, Inc.