

**DOCKETED**

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## **NFRC Fenestration Ratings**

*Additional submitted attachment is included below.*

Subject: NFRC Fenestration Ratings

Documents: 2019 Nonresidential Compliance Manual & Residential Compliance Manual

NFRC has two rating systems: The Product Certification Program, and the Component Modeling Approach. The Product Certification Program (PCP) was NFRC's first fenestration certification program, designed with factory-assembled windows in mind. This program has become very popular for mass-produced residential windows. The PCP program requires that, for any particular window, glass door or skylight for which certified ratings are sought, it be lab tested to obtain the U, SHGC and VT ratings.

The Component Modeling Approach (CMA) was subsequently developed by NFRC to provide more flexibility in developing ratings for fenestration where there could be a great quantity of options between various frame components, and glass types/models. Under this program, various fenestration system components are individually tested, and receive a rating. Using these component ratings in the CMAST software program, NFRC certified U, SHGC and VT ratings are calculated. This program was designed to be especially advantageous for site-built fenestration (e.g. storefront, curtainwall).

It was thought that the CMA program might become popular with glazing subcontractors. However, in my experience, fenestration manufacturers are the ones getting their products NFRC certified. I have never known a glazing subcontractor to be a certified CMAST user. Which doesn't mean that there are no glazing subcontractors producing certified CMA type ratings. But the fact that fenestration manufacturers are often doing CMA certifications ought to be mentioned in the NCM.

While the PCP program was designed especially for factory-assembled fenestration, and the CMA program was designed principally for site-built products, it recently came to my attention that Arcadia has been obtaining NFRC certified energy values for some of their storefront products under the PCP program.

On July 23, I spoke with Steve Urich, Director of Programs for NFRC, about use of the PCP and CMA programs. He did confirm that site-built fenestration may be certified under either the PCP or CMA programs. He added that factory-assembled products may also be certified under either the PCP or CMA programs.

The NCM and the RCM explanations of NFRC certified ratings are not currently clear that either the PCP program or the CMA program may be used for any type of fenestration product seeking NFRC certified energy ratings. Furthermore, the NCM language about the CMA program makes it appear that the CMA program has big benefits in terms of energy compliance. But I am confident that NFRC has similar confidence in the energy ratings produced by either the PCP or the CMA programs. Obviously, some manufactures favor one program, others favor the other program – and some may use one program for some products, the other program for other products.