

**DOCKETED**

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**BIRCH POINT**  
Consulting



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Docket 19-BSTD-03

2022 Energy Code Multifamily Restructuring final CASE report

Thank you for the opportunity to comment on the final Multifamily Restructuring CASE report. We will keep these comments brief, building upon our prior detailed comments from October 27. As previously noted, I represent the National Glass Association and Aluminum Extruders Council, whom together have over 1800 member companies and manufacturing across North America. We represent broad interests across the commercial and residential fenestration industry from the primary glass manufacturers, to glazing fabricators and frame extruders, to curtain wall and commercial window and door system manufacturers, window and door dealers, to the final glazing contractors and installers.

First and foremost, we want to again thank the CASE team for their hard work, dialogue, and willingness to make revisions in the final CASE report in response to prior comments. Thank you.

Overall, we support the changes made for the fenestration requirements, and in particular, the inclusion of U-factors appropriate for AW-class architectural windows certified in accordance with the North American Fenestration Standard (NAFS, or AAMA/WDMA/CSA 101/IS2/A440). This is very important to ensure that the code accounts for both structural requirements and energy efficiency goals, and not jeopardize safety.

I will note that the draft language references “NAFS-08”. That is an older version of the standard. The most recent version referenced in the IBC and other places is from 2017:

AAMA/WDMA/CSA 101/I.S.2/A440-17, NAFS – North American Fenestration Standard/Specification for Windows, Doors and Skylights

With the addition of the AW category, we agree that the proposed prescriptive window criteria for new construction and alterations are achievable and cost effective. We also agree with including separate criteria for fixed and operable AW windows for alterations and replacement windows. These products have different performance levels, and while area-weighted averaging can be used in new construction, replacements and alteration projects may involve only one type. In that case, area-weighted averaging doesn’t work, and criteria need to be set appropriately for each type. ASHRAE 90.1 and IECC also have separate criteria for fixed vs. operable windows, in part for this reason.

We do have some question why minimum VT requirements were inserted for the AW windows, when there is no minimum VT requirement for the “all other” windows category. A minimum VT for the curtain wall / window wall / storefront category makes more sense because that will mainly be in lobbies and common areas that will have daylighting controls to capture energy savings. However, for unit windows in dwelling units that have no daylighting controls, there is no energy savings associated with VT. We don’t have a major concern with the specific value; it is

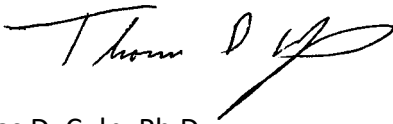
more that including any requirement on VT lacks a rational basis in this case. Page 38 of the report itself states:

“In multifamily spaces, modeling a variance in VT has no energy impact as there are no automated controls to interact with the space’s natural daylighting. There are no proposed VT requirements for the all-others window category to match current residential code.”

The same would apply to the AW windows. We do strongly support good daylighting, but VT is only one small aspect of daylighting design. In reality, most windows being installed with modern glazing will already have high VT, but that is market-driven and best determined by the designer together with consideration of controls, geometry, shading, etc. Without a technical basis tied to cost effective energy savings, we suggest that either the minimum VT requirements for AW windows be removed like in the “all other” category, or the requirement be limited to spaces where daylight controls are required.

Thank you again for the opportunity to comment, and congratulations on completion of this phase of the process.

Best regards,

A handwritten signature in black ink that reads "Thomas D. Culp". The signature is fluid and cursive, with a long, sweeping underline that extends to the right.

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