

DOCKETED

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WDMA Fenestration Comments

Additional submitted attachment is included below.



May 13, 2024

Commissioner Andrew McAllister
California Energy Commission
Docket Unit, MS-4
715 P Street
Sacramento, California 95814

RE: Docket No. 24-BSTD-01 2025 Energy Code Rulemaking

Dear Commissioner McAllister:

The Window and Door Manufacturers Association (WDMA) appreciates the opportunity to comment on the fenestration measures for the Energy Code Rulemaking for the 2025 edition of California's Title 24 energy code. WDMA is a national trade association representing the nation's leading producers of windows, doors, and skylights. Our members sell to distributors, dealers, builders, remodelers, homeowners, architects, contractors, and other specifiers in the residential, commercial, and institutional construction markets. WDMA members manufacture high-quality products designed and constructed to performance-based standards that provide improved safety, comfort, and energy efficiency for new construction and renovation of residential and light commercial buildings.

WDMA has actively participated throughout the development of this edition of the California Energy Code. Last year we provided public input at various stages in the process and acknowledge the thoughtful consideration given to many of our comments by the CASE team.

WDMA has four public comments we have for the California Energy Commission to consider:

Fenestration U-Factors in Table 150.1-A

- The U-factors for fenestration in Table 150.1-A (Page 484) have been revised for Climate Zones 1-5, 11-14, and 16. Initially, during the May 17, 2023, CASE presentation, the "Fenestration - Maximum U-factors" in the residential prescriptive table were adjusted from 0.30 to 0.28. WDMA was pleased with this update.
- The October CASE Report further reduced the U-factor to 0.27. These updated values have been maintained in the current 45-day draft language.
- The Environmental Protection Agency developed a cost and energy savings analysis ([EPA Final Draft Data Package 1b- Savings Data](#)) to justify the revised specifications for ENERGY STAR V7.0 requirements. When using the EPA cost and savings values with a 0.28 U-factor baseline compared to an incremental change to a 0.27 U-factor window, the paybacks vary from 35 to 71 years. WDMA encourages the CEC to perform a similar incremental cost-effectiveness analysis comparing a baseline window with a 0.28 U-factor with a 0.27 U-factor.

IECC Zone	Baseline	Increment	EPA Construction Cost Increase	EPA Annual Energy Savings	Simple Payback
3	0.28 U, 0.23 SHGC	0.27 U, 0.23 SHGC	\$286	\$4	71 years
4	0.28 U, 0.30 SHGC	0.27 U, 0.30 SHGC	\$286	\$8	35 years
5	0.28 U, 0.30 SHGC	0.27 U, 0.30 SHGC	\$286	\$8	35 years

For reference, below is a rough comparison of California Climate Zones that are either completely or partially included in the International Code Council's (ICC) International Energy Conservation Code (IECC) and ENERGY STAR Climate Zones.

California Zone	IECC	ENERGY STAR
15	2	Southern
1-16	3	South-Central
1, 2, 12, 16	4	North-Central
16	5, 6	Northern

- It should be noted that WDMA is not in full support of the window costs developed by EPA for the ENERGY STAR V7.0 analysis. We believe their analysis underestimates the incremental cost and unfairly penalizes non-vinyl windows. However, for this comparison, we believe these values can be used as a conservative assessment of the years it will take for the consumer to recoup the incremental increase in construction costs for a 0.27 U-factor window instead of a 0.28 window.
- The change from the 2022 Title 24 U-factor of 0.30 to a 0.28 U-factor statewide will result in a significant improvement of 7% in fenestration performance.

SHGC Change in Table 150.1-A Climate Zone 15

- Page 484 Table 150.1 SHGC in Climate Zone 15 was changed from 0.23 to 0.20.
- This change was new with the March 28th 45-day Language. The change does not show up in any of the presentations and does not appear to be justified.
- To have this as a separate requirement for one, relatively unpopulated, climate zone is confusing and potentially problematic.
- For the sake of uniformity and economies associated with only having one SHGC requirement statewide, WDMA recommends retaining the 0.23 SHGC for Climate Zone 15.

Fenestration SHGC Area-Weighted Averages

- Page 474 Item 3 A – Adding the “a” may have unintended consequences.

3. Fenestration.

- A. *Installed fenestration products, including glazed doors, shall have an area-weighted average U-factor and **a** Solar Heat Gain Coefficient (SHGC) meeting the applicable fenestration value in Table 150.1-A and shall be determined in accordance with Sections 110.6(a)2 and 110.6(a)3.*
- The “a” potentially changes the intent by no longer permitting the SHGC to be area-weighted average. WDMA recommends removing the “a” or changing it to “an area-weighted average”.

Fire-resistant Glazing Exception

- Fire-resistant glazing is occasionally required in certain hazardous locations and when specified fire separation distances are met.
- It can be difficult to achieve fire-resistance ratings along with the energy efficiency performance requirements of the California Energy Code.
- WDMA recommends adding an exception for fenestration energy ratings when fire-resistant glazing is required.
- WDMA has been working with the National Glass Association to develop the following language which we support:
Exception 2 to Section 110.6 (a): Fire-resistance rated glazed walls, and windows and exterior doors that are required to comply with the provisions of The California Building Code Title 24 Part 2, Section 716 Opening Protectives

Again, we appreciate this opportunity to comment on the CEC draft of the Express Terms for the 2025 Title 24. Please don't hesitate to contact me at CDrumheller@wdma.com if you have any questions regarding our comments.

Sincerely,



Craig Drumheller
Vice President of Technical Activities
Window & Door Manufacturers Association