

Proposal Summary



2022 California Energy Code (Title 24, Part 6)

Refine Prescriptive Exterior Shading Reflective Solar Heat Gain Coefficient Requirements

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Introduction

The document summarizes proposed revisions to the California Energy Code (Title 24, Part 6) that will be discussed during a utility-sponsored stakeholder meeting on September 5, 2019. The Statewide Utility Codes and Standards Enhancement (CASE) Team is seeking input and feedback. To provide your comments, email info@title24stakeholders.com by September 19, 2019.

Measure Description

This submeasure would revise the prescriptive Relative Solar Heat Gain Coefficient (RSHGC) requirement to offer credit for both louvers and overhangs based on a formula derived from updated Time-Dependent Valuation energy values. This revision may also possibly eliminate unexpected characteristics of the current formula.

Draft Code Language

Standards

SECTION 140.3 – PRESCRIPTIVE REQUIREMENTS FOR BUILDING ENVELOPES

- C. Have an area-weighted average Relative Solar Heat Gain Coefficient, RSHGC, excluding the effects of interior shading, no greater than the applicable value in TABLE 140.3-B, C or D.

For purposes of this paragraph, the Relative Solar Heat Gain Coefficient, RSHGC, of a vertical window is:

- i. The Solar Heat Gain Coefficient of the window; or
- ii. Relative Solar Heat Gain Coefficient is calculated using EQUATION 140.3-A, if the window has an overhang or exterior horizontal slats that extends beyond each side of the window jamb by a distance equal to the overhang's horizontal projection.



EQUATION 140.3-A RELATIVE SOLAR HEAT GAIN COEFFICIENT, RSHGC

$$\cancel{RSHGC} = \cancel{SHGC}_{win} \times \left[\cancel{1} + \cancel{\frac{aH}{V}} + \cancel{b} \left(\frac{H}{V} \right)^2 \right]$$

RSHGC = SHGC_{win} × _____

WHERE:

RSHGC = Relative Solar Heat Gain Coefficient.

SHGC_{win} = Solar Heat Gain Coefficient of the window.

H = Horizontal projection of the overhang from the surface of the window in feet, but no greater than V.

V = Vertical distance from the window sill to the bottom of the overhang in feet.

a = ~~-0.41~~ ___ for north-facing windows, ~~-1.22~~ ___ for south-facing windows, and ~~-0.92~~ ___ for east-facing windows and ___ west-facing windows.

b = ~~0.20~~ ___ for north-facing windows, ~~0.66~~ ___ for south-facing windows, and ~~0.35~~ ___ for east-facing and ___ west-facing windows.