

**CHAPTER 4
COMMERCIAL ENERGY EFFICIENCY**

**SECTION C402.3.1.1
2012 Edition
IECC Interpretation 60-14
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C402.3.1.1 Increased vertical fenestration area with daylighting controls. In Climate Zones 1 through 6, a maximum of 40 percent of the gross above-grade wall area shall be permitted to be vertical fenestration, provided:

1. No less than 50 percent of the conditioned floor area is within a daylight zone;
2. Automatic daylighting controls are installed in daylight zones; and
3. Visible transmittance (VT) of vertical fenestration is greater than or equal to 1.1 times solar heat gain coefficient (SHGC).

Exception: Fenestration that is outside the scope of NFRC 200 is not required to comply with Item 3.

REFERNCED SECTIONS:

C402.3 Fenestration (Prescriptive). Fenestration shall comply with Table C402.3. Automatic daylighting controls specified by this section shall comply with Section C405.2.2.3.2.

C402.3.1 Maximum area. The vertical fenestration area (not including opaque doors and opaque spandrel panels) shall not exceed 30 percent of the gross above-grade wall area. The skylight area shall not exceed 3 percent of the gross roof area.

C405.2.2.3.1 Manual daylighting controls. Manual controls shall be installed in daylight zones unless automatic controls are installed in accordance with Section C405.2.2.3.2.

C405.2.2.3.2 Automatic daylighting controls. Set-point and other controls for calibrating the lighting control device shall be readily accessible.

Daylighting controls device shall be capable of automatically reducing the lighting power in response to available daylight by either one of the following methods:

1. Continuous dimming using dimming ballasts and daylight-sensing automatic controls that are capable of reducing the power of general lighting in the daylit zone continuously to less than 35 percent of rated power at maximum light output.
2. Stepped dimming using multi-level switching and daylight-sensing controls that are capable of reducing lighting power automatically. The system shall provide a minimum of two control channels per zone and be installed in a manner such that at least one control step is between 50 percent and 70 percent of design lighting power and another control step is no greater than 35 percent of design power.



Q: Are manual day lighting controls permitted when the increase from 30 per cent to 40 per cent in vertical fenestration area is used?

A: No, manual daylighting controls are not permitted.

Section C405.2.2.3.1 requires manual daylighting controls to be installed unless automatic daylighting controls are installed in accordance with C405.2.2.3.2.

Section C402.3 requires automatic daylighting controls specified in the Section C402.3 to comply with Section C405.2.2.3.2.

Section C402.3.1.1 item #2 clearly states that automatic daylighting controls are required to be installed when the increase from 30 to 40 per cent vertical fenestration is desired.

So automatic daylighting controls complying with Section C405.2.2.3.2 are required and manual daylighting controls are not permitted.