New or Replacement Windows (Fenestration)  
In Existing Homes  
Permit Guide - 2016 Energy Code

Permit DATE:                               Permit NUMBER:                                             Climate Zone:       2       3       4       12
Permit ADDRESS:                                                                                                               City, Zip:

REPLACEMENT-ONLY or MINOR INCREASE OF TOTAL AREA: Answer both questions

Are you adding more than 75 ft² of fenestration area?
Fenestration includes windows, sliding glass doors, skylights, and any doors with ≥ 50% glass
☐ Yes. Use SUBSTANTIAL INCREASE OF TOTAL AREA section below.
☐ No. Install only windows that meet the applicable requirements in the table below. (lower values are better)

Are you adding more than 16 ft² of skylight area?
☐ Yes. Use SUBSTANTIAL INCREASE OF TOTAL AREA section below.
☐ No. Install only skylights that meet the applicable requirements in the table below. (lower values are better)

SUBSTANTIAL INCREASE OF TOTAL AREA:
Calculate the fenestration area as a percent of conditioned floor area of home:

\[
\frac{(Existing \ total \ fenestration \ area: \ _______ \ sqft) + (Added \ fenestration \ area: \ _______ \ sqft)}{(conditioned \ floor \ area \ of \ home: \ _______ \ sqft)} \times 100 = \______ \% 
\]

Is the total fenestration greater than 20% of conditioned floor area?
☐ No. Install only windows that meet the applicable requirements in the table below. (lower values are better)
☐ Yes. This is a major change to the energy use of the house. The Performance Compliance Approach must be used**.

Repeat the calculation above using just west facing existing and added fenestration areas. Is the west-facing fenestration greater than 5% of conditioned floor area? (Does not apply to Climate Zone 3)
☐ No. Install only windows that meet the applicable requirements in the table below. (lower values are better)
☐ Yes. This is a major change to the energy use of the house. The Performance Compliance Approach must be used**.

<table>
<thead>
<tr>
<th></th>
<th>Replacement Windows (and added windows up to 75 sq ft.)</th>
<th>Replacement Skylights (and added skylights up to 16 sq ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum U-Factor*</td>
<td>0.40</td>
<td>0.55</td>
</tr>
<tr>
<td>Maximum SHGC*</td>
<td>0.35</td>
<td>0.30</td>
</tr>
</tbody>
</table>

Maximum U-Factor*  0.32
Maximum SHGC*    0.25
SHGC does not apply in CZ 3
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Building Inspector:
Each new or replacement fenestration product must have a factory-installed National Fenestration Rating Council (NFRC) Label attached at time of final inspection. The installed U-Factor and SHGC values must be equal to or lower than the selected table values on page 1 (value may be area weighted average).

Reference the CF1R-ENV-01-E Fenestration Installation Certificate, and – if applicable - the CF2R-ENV-02-E Area Weighted Average Calculation Worksheet.

Required Forms:
- 2016-CF1R-ALT-05-E: Certificate of Compliance, Prescriptive Residential Alterations (sections A, D, E, F, and Declaration Statement)
- 2016-CF2R-ENV-01-E: Certificate of Installation, Fenestration Installation
- Optional:  2016-CF1R-ENV-02-E: Area Weighted Average Calculation Worksheet

For more information:
- Visit www.energy.ca.gov/title24/2016standards
- Visit the NRFC website: www.NFRC.org
- Contact the energy code hotline at (800) 772-3300 or email: title24@energy.state.ca.us
- Contact the BayREN Codes & Standards Program by email: codes@bayren.org

* U-Factor and SHGC are performance ratings available from the manufacturer and shown on a temporary NFRC label attached to new windows (see above). Note: Lower values are better. ** Do not remove label until building inspector verifies numbers. ** Weight-averaging by area is allowed. See 2016-CF1R-ENV-02-E.

** Some alterations to existing homes, especially adding windows, will substantially increase energy consumption. Additional conservation measures are likely required to offset this. The performance approach is a way to determine what measures will cost-effectively offset the additional use. Contact an energy consultant at www.cabec.org