



1. PERMIT INFORMATION:

- The installation of new skylights or the replacement of existing requires a Building Permit.
- Homeowners Association:** If the property is regulated by a Home Owners Association, any exterior work must have written approval of the Association. It is the property owner's responsibility to obtain the approval.
- A Permit may be issued only to a State of California Licensed Contractor or the Homeowner.
- If the work is performed by the Homeowner personally or by his/her workers, and an inspection indicates the work cannot be completed satisfactorily, then a licensed contractor must perform the work.
- If the Homeowner hires workers, State Law requires the Homeowner to obtain Worker's Compensation Insurance. Proof of this insurance is required prior to inspection.

2. INSTALLATION REQUIREMENTS:

- Building Codes:** All work must comply with the 2016 California Residential Code (CRC) or 2016 California Building Code, 2016 California Electrical Code (CEC), 2016 California Mechanical Code (CMC), 2016 California Plumbing Code (CPC), 2016 California Energy Code, 2016 California Green Building Code and 2016 Milpitas Municipal Code (MMC).
- On-line permits can only be obtained for skylights that do not include any modifications to the existing roof and/or ceiling framing.** If any changes will be made to the existing roof and/or ceiling framing, drawings must be submitted and approved and the permit obtained in person from the Permit Center, 455 E. Calaveras Blvd. The drawings required include:
 - Roof plan showing the size and location of the skylight(s); indicate the slope of the roof.
 - A framing detail (roof and ceiling) of the opening must be provided (see attached sample). Include the size of existing ceiling joists and rafters and their spacing.
- Conventional framing must comply with the following:
 - Rafters and ceiling joists must comply with allowable spans as per CRC Tables 802.4 and 802.5.
 - If existing roof spans were met by purlins being installed, support struts that extend to bearing walls must be installed at the mid span of the trimmer.
 - Openings in roof and ceiling framing shall be framed with header and trimmer joists. Trimmers and headers shall be doubled when span of the header exceeds 4 feet. (CRC R802.9)
 - The end of the header rafters more than 6 feet long shall be supported by framing anchors or hangers.
- If trusses are to be cut, an Architect or Engineer shall provide structural calculations and plans justifying truss capacity.

- ❑ **Materials.** The following materials are allowed in skylights and sloped glazing (CRC Section R308.6.2):
 - Laminated glass with a minimum 0.015 inch polyvinyl butyral interlayer for glass panes 16 square feet or less in area located such that the highest point of the glass is not more than 12 feet above a walking surface or other accessible area; for higher or larger sizes, the minimum interlayer thickness shall be 0.030 inch.
 - Fully tempered glass.
 - Heat-strengthened glass.
 - Wired glass.
 - Approved rigid plastics.
- ❑ **Screens.** For fully tempered or heat-strengthened glass, a retaining screen meeting the requirements listed under Screen Characteristics shall be installed below the glass, except for fully tempered glass that meets either condition listed under Screens Not Required. (CRC Section R308.6.3)
- ❑ **Screens With Multiple Glazing.** When the inboard pane is fully tempered, heat-strengthened or wired glass, a retaining screen meeting the requirements listed under Screen Characteristics shall be installed below the glass, except for either condition listed under Screens Not Required. All other panes in the multiple glazing may be of any type listed under Materials. (CRC Section R308.6.4)
- ❑ **Screens Not Required.** Screens shall not be required when fully tempered glass is used as single glazing or the inboard pane in multiple glazing and either of the following conditions are met: (CRC R308.6.5)
 - Glass area 16 square feet or less. Highest point of glass not more than 12 feet above a walking surface or other accessible area, nominal glass thickness not more than 3/16 inch, and (for multiple glazing only) the other pane or panes fully tempered, laminated or wired glass.
 - Glass area greater than 16 square feet. Glass sloped 30 degrees or less from vertical, and highest point of glass not more than 10 feet above a walking surface or other accessible area.
- ❑ **Screen Characteristics.** The screen and its fastenings shall be capable of supporting twice the weight of the glazing, be firmly and substantially fastened to the framing members, and have a mesh opening of no more than 1 inch by 1 inch. (CRC R308.6.7)
- ❑ **Curbs For Skylights.** All unit skylights (a factory assembled, glazed fenestration unit, containing one panel of glazing material) installed in a roof with a pitch flatter than 3:12 shall be mounted on a curb extending at least 4 inches above the plane of the roof unless otherwise specified in the manufacturer's installation instructions. (CRC R308.6.8)
- ❑ **Testing and Labeling.** Unit skylights shall be tested by an approved independent laboratory, and bear a label identifying manufacturer, performance grade rating and approved inspection agency to indicate compliance with the requirements of AAMA/WDMA/CSA 101/I.S.2/A440. (CRC R308.6.9)

3. PLUMBING/MECHANICAL REQUIREMENTS:

- ❑ All plumbing and mechanical vents must be located ten (10) feet away or terminate three (3) feet above an operable skylight (CPC Section 906.2).

4. **ENERGY REQUIREMENTS:**

- Skylights must comply with all applicable mandatory measures of the California Energy Code. Refer to the attached form MF-1R for a list of the mandatory requirements.
- All skylights must have a maximum U-factor of 0.32 and a SHGC of 0.25.
- Up to 3 Sq. Ft. of tubular skylight with dual-pane diffusers shall not be required to meet the U-Factor and SHGC requirements of Table 150.1-A. (CEnC 150.1(c)3)
- Total fenestration area shall not exceed 20% of the conditioned floor area.
- Total fenestration area facing west shall not exceed 5% of the conditioned floor area.
- Alterations that add fenestration area (including glazing in skylights) of up to 50 square feet shall not be required to meet the total fenestration area (20%) and west-facing fenestration area (5%) requirements of Sections 150.1(c)3. The existing west-facing fenestration area shall not be increased by more than 50 square feet.
- Title 24 Energy Compliance Reports:** The following forms must be filled out and submitted with the permit application, or for online permits, attached to the permit:
 - Mandatory Measures form MF-1R.
 - Certificate of Compliance form CF-1R ALT.
 - Installation Certificate CF-6R-ENV-01.

5. **SMOKE ALARMS, CARBON MONOXIDE ALARMS & SPARK ARRESTERS:**

- In single family and multi-family residences (including townhomes, condominiums and apartments), installation of smoke alarms, carbon monoxide alarms and spark arresters is required prior to the final inspection as follows: (CRC R314 & R315 and CBC 907.2.11)

Smoke Alarms listed in accordance with UL 217, listed and approved by the California State Fire Marshal and tested & maintained in accordance with the manufacturer's instructions shall be installed in existing or new dwellings as follows: **in each sleeping room, outside each separate sleeping area in the immediate vicinity of the bedrooms and on each story of the dwelling.** In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level. Alarms that no longer function shall be replaced. New smoke alarms that are solely battery powered must have a non-replaceable and non-removable battery capable of powering the smoke alarm for at least 10 years. Fire alarm systems shall be permitted in lieu of smoke alarms if they comply with the provisions of NFPA 72. The installation of smoke alarms and smoke detectors shall also comply with the following requirements:

1. Smoke alarms shall not be located where ambient conditions, including humidity and temperature, are outside the limits specified by the manufacturer's published instructions.
2. Smoke alarms shall not be located within unfinished attics or garages or in other spaces where temperatures can fall below 40°F or exceed 100°F.

3. Where the mounting surface could become considerably warmer or cooler than the room, such as a poorly insulated ceiling below an unfinished attic or an exterior wall, alarms shall be mounted on an inside wall.
4. Smoke alarms shall be installed a minimum of 20 feet horizontal distance from a permanently installed cooking appliance, except Ionization smoke alarms with an alarm-silencing switch or Photoelectric smoke alarms shall be permitted to be installed 10 feet or greater from a permanently installed cooking appliance and Photoelectric smoke alarms shall be permitted to be installed greater than 6 feet from a permanently installed cooking appliance where the kitchen or cooking area and adjacent spaces have no clear interior partitions and the 10 foot distances would prohibit the placement of a required smoke alarm or smoke detector. Smoke alarms listed for use in close proximity to a permanently installed cooking appliance can be installed in accordance with their listing.
5. Smoke alarms shall be installed not less than a 3 foot horizontal distance from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by the code.
6. Smoke alarms shall not be installed within a 36 inch horizontal path from the supply registers of a forced air heating or cooling system and shall be installed outside of the direct airflow from those registers.
7. Smoke alarms shall not be installed within a 36 inch horizontal path from the tip of the blade of a ceiling-suspended (paddle) fan.
8. Where stairs lead to other occupied levels, alarm shall be located so that smoke rising in the stairway cannot be prevented from reaching the alarm by an intervening door or obstruction.
9. For stairways leading up from a basement, alarms shall be located on the basement ceiling near the entry to the stairs.
10. For tray-shaped ceilings (coffered ceilings), alarms shall be installed on the highest portion of the ceiling or on the sloped portion of the ceiling within 12 inch vertically down from the highest point.
11. Smoke alarms installed in rooms with joists or beams shall comply with the requirements of NFPA 72.
12. Heat alarms and detectors installed in rooms with joists or beams shall comply with NFPA 72.

Carbon Monoxide Alarms listed in accordance with UL 2034, or combination carbon and smoke alarm listed in accordance with UL2034 and UL217, listed and approved by the California State Fire Marshal and installed and maintained in accordance with the manufacturer's instructions shall be installed in existing or new dwellings having a fuel-fired appliance, fireplace or an attached garage with an opening communicating with the dwelling as follows: **outside each separate sleeping area in the immediate vicinity of bedroom(s) and on every occupiable level of a dwelling unit.** If there is a fuel-burning appliance located with a bedroom or its attached bathroom, an alarm shall be located within the bedroom.

Power supply: Smoke and carbon monoxide alarms shall receive their primary power from the building wiring and shall be equipped with a battery back-up. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection. Smoke and carbon monoxide alarms are permitted to be solely battery operated (carbon monoxide alarms can also be plug-in with battery back-up) in existing buildings where no construction is taking place; in existing areas of buildings undergoing alterations or repairs that do not result in the removal of interior walls or ceiling finishes exposing the structure unless there is an attic or crawl space available which could provide access for building wiring without the removal of interior finishes; where repairs or alterations are limited to the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck; or when work is limited to the installation, alteration or repairs of plumbing or mechanical systems or the installation, alteration or repair of electrical systems which do not result in the removal of interior wall or ceiling finishes exposing the structure.

Interconnection: Where more than one smoke or carbon monoxide alarm is required to be installed within an individual dwelling or sleeping unit, the alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit, except interconnection is not required in buildings that are not undergoing alterations, repairs or construction of any kind; where alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure unless there is an attic or crawl space available which could provide access for interconnection without the removal of interior finishes; where repairs or alterations are limited to the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck; or when work is limited to the installation, alteration or repairs of plumbing, mechanical or electrical systems which do not result in the removal of interior wall or ceiling finishes exposing the structure.

Spark arresters: When a permit has been issued and the value of the work exceeds \$1,000, a spark arrester must be installed on all fireplace chimneys if one does not already exist, per MMC Section II-3-2.06. Spark arresters shall be constructed in conformance with CRC Section 1003.9.2.

6. WATER CONSERVING FIXTURES:

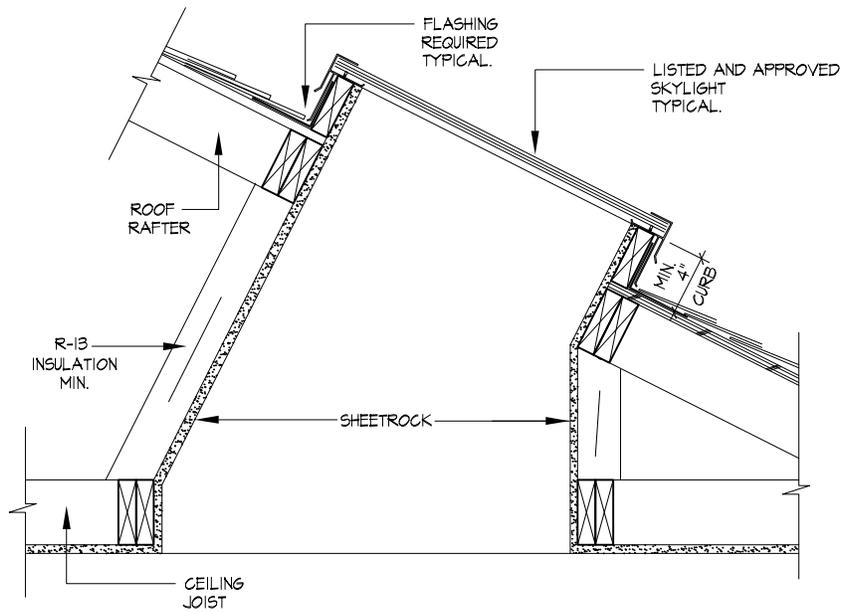
- When required, all non-compliant plumbing fixtures must be replaced. Refer to the attached "Water Conserving Certificate of Compliance" handout for details on when this is required.

7. INSPECTION PROCEDURES:

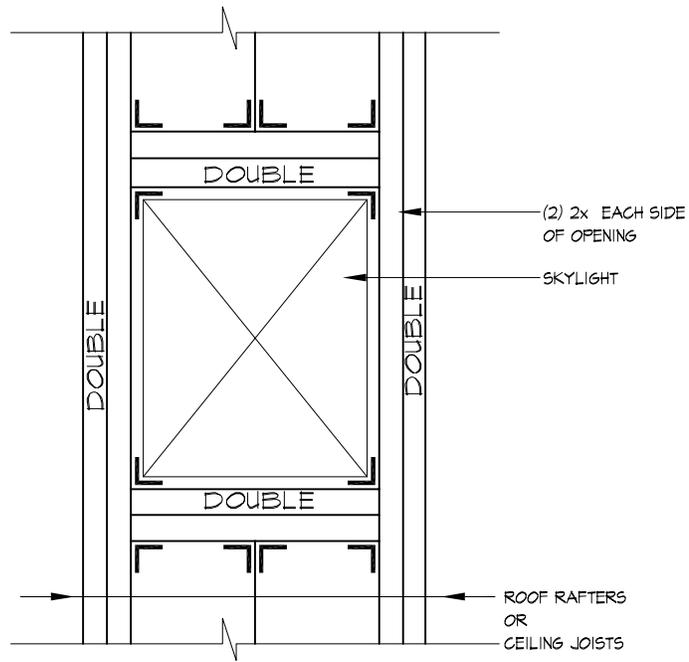
- Typically, at least two inspections are required, a rough when all framing is still exposed and a final. For each inspection, the Permit Card with the Energy Compliance Report forms completely filled and out attached, and the Approved Job Copy of the Drawings (if any) must be presented to the inspector. Permits expire 180 days after issuance or last inspection passed, whichever is the latest.
- The contractor or owner must provide roof access (ladder to roof) for the all required inspections. Ladders must be OSHA approved, minimum Type I with a 250 lb rating, in good condition and designed for its intended use.

8. QUESTIONS:

- If you have any questions regarding your project contact the Building & Safety Department at (408) 586-3240.



SKYLIGHT DETAIL



PLAN VIEW

REV.	DATE	BY:	SCALE:
1	01/18/08	HR	N.T.S
			DATE: AUG. 2006
			DRAWN BY: EK.

City of Milpitas
 Building & Safety Division
SKYLIGHT INSTALLATION

SHEET
4
 OF 4 SHEETS



EPA Renovation, Repair and Painting Rule

Does the RRP Rule apply to you?

The rule applies to all jobs in pre-1978 housing (i.e. "Target Housing") and child occupied facilities where more than 6 square feet per room or 20 square feet outside will be "disturbed" by worker(s) being compensated for the job. This includes landlords.

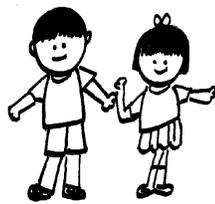
Where does the RRP Rule Apply?

The rule applies in Target Housing and Child-Occupied Facilities*



Target Housing - A house or apartment (including mobile homes) built before January 1, 1978 except for:

- 1) 0-bedroom units (like dorm rooms or studio apartments)
- 2) housing that is officially designated for the elderly or the handicapped
- 3) housing that has been tested by a State Certified Lead Inspector and found to be free of lead based paint.



Child Occupied Facility - A building, or portion of a building, constructed prior to 1978, visited by the same child, 6 years of age or under, on at least 2 different days within any week, provided that each day's visit lasts at least 3 hours, the combined weekly visit lasts at least 6 hours, and the combined annual visits last at least 60 hours. Such facilities may include, but are not limited to, day-care centers, preschools and kindergarten classrooms.

What does the RRP Rule Require? *California Law requires lead-safe work practices for all pre-1978 buildings.

1. **Pamphlet Distribution**—Contractors must give clients a pamphlet called "Renovate Right" and get a signed receipt before beginning a job.
2. **Individual Certification**—At least one RRP Certified Renovator is required at each job site. Certification involves taking a 1-day class from an EPA Accredited Training Provider.
3. **Firm Certification**—In addition to individual certification, each firm, agency or non-profit must also become RRP certified.
4. **On-the-Job-Training**—RRP Certified Renovators are required to train all non-certified people at the job site. Note: Contractors who work on buildings receiving Federal assistance, including Section 8, must have everyone trained in the classroom, or have a state-certified lead in construction supervisor present.
5. **Paint Testing**—The rule requires contractors to either test paint they will disturb BEFORE beginning a job, or assume that it is lead-based. In California contractors may not test paint. Instead, current law requires that they must assume that all surfaces in all structures built before 1978 contain lead based paint. The only people who can test for lead-based paint in California are State Certified Lead Inspectors/Risk Assessors.
6. **Use Lead Safe Work Practices**—The RRP Rule requires that "Lead Safe Work Practices" be used when disturbing more than six (6) square feet per room inside or more than twenty (20) square feet of painted surfaces outside.
7. **Cleaning Verification**—At the end of each job, contractors are required to do a "cleaning verification" to make sure they cleaned up properly.

FOR ADDITIONAL INFORMATION, VISIT
The Environmental Protection Agency www.epa.gov/getleadsafe
Get the Lead Out Coalition www.getleadout.org



WATER CONSERVING CERTIFICATE OF COMPLIANCE

Project Address: _____ Permit Number: _____

If the Building Inspector cannot physically inspect all plumbing fixtures in the building or cannot verify compliance due to lack of product markings or data, this Certificate of Compliance may be signed by the property owner(s) and given to the Building Inspector. The Building Inspector must inspect and verify all plumbing fixtures or receive this Certificate prior to final inspection.

California Civil Code Section 1101 requires the following. **Note this law applies only to properties built and available for use or occupancy on or before January 1, 1994.**

On or before January 1, 2017, for any **one and two family** residential building, all non-compliant plumbing fixtures shall be replaced with water-conserving plumbing fixtures (regardless of whether property undergoes alterations or improvement).

As of January 1, 2014, for any **multi-family** (more than two units) residential building and any **commercial** building, all non-compliant plumbing fixtures shall be replaced with water-conserving plumbing fixtures in the following circumstances:

1. Additions, if the sum of concurrent building permits by the same permit applicant would increase the floor area of the building by more than 10%, all non-compliant fixtures must be upgraded throughout the building. This includes all common area plumbing fixtures as well as fixtures in private individual units or tenant unit owned by the same owner.
2. Alterations or improvements, if total construction cost in the building permit exceeds \$150,000, all non-compliant fixtures that service the specific area of the alteration or improvement will be required to be upgraded.
3. Any alteration to a room that contains non-compliant plumbing fixtures will require all fixtures in that room to be upgraded.

On or before January 1, 2019, for any **multi-family** (more than two units) residential building and any **commercial** building, all non-compliant plumbing fixtures shall be replaced with water-conserving plumbing fixtures (regardless of whether property undergoes alterations or improvement).

The requirements of this law shall not apply to any of the following:

1. The requirements of this law shall be postponed one year from the date of issuance of a demolition permit for the building. If the building is not demolished after one year, the provision of this law shall apply even though the demolition permit is still in effect or a new demolition permit has been issued.
2. Registered historical sites.
3. Real property for which a licensed plumber certifies in writing that, due to the age or configuration of the property or its plumbing, installation of water-conserving plumbing fixtures is not technically feasible.
4. A building for which water service is permanently disconnected.
5. The property was built and available for use or occupancy after January 1, 1994.

I/We, the owner(s) of this property, certify under penalty of perjury:

- All existing plumbing fixtures meet the minimum requirements of water-conserving as noted below.
- All non-compliant plumbing fixtures have been replaced with water-conserving plumbing fixtures in accordance with Civil Code Sections 1101.1 through 1101.8, the current California Plumbing Code and California Green Building Standards Code, and manufacturer's installation requirements, and that the water-conserving plumbing fixtures comply with the requirements as noted below.
- I/We are exempt for reason #____ listed above. If for reason #3, attached is a letter from a licensed plumber.

Signature of Property Owner(s)

Print Name(s)

Date: _____

The following non-compliant fixtures shall be replaced with water-conserving fixtures as noted: (CGBC 4.303 & 5.303)

- Existing water closets that exceed 1.6 gallons per flush shall be replaced with one that has an effective flush volume not to exceed **1.28 gallons per flush**. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type toilets. The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.
- Existing urinals that exceed 1.0 gallons per flush shall be replaced with one that uses not more than an average of **0.125 gallons per flush** (0.47 L) for wall mounted and **0.5 gallons** (1.89 L) for other types of urinals.
- Existing single shower heads that exceed 2.5 gallons per minute shall be replaced with one that has a maximum flow rate of not more than **2.0 gallons per minute** at 80 psi. Shower heads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.
- When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed **2.0 gallons per minute** at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time. A hand-held shower shall be considered a showerhead.
- Existing residential lavatory faucets that exceed 2.2 gallons per minute shall be replaced with one that has a maximum flow rate not to exceed **1.2 gallons** (4.54 L) per minute at 60 psi. The minimum flow rate shall not be less than 0.8 gallons (3.03 L) per minute at 20 psi.
- Existing lavatory faucets in residential common and public use areas (outside of dwellings or sleeping units) and in commercial areas that exceed 2.2 gallons per minute shall be replaced with one that has a maximum flow rate not to exceed **0.5 gallons per minute** at 60 psi.
 - Metering faucets shall have a maximum flow rate of **0.20 gallons per cycle commercial** or **0.25 residential**.
- Existing kitchen faucets that exceed 2.2 gallons per minute shall be replaced with one that has a maximum flow rate not to exceed **1.8 gallons per minute** at 60 psi. Residential kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.
 - Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.



CERTIFICATE OF INSTALLATION		CF2R-ENV-01-E
Fenestration Installation		(Page 1 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City:	Zip Code:

If more than one person has responsibility for installation of the items on this certificate, each person shall prepare and sign a certificate applicable to the portion of construction for which they are responsible. Alternatively, the person with chief responsibility for construction shall prepare and sign this certificate for the entire construction. The signer agrees that all applicable Mandatory Measures were met. Temporary labels are not to be removed before verification by the building inspector.

A. Fenestration/Glazing

Includes all Windows, Skylights, Greenhouse/Bay Windows, and Glazed Doors.

Note: If meeting Exception 1 to 150.1(c)3A, Installing $\leq 3\text{ft}^2$ glass in door, it is assumed to meet the minimum required U-factor (0.32) & SHGC (0.25).

If meeting Exception 1 to 150.1(c)3A, Installing $\leq 3\text{ft}^2$ tubular skylight, it is assumed to meet the minimum required U-factor (0.55) & SHGC (0.30).

01	02	03	04	05	06	07	08	09	10	11	12
Tag/ID	Manufacturer/ Brand	Fenestration Area (ft ²)	Orientation	Chromogenic	U-factor	Source	SHGC	Source	Fenestration Type	Exterior Shading Devices (Describe)	Comments/Special Features

B. Fenestration Installation

01	For new construction, installed window U-factor and SHGC values should be equal to or less than listed on the CF1R.
02	For existing buildings the U-factor and SHGC values should be the same or better than the required Energy Commission prescriptive requirements.
03	Temporary labels should not be removed until verified by the building inspector.
04	The fenestration product manufacturer's installation specifications shall be followed when installing these products. The space between the fenestration product and rough opening shall be completely filled with insulation. If batt insulation is used, it is cut to size and placed properly around the fenestration product.
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	



CERTIFICATE OF INSTALLATION		CF2R-ENV-01-E
Fenestration Installation		(Page 2 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT		
1. I certify that this Certificate of Installation documentation is accurate and complete.		
Documentation Author Name:	Documentation Author Signature:	
Documentation Author Company Name:	Date Signed:	
Address:	CEA/HERS Certification Identification (If applicable):	
City/State/Zip:	Phone:	
RESPONSIBLE PERSON'S DECLARATION STATEMENT		
I certify the following under penalty of perjury, under the laws of the State of California:		
<ol style="list-style-type: none"> The information provided on this Certificate of Installation is true and correct. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation, and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met. I will ensure that a registered copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy. 		
Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

Registration Number:

Registration Date/Time:

HERS Provider:

CA Building Energy Efficiency Standards - 2013 Residential Compliance

September 2015

CF2R-ENV-01 User Instructions

Before installation of fenestration, the installer shall verify the fenestration product matches either the CF1R-NCB, or CF1R-ADD, or CF1R-ALT, or CF1R-PRF certificate form. If the efficiencies are worse (less efficient), then the windows cannot be installed until proof of compliance is shown with an updated certificate form, or computer energy compliance run, documenting the less efficient windows. If the installed fenestration is better (more efficient) than the documentation shows, no updated documentation is required and installation is allowed.

A. Fenestration/Glazing

1. **Tag/ID:** The labeling format used in the plans ensures each unique type is used consistently throughout the plan set (elevations, finish schedules, etc.) to identify each matching fenestration product, such as: Window-1, Skylight-1 etc. It should also be consistently used on the other forms in the same compliance documentation.
2. **Manufacturer/Brand:** Provide the manufacturer and brand name which identifies the fenestration product being installed.
3. **Fenestration Area (ft²):** Indicate the total installed surface area (ft²) of the fenestration.
4. **Orientation:** Indicate the orientation of the same like fenestration. Use different lines if the orientation of the same fenestration varies. Enter N, S, E, or W.
5. **Chromogenic:** Is the glazing product chromogenic? Yes/No
6. **U-factor:** Indicate the specified U-factor of the fenestration product(s) being installed. Do not mix different types on the same line.

NOTES: (1) For the exceptions - up to 3 ft² of tubular skylights and up to 16 ft² of skylight area, enter 0.55.

(2) For the exception – up to 3 ft² of glass in door, enter 0.32.

7. **Source:** NFRC, CEC Default, NA6 Alternative, or Area-weighted Average Worksheet (ENV-02). Enter the appropriate temporary label certificate identified as NFRC, CEC Default, NA6, or Area-weighted Average Worksheet (ENV-02). All windows installed must have a label certificate which identifies the window's efficiencies. NFRC rated products have a temporary label that can be looked up in the NFRC product directory (<http://search.nfrc.org/search/searchDefault.aspx>).
8. **SHGC:** Indicate the specified SHGC that is being installed of the fenestration product(s). Do not mix different types on the same line.

NOTES: (1) For the exceptions - up to 3 ft² of tubular skylights and up to 16 ft² of skylight area, enter 0.30.

(2) For the exception – up to 3 ft² of glass in door, enter 0.25.

9. **Source:** NFRC, CEC Default, NA6 Alternative, or Area-weighted Average Worksheet (ENV-02). Enter the appropriate temporary label certificate identified as NFRC, CEC Default, NA6, or Area-weighted Average Worksheet (ENV-02). All windows installed must have a label certificate which identifies the window's efficiencies. NFRC rated products have a temporary label that can be looked up in the NFRC product directory (<http://search.nfrc.org/search/searchDefault.aspx>).
10. **Fenestration Type:** Provide a description of the window type, for instance, the frame material, coatings, whether it is operable or fixed.
11. **Exterior Shading Devices:** If exterior shading devices are installed in conjunction with fenestration then indicate the type used (e.g. sunscreens, vertical roller or shades, retractable or drop arm or operable awnings, or roll down blinds or slats); or if an overhang is, or will be installed.
12. **Comments/Special Features:** Additional information for the field inspector.