



RESIDENTIAL WINDOW & DOOR REPLACEMENT

1. PERMIT INFORMATION:

- The replacement of exterior windows including using retrofit windows, the main entry door and the door between the house and the garage requires a building permit.
- New windows or doors, and changes in the width or location of existing windows or doors, must be reviewed and approved by the Building & Safety Department and the Planning Division. The permit will have to be obtained in person at the Permit Center and plans will be required to obtain the permit. Refer to the “*Residential Remodel & Repair Plan Requirements*” handout for additional information on the preparation of the plans.
- Homeowners Association:** If the property is regulated by a Home Owners Association, the homeowner is responsible to obtain approval from the Association prior to the commencement of any work.
- A Building 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).
- NOTE:** Retrofit windows must meet the egress requirements in Section 3 below to the maximum extent possible, even if the sill must be lowered. It is not required to widen the rough opening, however the window style will need to be changed to comply as closely as possible to the minimum 20” opening width requirement (for example, a non-complying single hung style would need to be changed to a complying casement style).

DOORS

- Not less than one egress door shall be provided for each dwelling unit. This is typically the front entry door. The egress door shall be side-hinged, and shall provide a minimum clear width of 32 inches when measured between the face of the door and the stop, with the open 90 degrees. The clear height of the door opening shall not be less than 78 inches measured from the top of the threshold to the bottom of the stop. Egress doors shall be readily openable from inside the dwelling without the use of a key or special knowledge or effort. (CRC R311.2)
- There shall be a landing or floor on each side of each exterior door. The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36 inches measured in the direction of travel. The slope at exterior landings shall not to exceed ¼ unit vertical in 12 units horizontal (2 percent). (CRC R311.3)

- ❑ Landings or floors at the required egress door shall not be more than 1 ½ inches lower than the top of the threshold. Exception: The exterior landing or floor shall not be more than 7 ¾” inches below the top of the threshold provided the door does not swing over the landing or floor. (CRC R311.3.1)
- ❑ When exterior landings or floors serving the required egress door are not at grade, they shall be provided with access to grade by means of a ramp in accordance with CRC R311.8 or a stairway in accordance with CRC R311.7 (CRC R311.3.1).
- ❑ Doors other than the required egress door shall be provided with landings or floors not more than 7 ¾ inches below the top of the threshold. Exception: A landing is not required where a stairway of not more than two risers is located on the exterior side of the door, provided the door does not swing over the stairway. (CRC 311.3.2)
- ❑ Storm and screen doors shall be permitted to swing over all exterior stairs and landings (CRC R311.3.3).
- ❑ Doors installed between the garage and residence shall be equipped with solid wood or solid or honeycomb core steel doors not less than 1 3/8” thick, or 20 minute doors. Exception: Where the residence and the garage are protected by an automatic fire sprinkler system. This exception shall not apply to rooms used for sleeping purposes. (CRC R302.5.1)

WINDOWS

- ❑ All habitable rooms shall have natural light through an aggregate glazing area of not less 8% of the floor area of such rooms, or provided with artificial light providing an average of 6 foot candles (65 lux) over the area of the room at a height of 30” above the floor (CRC R303.1).
- ❑ All habitable rooms shall have natural ventilation through exterior openable windows, doors, louvers, skylights or other approved means which area totals a minimum of 4% of the floor area being ventilated, or provided with approved mechanical ventilation system capable of producing 0.35 air changes per hour in the room, or a whole-house mechanical ventilation system is installed capable of supplying outdoor ventilation air of 15 cubic feet per minute (cfm) per occupant computed on the basis of two occupants for the first bedroom and one occupant for each additional bedroom. Openings shall be provided with ready access or shall otherwise be readily controllable by the building occupants. (CRC R303.1)
 - Use of sunroom additions and patio covers shall be permitted for natural ventilation if in excess of 40 percent of the exterior sunroom walls are open, or are enclosed only by insect screening. (CRC R303.1.)
 - Openings required for light and/or ventilation shall be permitted to open into a thermally isolated sunroom addition or patio cover, provided that there is an openable area between the adjoining room and the sunroom addition or patio cover of not less than one-tenth of the floor area of the interior room but not less than 20 square feet. The minimum openable area to the outdoors shall be based upon the total floor area being ventilated. (CRC R303.2)
 - For the purpose of determining light and ventilation requirements, any room shall be considered as a portion of an adjoining room when at least one-half of the area of the common wall is open and unobstructed and provides an opening of not less than one-tenth of the floor area of the interior room but not less than 25 square feet. (CRC R303.2)
 - Bathrooms, water closet compartments and other similar rooms shall be provided with aggregate glazing area of not less than 3 square feet, one-half of which must be openable, or artificial light and a mechanical ventilation system shall be provided. The minimum ventilation rate shall be 50 cubic feet per minute for intermittent ventilation or 25 cubic feet per minute for continuous ventilation. Ventilation air from the space shall be exhausted directly to outside. (CRC R303.3)

- ❑ Glazing must be safety glass if located: (CRC R308.4)
 - 1. In a fixed or operable panel of a swinging, sliding or bifold door, except glazed openings of a size through which a 3 inch diameter sphere is unable to pass and decorative glazing.
 - 2. In an individual fixed or operable panel adjacent to a door where the nearest vertical edge is within a 24 inch arc of the door in a closed position and whose bottom edge is less than 60 inches above the floor or walking surface, except:
 - Decorative glazing.
 - When there is an intervening wall or other permanent barrier between the door and the glazing.
 - Glazing in walls on the latch side of and perpendicular to the plane of the door in a closed position.
 - Glazing adjacent to a door where access through the door is to a closet or storage area 3 feet or less in depth.
 - Glazing that is adjacent to the fixed panel of patio doors.
 - 3. In an individual fixed or operable panel that meets all of the following conditions (walk-through hazard):
 - The exposed area of an individual pane is larger than 9 square feet; and
 - The bottom edge of the glazing is less than 18 inches above the floor; and
 - The top edge of the glazing is more than 36 inches above the floor; and
 - One or more walking surfaces are within 36 inches, measured horizontally and in a straight line, of the glazing.
 - Exceptions:
 - When a horizontal rail is installed on the accessible side(s) of the glazing 34 to 38 inches above the walking surface. The rail shall be capable of withstanding a horizontal load of 50 pounds per linear foot without contacting the glass and be a minimum of 1 ½ inches in cross sectional height.
 - Outboard panes in insulating glass units and other multiple glazed panels when the bottom edge of the glass is 25 feet or more above grade, a roof, walking surfaces or other horizontal surface adjacent to the glass exterior.
 - Decorative glazing.
 - 5. Glazing in enclosures for or walls facing hot tubs, whirlpools, saunas, steam rooms, **bathtubs and showers** where the bottom exposed edge of the glazing is less than 60 inches measured vertically above any standing or walking surface. Exception:
 - Glazing that is more than 60 inches measured horizontally and in a straight line, from the waters edge of a hot tub, whirlpool or bathtub.
 - 7. Glazing adjacent to stairways, landings and ramps within 36 inches horizontally of a walking surface when the exposed surface of the glazing is less than 60 inches above the plane of the adjacent walking surface. Exceptions:
 - When a rail is installed on the accessible side(s) of the glazing 34 to 38 inches above the walking surface. The rail shall be capable of withstanding a horizontal load of 50 pounds per linear foot without contacting the glass and be a minimum of 1 ½ inches in cross sectional height.
 - The side of the stairway has a guardrail or handrail, including balusters or in-fill panels, complying with Sections R311.7.6 and R312 and the plane of the glazing is more than 18 inches from the railing; or
 - When a solid wall or panel extends from the plane of the adjacent walking surface to 34 inches to 36 inches above the walking surface and the construction at the top of the wall or panel is capable of withstanding the same horizontal load as a guard.

- 8. Glazing adjacent to stairways within 60 inches horizontally of the bottom tread of a stairway in any direction when the exposed surface of the glazing is less than 60 inches above the nose of the tread. Exceptions:
 - The side of the stairway has a guardrail or handrail, including balusters or in-fill panels, complying with Sections R311.7.6 and R312 and the plane of the glass is more than 18 inches from the railing; or
 - When a solid wall or panel extends from the plane of the adjacent walking surface to 34 inches to 36 inches above the walking surface and the construction at the top of the wall or panel is capable of withstanding the same horizontal load as a guard.
- ☐ Safety glazing shall pass the impact test requirements of CPSC 16 CFR 1201, Category I or II as indicated in the following table: (CRC 308.3.)

MINIMUM CATEGORY CLASSIFICATION OF GLAZING USING CPSC 16 CFR 1201					
EXPOSED SURFACE AREA OF ONE SIDE OF ONE LITE	GLAZING IN STORM OR COMBINATION DOORS (Category Class)	GLAZING IN DOORS (Category Class)	GLAZED PANELS REGULATED BY R308.4 ITEM 7 (Category Class)	GLAZING IN DOORS AND ENCLOSURES REGULATED BY R308.4 ITEM 5 (Category Class)	SLIDING GLASS PATIO DOORS (Category Class)
9 square feet or less	I	I	No requirement	II	II
More than 9 square feet	II	II	II	II	II

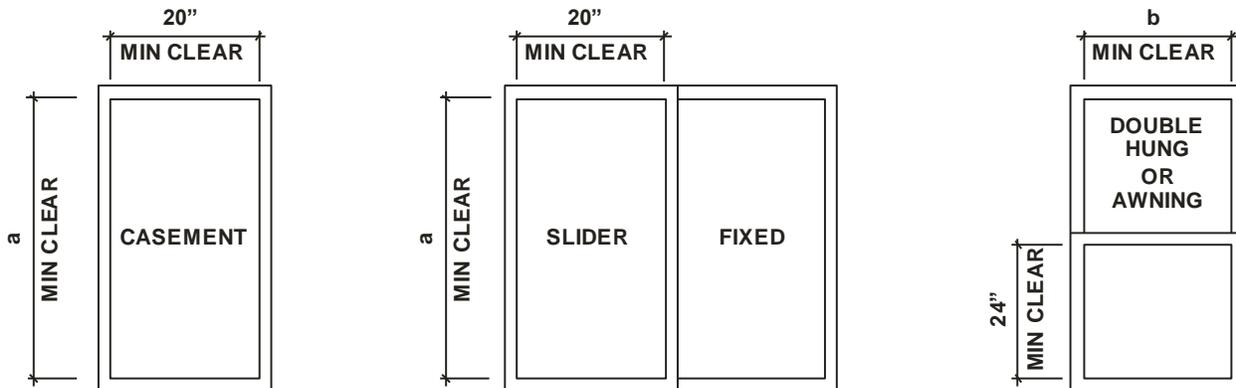
- Exception: Glazing NOT in doors or enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers shall be permitted to be tested in accordance with ANSI Z97.1. Glazing shall comply with the test criteria for Class A or B as indicated in the following table:

MINIMUM CATEGORY CLASSIFICATION OF GLAZING USING ANSI Z97.1		
EXPOSED SURFACE AREA OF ONE SIDE OF ONE LITE	GLAZED PANELS REGULATED BY R308.4 ITEM 7 (Category Class)	DOORS AND ENCLOSURES REGULATED BY R308.4 ITEM 5 (Category Class)
9 square feet or less	No requirement	A
More than 9 square feet	A	A

3. EMERGENCY EGRESS AND RESCUE REQUIREMENTS:

- ☐ Every sleeping room shall have at least one operable emergency escape and rescue opening (window or door). Where emergency escape and rescue openings are provided the bottom of the **opening shall not be more than 44 inches above the floor**. The net clear opening dimensions required shall be obtained by the normal operation of the emergency escape and rescue opening from the inside. Emergency escape and rescue openings shall open directly into a public way, or to a yard or court that opens to a public way. (CRC R310.1)
- ☐ Emergency escape and rescue openings shall be maintained free of any obstructions other than those allowed by the Code and shall be operational from the inside of the room without the use of keys, tools or special knowledge (CRC R310.1.4)

- All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet (5.0 at grade level), with a minimum net clear opening height of 24" and width of 20". *Note:* In order to meet the minimum clear opening of 5.7 square feet, either the width or height, or both, must exceed the minimum dimension (see figure below). (CRC R310.1.1, .2 & .3)



a = 36" at grade (5.0 sf), 41" above grade (5.7 sf)
 b = 30" at grade (5.0 sf), 34 3/16" above grade (5.7 sf)

- Bars, grills, covers, screens or similar devices are permitted to be placed over emergency escape and rescue openings provided the minimum net clear opening size complies with the above, and such devices shall be releasable or removable from the inside without the use of a key, tool, special knowledge or force greater than that which is required for normal operation of the escape and rescue opening. The release mechanism shall be maintained operable at all times. Where security bars (burglar bars) are installed on emergency egress and rescue windows or doors, such devices shall comply with California Building Standards Code, Part 12, Chapter 12-3 and other applicable provisions of the Code as well as MMC Title V, Chapter 304. (CRC R310.4)
- When a replacement window is installed in an existing window frame, the new window must meet all of the window dimensions noted above as much as possible within the scope of work.

4. ENERGY REQUIREMENTS:

- Windows must have a maximum U-factor of 0.32 and a SHGC of 0.25 [CEnC 152(b)1(B)].
- Windows shall have a label which shall not be removed before inspection by the City listing the certified U-Factor, certified Solar Heat Gain Coefficient (SHGC), and certifying that the air leakage requirements are met (CEnC 116(a)4).
- Any door whose surface area is more than one-half glass is a fenestration product and must comply with the requirements for windows (CEnC 101).
- Up to 3 Sq. Ft. of the glazing in doors with dual-pane diffusers may have an assumed U-factor equivalent of 0.40 (CEnC 151(f)3).
- Manufactured windows and exterior doors must be certified as meeting an air infiltration rate not exceeding 0.3 cfm/ft² of window or door area (CEnC 116(a)1).
- Windows and exterior doors must be weather-stripped and have all joints and penetrations caulked and sealed (CEnC 117).

- If fenestration area is to be increased, the total fenestration area shall not exceed 20% of the conditioned floor area [CEnC 152(b)1(A)].
- If fenestration area is to be increased, the total fenestration area facing west shall not exceed 5% of the conditioned floor area [CEnC 152(b)1(A)].
- Alterations that add fenestration area 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 151(f)3B and C. The existing west-facing fenestration area shall not be increased by more than 50 square feet. (CEnC 152(b)1(A) exc)
- 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:

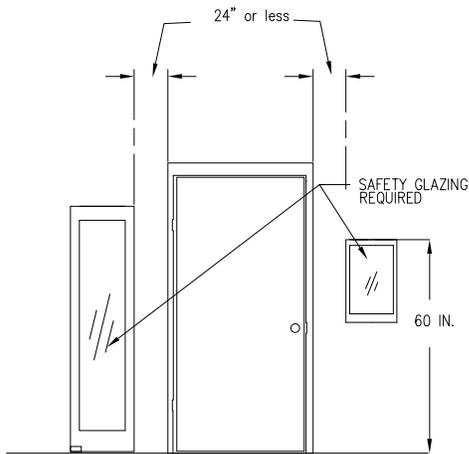
- When required, all non-compliant plumbing fixtures must be replaced. Refer to the attached "Water Conserving Certificate of Compliance" handout for details on when this is required.

7. INSPECTION PROCEDURES:

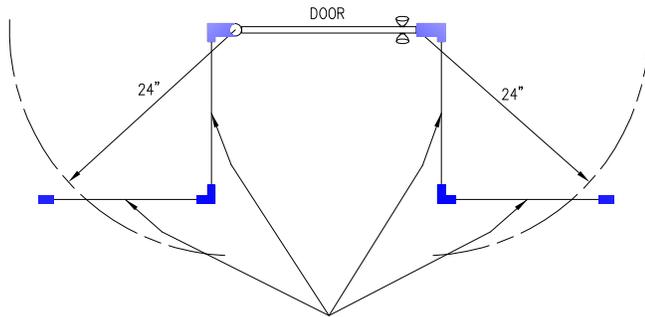
- Typically, at least two inspections are required, a rough after the new window has been installed but before the flashing and nailing fin are covered with trim and a final. For each inspection, the Permit Card with the Energy Compliance Report forms completely filled and out attached, and the Approved 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.

8. QUESTIONS:

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

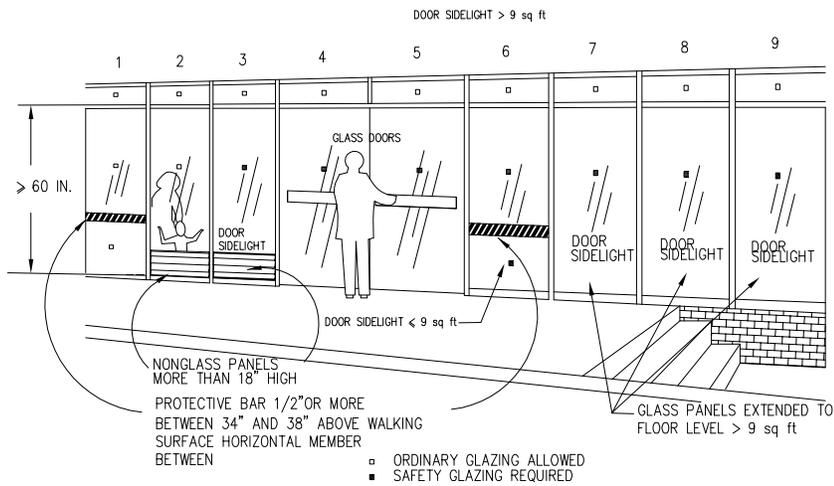


GLASS SIDELIGHTS
(REFER TO CBC 2406.3)

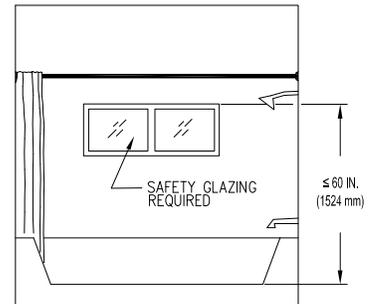


SAFETY GLAZING REQUIRED FOR ALL PANELS
WITH EXPOSED EDGES LESS THAN 60 IN. ABOVE
WALKING SURFACE

GLASS IN SIDELIGHTS



HAZARDOUS LOCATIONS



CBC 2406.3 (5)

GLAZING WITHIN A SHOWER ENCLOSURE

REV.	DATE	BY:	SCALE: N.T.S.
			DATE: OCT. 2007
			DRAWN BY: Henry R.
			REVIEWED BY: LEON SHEYMAN

City of Milpitas
BUILDING AND SAFETY DEPARTMENT
SAFETY GLAZING

SHEET
1
OF 1 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.

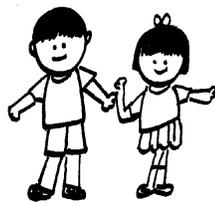
Where does the RRP Rule Apply?

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.



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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.	



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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:

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.