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Residential Building Codes Enforced:
2016 California Residential Code (CRC)
2016 California Electrical Code (CEC)
2016 California Mechanical Code (CMC)
2016 California Plumbing Code (CPC)
2016 California CAgreen Code (CAGC)
2016 California Energy Code (CEnc)

REPLACEMENT CONSTRUCTION WINDOWS AND/OR DOORS (Page 1 of 3)

**For Over-The-Counter Permit Approval,
Shall Typically Comply With One or More Of The Following Conditional Requirements**

GENERAL CONDITIONS

- When any portion of the original existing perimeter frame (with or without flashing) has been removed.
- Existing exterior siding materials have been altered and need to be resealed, patched or repaired (to prevent moisture infiltration)
- Windows & doors typically have a nailing fin (rim or angled clip that allows installers to secure it in the rough framed wall opening).
- The replacement of construction windows and/or doors will require conforming to the requirements of the new code, and any work that will increase the non-conformity of any building or structure shall be corrected. [CRC R102.7.1]
- Building permit fees for this type of work is based upon the number of inspection site visits required to obtain permit final. If you fully comply with the conditional requirements of this permit type, then you have only paid for three (3) inspection site visits. If additional site visits will be required for access or to comply with the applicable code requirements, a \$127 fee (FY July 2017 thru June 2018) or current fiscal year re-inspection fee rate shall be required for each additional site visit and must be paid prior to scheduling your next inspection. Additionally, if the inspector finds that construction documents shall be required for submittal to the building department offices, then code plan review fees will also be required. Please read this handout very carefully and become familiar with all of the conditional requirements, prior to calling for inspection.
- Should you require supplementary information please reference the applicable code requirements, and if you have additional questions do not hesitate to call our permit center to speak with an inspector or code plans examiner.

ROUGH FRAMING: Permissible types of Alterations for over-the-counter permit approval.

- When the upper rough framed supporting beam or header has not been widened or structurally altered in any manner.
- When preparing the rough framing for the lowered opening in the existing wall will require some alterations to the non-bearing wall rough framing members, but will not alter any of the above supporting members structural integrity.
- Modifying the lower non-bearing wall rough framing members at bedrooms or sleeping rooms is permissible, for the purpose of such work as installing required Emergency Escape & Rescue windows, etc.

ROUGH FRAMING: (PLAN REVIEW REQUIRED) Examples of Not-Permissible type of Alterations for over-the-counter permit approval.

- **Will the width of any existing rough framed opening be enlarged to have accomplished the installation of a wider window or door?** Installing a wider window or door is not an over-the-counter building permit. Preparing the larger opening in the wall for a new window or door requires work such framing modifications, as well as determining whether a shear or braced wall exists; etc. Prior to permit issuance the applicant must submit complete & adequate plans/construction documents.
- **Will any new doors be installed at existing window locations?** Installing a door where a window existed is not an over-the-counter building permit. Before obtaining a building permit, the applicant must submit complete and adequate plans/construction documents, and shall include all code required information/specifications (e.g. Existing framing & new framing requirements; Any existing electrical items & new electrical code requirements; Existing exterior siding items & new exterior siding requirements; interior wall / ceiling covering requirements; Exterior landing and/or steps; etc.)
- **Are there any new openings in existing walls being proposed, where a window or door never existed?** Installing a new window or door where there wasn't one before is not an over-the-counter building permit. The applicant must submit complete and adequate plans/construction documents, and shall include all code required information/specifications (e.g. Existing framing & new framing requirements; Existing shear wall & new shear wall code requirements along with structural calculations when applicable; prescriptive code requirements for braced walls; Any existing electrical items & new electrical code requirements; Existing exterior siding items & new exterior siding requirements; interior wall / ceiling covering requirements; Exterior landing and/or steps; etc.)

EMERGENCY ESCAPE AND RESCUE

- Each bedroom/sleeping room window sill height shall have the bottom of the clear opening not greater than 44 inches measured from the floor.
- Each bedroom and other sleeping room window shall have a minimum net-free-unobstructed-size (this is the openable portion of the window) complying with the following, and as otherwise required per 2016 CRC section 310:
 - 1st story bedrooms/sleeping rooms = (5.0 sq. ft.) + (24 inches height) + (20 inches width)
 - 2nd story bedrooms/sleeping rooms = (5.7 sq. ft.) + (24 inches height) + (20 inches width)

NATURAL LIGHT AND VENTILATION

For the purpose of providing natural light and ventilation, the original size of window shall not be significantly reduced in width or height. FYI: Typically glazing area should be not less than 8 percent of the floor area of such rooms. The openable area to outdoors shall be not less than 4 percent of the floor area being ventilated. [2016 CRC 303]

SAFETY GLAZING

Many windows, doors and glazed areas present a safety hazard if a safety type glass is not utilized when required. In a number of locations this may apply to single glazing and each pane in multiple glazing. For example, hazardous locations will typically include: Glass in doors; Glazing adjacent to doors (within 24 inches arch); Glass within tub and shower enclosures (if less than 60 inches above a standing surface); Glass adjacent to tubs (60 inches, measured horizontally and in a straight line, from the water's edge); Glass where the bottom edge is less than 18" above the floor; Glass adjacent to stairways, landings and ramps when glass is less than 60" above the adjacent walking surface; Glazing near hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs, showers and indoor or outdoor swimming pools; For more specific information and other required locations, please refer to CRC Sec. 308.

ENERGY CODE REQUIREMENTS (Climate Zone 2)

Labeling Warning. As per mandatory requirements of the 2016 CA Energy Code (CEC) - section 110.6(a)5A for Windows and Doors "Fenestration products shall: Have a temporary label for manufactured fenestration products..... The temporary label shall not be removed before inspection by the enforcement agency.." Therefore, please **do not remove any energy code required manufactured label prior to being approved in writing on the city permit card.** If the labels are missing or are not available at the time of inspection, then additional construction documents / proof of energy compliance shall be submitted to the building department office, along with added plan review & inspection fees. **It is important to note that we are unable to provide permit final approval without proof of compliance.**



Air leakage = 0.3 or less. [Mandatory Requirements for Fenestration Products and Exterior Doors 110.6(a)1]

If more than 75 sq. ft. replacement of windows, where existing window fenestration area (Fenestration area is the glass plus the frame) in an existing wall is replaced with new manufactured fenestration product, then the following prescriptive requirements for fenestration must comply:

- **U-Factor = 0.32 or lower** (area-weighted average) [Section 150.2(b)B, Component Package-A & 150.1(c)3A]
- **SHGC = 0.25 or lower** (area-weighted average) [Section 150.2(b)B, Component Package-A & 150.1(c)3A]

-OR- If 75 sq. ft. or less,

- **U-Factor = 0.40 or lower.** [Exception 1 to Section 150.2(b)1B]
- **SHGC = 0.35 or lower.** [Exception 1 to Section 150.2(b)1B]
- **However, if Chromogenic glazing:** Maximum U-factor of 0.32 and Max. SHGC of 0.25 shall apply. [Exception 3 to Section 150.1(c)3A]

Other Installation Requirements. [Mandatory Requirements to Limit Air Leakage 110.7]

- The fenestration product manufacturer's installation specifications shall be followed.
- The space between the fenestration product and rough opening shall be completely filled with insulation.
- All joints, penetrations and other openings in the building envelope that are potential sources of air leakage shall be caulked, gasketed, weather stripped, or otherwise sealed to limit infiltration and exfiltration.

If prescriptive requirements for Air Leakage, U-Factor and SGHC (as noted above) do not comply with the minimum requirements, then this is NOT an over the counter permit and additional construction documents must be submitted to the building department for code plan review, and inspection fees for each additional site visit will be required. For example, such as but not limited to the following:

- ✓ If the fenestration has qualifying exterior shading (e.g., a permanent awning) the SHGC may be calculated taking that shading into consideration. If you use exterior shading to meet the SHGC requirement, you must submit a CF1R-ENV-03-E: "Solar Heat Gain Coefficient (SHGC) Worksheet."
- ✓ If the project does not meet the prescriptive requirements:
 - Purchase more energy efficient windows.
 - **OR** - Use the Performance approach – This requires using approved energy modeling software.

EXTERIOR WINDOW & DOOR OPENINGS: FLASHING REQUIREMENTS [2016 CRC R703.4 & R703.2]

Exterior openings shall be flashed in such a manner as to make them weatherproof, and in accordance to codes:

- Removal of existing frames without breaking back stucco or other type of siding materials does not allow for flashing of replacement windows or patio sliding doors, and therefore is not permitted.

Approved Flashing Materials:

- Mechanically attached flexible flashing shall comply with AAMA 712.
- Self-adhered membranes used as flashing shall comply with AAMA 711.
- Fluid-applied membranes used as flashing in exterior walls shall comply with AAMA 714.

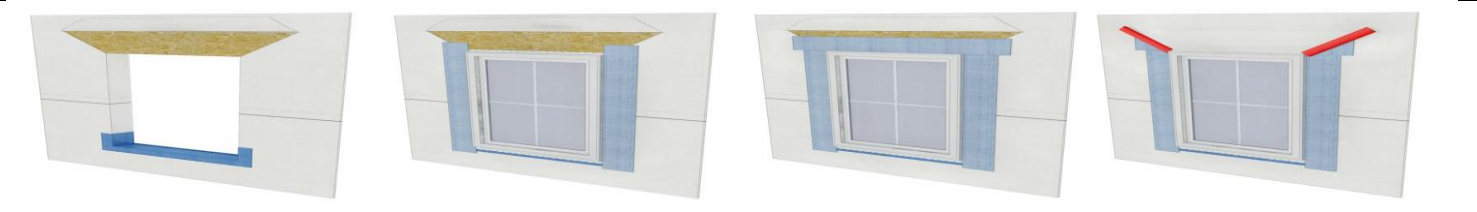
Flashing Materials shall be installed at Rough Framed Openings:

- Flashing materials shall be applied shingle-fashion in a manner to prevent entry of water into the wall cavity or penetration of water to the building structural framing components (see illustrated steps 1 thru 4 below).
- Flashing materials shall extend to the water-resistive barrier for subsequent drainage. FYI: Water resistive barriers are required behind all types of materials used as exterior wall coverings/siding materials, and is typically first applied over wall studs or sheathing & before the installation of exterior wall coverings/siding materials.
- OR- Flashing materials shall extend to the surface of the exterior wall finish.

Windows and/or doors shall be installed in accordance with one or more of the following requirements:

- The fenestration and flashing manufacturer’s installation instructions, or method of a registered design professional.
- Where manufacturer’s instructions or details are not provided, pan flashing shall be installed at the sill of exterior window & door openings (see step #1 below). FYI: Pan Flashing is installed at the base of the rough opening to allow water which may enter through or around the window/door to drain out.
- Pan flashing shall be sealed or sloped in such a manner as to direct water to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage.
- Openings using pan flashing (see Step #1) shall incorporate flashing or protection:
 - ✓ at the sides (see step #2)
 - ✓ and top/head (see steps #3 & #4).

STEPS: #1 - Pan Flashing #2 - Side flashing #3 – Top/Head Flashing #4 – Top moisture barrier overlap



Smoke Detectors and Carbon Monoxide Alarms

Carbon Monoxide Alarms:

The Carbon Monoxide Poisoning Prevention Act (Senate Bill- SB 183) requires all single-family homes with an attached garage or a fossil fuel source to install carbon monoxide alarms within the home. Carbon Monoxide is a colorless, odorless gas that is produced from heaters, fireplaces, furnaces, and many types of appliances and cooking devices. It can also be produced from vehicles that are idling.

- CO devices shall be installed outside each sleeping areas of the home and including each story and the basement. The manufacturer’s installation instruction should also be followed.

Smoke Detectors are to be located:

- In each bedroom / sleeping room, and outside each sleeping area in the immediate vicinity of the bedrooms / sleeping room.
- On each story, including basements (but not crawl spaces) and habitable attics.
- Where stairs lead to other occupied levels, place a smoke detector on the ceiling of the upper level in close proximity to the stairway, located so that rising smoke is not prevented from reaching the alarm by a door or obstruction
- On coffered ceilings, place on top level or within 12 inches of top level on sloped side.
- Place a minimum of: 20 feet away from cooking appliances; 3 feet away from bathrooms with tubs or showers; 3 feet away from air supply registers; 3 feet away from ceiling fans with paddles.

NUMBER & TYPE OF INSPECTIONS REQUIRED: Two (2) inspection site visits are needed.

1st Inspection: Please request the following type of inspections.

- ✓ **Rough Framing (interior), if applicable:** An inspection of your project on the interior of the building must be made after all rough framing alterations are completed/ready for inspection, and before any altered rough framing is concealed.
- ✓ **Window Flashing & Exterior Moisture Barrier:** The installation of window(s) and/or doors must be reviewed by the inspector to determine if each window and/or door has been installed and flashed correctly, located on the interior and exterior of building (Prior to installing any exterior siding & trim materials and any interior sheetrock, insulation, etc.).
- ✓ **Temporary Energy Labels:** The inspector must verify energy code compliance. Do not remove any energy code required manufactured labels prior to being approved in writing on the city permit card. ATTENTION - We are unable to provide approval for permit final without proof of compliance.

2nd Inspection: Please request the following type of inspections.

- ✓ **Final Inspection:** A final inspection is required after all work has been completed.
- ✓ **Smoke Detectors & Carbon Monoxide Alarms:** Residential smoke & carbon monoxide detectors/alarms must be in place at time of final inspection.

FYI: The purpose of this general guide for REPLACEMENT CONSTRUCTION WINDOWS AND/OR DOORS is to clarify some of the more common minimum code requirements. Each project is unique and additional requirements may be enforced as deemed appropriate.