

~~501.7 Exterior glazing. Exterior windows, window walls and glazed doors, windows within exterior doors, and skylights shall be tempered glass, multilayered glazed panels, glass block or have a fire protection rating of not less than 20 minutes.~~

New Definition: 202 GLAZED DOOR is an exterior door having a glazed area of 25 percent or greater of the area of the door.

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504.9 Exterior glazing. The following exterior glazing materials and/or assemblies shall comply with this section:

1. Exterior windows
2. Exterior glazed doors
3. Exterior skylights
4. Glazed openings within exterior doors
5. Glazed openings within exterior garage doors
6. Exterior structural glass veneer

504.9.1 Exterior windows, skylights, and glazed door assembly requirements. Exterior windows, skylights and glazed door assemblies shall comply with one of the following requirements:

1. Be constructed of multipaned glazing with a minimum of one tempered pane meeting the requirements of Section R308 Glazing, or
2. Be constructed of glass block units, or
3. Have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 257.

504.9.2 Structural glass veneer. The wall assembly behind structural glass veneer shall comply with Section 504.9.1

~~504.10 Exterior doors. Exterior doors shall be approved noncombustible construction, solid core wood not less than 13 /4 inches thick (44 mm) or have a fire protection rating of not less than 20 minutes. Windows within doors and glazed doors shall be in accordance with Section 504.8. Exception: Vehicle access doors.~~

504.9.3 Exterior doors. Exterior doors shall comply with one of the following:

1. The exterior surface or cladding shall be of noncombustible or ignition-resistant material, or
2. Shall have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 252, or
3. Shall be constructed of solid core wood that comply with the following requirements:

3.1. Stiles and rails shall not be less than 1^{3/4} inches (44mm) thick, and

3.2. Raised panels shall not be less than 1^{1/4} inches (32mm) thick, except for the exterior perimeter of the raised panel that may taper to a tongue not less than 3/8 inch (10mm) thick.

504.9.4 Exterior door glazing. Glazing in exterior doors shall comply with Section 504.9.1

Add new referenced standards:

NFPA 252-17 Standard Methods of Fire Tests of Door Assemblies

NFPA 257-17 Standard for Fire Test for Window and Glass Block Assemblies

Reason: The proposed language provides the following clarifying items:

- The glazing must be multipaned, effectively insulating glass units, with at least one layer consisting of a tempered layer complying with the Washington Residential Code Section R308 for safety glazing.
- The 20-minute fire rating option is qualified based on referenced test standards.
- Provides a definition for Glazed Doors.
- Provides compliance requirements for entry door construction
- Provides compliance requirements for door glazing, including entry doors and garage doors.

The current code language has confused the users in that there is uncertainty if the glazing is intended to be multilayered, multilayered tempered or just tempered. This language provides that clarity. Testing conducted by University of California, Berkley and by the Insurance Institute for Business and Home Safety have concluded that a multi-paned glazed assembly that consists of at least one layer of tempered glass will withstand the heat of a wildfire nearly twice as long as a multi-panned annealed glass unit. The testing also concluded that the orientation of the tempered glass was not important so whether it is the inboard or outboard lite is up to the fenestration manufacturer. In many cases, glazed doors that meet the definition as provided, perform very much like windows. The one difference with glazed doors is that by law, all the glass must be tempered. Typically, entry doors may be constructed of a variety of materials. The proposed new section provides guidance for the door skin or cladding to be noncombustible or ignition resistant material. As wood entry door systems, there are minimum requirements that the various components must meet. When glazing is included in any of these types of entry doors, including garage doors, the glass must be tempered or meet the NFPA 257 testing requirements.

The language provided has been in the California Building Code since 2010 and has remained the same since adoption. We propose to add a new definition for Glazed Doors which is found in the California Energy Code. We also believe it is necessary to define what qualifies a 20-minute fire resistance rating for each of these products.

By bullet pointing each of the requirements, there is less chance of misinterpretation of the code requirements for fenestration products.

Cost Impact: This code change proposal does not add cost to construction. It simply clarifies the requirements.