City of Carmel-by-the-Sea
Building Safety Division
Standard Operating Guidance (SOG)

18-02 Fire Resistant Construction – R-3 Exterior Walls

Background

The City of Carmel has many small lots that confine the area that a building may be built on. Requirements for the required fire separation distance (aka "fire setback") are provided in Chapter 3 of the CA Residential Code for 1 and 2 family homes, and Chapter 6 of the CA Building Code for all other projects. This SOG clarifies the fire separation distance and fire resistive construction requirements based on distance to property lines for RESIDENTIAL, 1 and 2 family (R-3) dwellings.

Citations

Carmel Municipal Code Title 15, Buildings and Construction
2019 CA Residential Code Sec. R302

Guidance

When the exterior walls of a proposed residential building, detached garage, or accessory building to an R-3 dwelling project (new or remodel) is located in close proximity to a property line additional fire resistive construction may be required in accordance with CRC Table R302.1.1 (unsprinklered building) or Table R302.1(2) (sprinklered buildings) extracted below.

Exterior wall element protection based on fire separation distance - Unsprinklered (from T. R302.1.(1))

Exterior Wall Element		Minimum Fire-Resistance Rating	Minimum Fire Separation Distance
Walls	Fire-Resistance Rated	1-hour – tested in accordance with ASTM E119, UL 263, or Sec. 703.3. of the CA Building Code with exposure from both sides	0 feet
	Not fire-resistance rated	0 hours	> 5 feet
Projections	Not allowed	NA	< 2 feet
	Fire-resistance rated	1 hour on the underside, or heavy timber, or fire-retardant-treated wood [a, b]	> 2 feet to <5 feet
	Not fire-resistance rated	0 hours	> 5 feet
Openings in walls	Not allowed	NA	< 3 feet
	25% max. of wall area	0 hours	3 feet
	Unlimited	0 hours	5 feet
Penetrations	All	Comply with Sec. R302.4	< 3 feet
		None required	3 feet
a. Roof eave fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave if fireblocking is provided from the wall top plate to the underside of the roof sheathing.			
b. Roof eave fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave provided that gable end vent openings are not installed.			

Exterior wall elements based on fire separation distance – sprinklered (From T. R302.1(2))

Exterior Wall Element		Minimum Fire-Resistance Rating	Minimum Fire Separation Distance
Walls	Fire-resistant rated	1-hour – tested in accordance with ASTM E119, UL 263, or Sec. 703.3. of the CA Building Code with exposure from both sides	
	Not fire-resistant rated	0 hours	3 feet [a]
Projections	Not allowed	NA	< 2 feet

	Fire-resistance rated	1 hour on the underside, or heavy timber, or fire-retardant-treated wood	2 feet [a]
	Not fire –resistant rated	0 hours	3 feet
Openings in walls	Not allowed	NA	< 3 feet
	Unlimited	0 hours	3 feet [a]
Penetrations	All	Comply with Sec. R 302.4	< 3 feet
		None required	3 feet

a. For residential subdivisions where all dwellings are equipped throughout with an automatic sprinkler system installed in accordance with Section R313, the fire separation distance for nonrated exterior walls and rated projections shall be permitted to be reduced to 0 feet, and unlimited unprotected openings and penetrations shall be permitted, where the adjoining lot provides an open setback yard that is 6 feet or more in width on the opposite side of the property line.

b. The roof eave fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave if fireblocking is provided from the wall top plate to the underside of the roof sheathing.

c. The roof eave fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave provided that gable bent openings are not installed.

Note: Fire separation distance is measured from the property line to the exterior face of the wall covering NOT the face of studs, or face of foundation wall or footing. A survey is required prior to pouring footings/foundations to assure that the fire separation distance as measured to the future wall covering will be met.

Class A roofing material/assembly

Property LIne

< 2': Not allowed
< 5' - 2': 1 hr. underside
> 5': 0 hours permitted

Eave Projection

> 5': 0 hours permitted
<5' - 3': 0 hrs., 25% of wall area max.
< 3': Not Allowed

Openings

< 3': Comply with R302.4
> 3': 0 hours permitted

Penetrations

< 5': 1 hour required both sides
5': No fire resistance rating required

Walls - measured from face of exterior wall fiinish to property line

Grade

Fire Resistance Requirements for Exterior Wall Elements Based on Separation Distance

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Class A fire resistant roofing/
roof assembly

Eaves between 2 and 5 feet.
Option 1 - Solid blocking
from top plate to under
side of roof sheathing. No
vent holes allowed.

Eaves between 2 and 5 feet.
Option 2 - Protect underside of
eave with 1-hour protection and
no eave vents. Type X gypsum
sheathing under soffit material (typ.)

Wall less than 5 feet. One-hour
wall assembly (typ).
- 5/8 Type X gypsum wall board
- Vapor barrier
- 2x Wall framing
- Weather barrier
- Wall sheathing
- Type X exterior gypsum
  sheathing (or equal)
- Wall covering

Fire Resistant Exterior Wall and Eave Protection (typ)

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