TABLE 301.7
ALLOWABLE DEFLECTION OF STRUCTURAL MEMBERS[a, b, c, d, e]

STRUCTURAL MEMBER	ALLOWABLE DEFLECTION
Rafters having slopes greater than 3:12 with no finished ceiling attached to rafters	L/180
Interior walls and partitions	H/180
Floors and plastered ceilings	L/360
All other structural members	L/240
Exterior walls with plaster or stucco finish	H/360
Exterior walls—wind loads[a] with brittle finishes	H/240
Exterior walls—wind loads[a] with flexible finishes	L/120[d]
Lintels supporting masonry veneer walls[e]	L/600

Note: L = span length, H = span height.

a. The wind load shall be permitted to be taken as 0.7 times the Component and Cladding loads for the purpose of the determining deflection limits herein.
b. For cantilever members, *L* shall be taken as twice the length of the cantilever.
c. For aluminum structural members or panels used in roofs or walls of sunroom additions or patio covers, not supporting edge of glass or sandwich panels, the total load deflection shall not exceed L/60. For continuous aluminum structural members supporting edge of glass, the total load deflection shall not exceed L/175 for each glass lite or L/60 for the entire length of the member, whichever is more stringent. For sandwich panels used in roofs or walls of sunroom additions or patio covers, the total load deflection shall not exceed L/120.
d. Deflection for exterior walls with interior gypsum board finish shall be limited to an allowable deflection of H/180.
e. Refer to Section 703.7.2.

SECTION 302
FIRE-RESISTANT CONSTRUCTION

302.1 Exterior walls. Construction, projections, openings and penetrations of exterior walls of dwellings and accessory buildings shall comply with Table 302.1.

Exceptions:

1. Walls, projections, openings or penetrations in walls perpendicular to the line used to determine the fire separation distance.
2. Walls of dwellings and accessory structures located on the same lot.
3. Detached tool sheds and storage sheds, playhouses and similar structures exempted from *approval by Section 102.10* are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line.
4. Detached garages accessory to a dwelling located within 2 feet (610 mm) of a lot line are permitted to have roof eave projections not exceeding 4 inches (102 mm).
5. Foundation vents installed in compliance with this code are permitted.
6. *Detached garages accessory to a dwelling with an exterior wall located greater than or equal to 3 feet from a lot line.*

Where referenced in this code, an unoccupied space on an adjoining property may be included in the required fire separation distance, provided that the adjoining property is dedicated or deeded so as to preclude, for the life of the structure, the erection of any building or structure on such space (see Section 3781.02 of the Revised Code).

302.2 Residential structures with more than two dwelling units. *In structures with more than two dwelling units, each grouping of two dwelling units shall be separated from an adjacent dwelling unit or an adjacent grouping of two dwelling units by two wall assemblies, each having a fire resistance rating of one hour when tested in accordance with ASTM E 119 or UL 263 and/or a floor ceiling assembly having a fire resistance rating of two hours when tested in accordance with ASTM E 119 or UL 263.*

Alternatively, each grouping of two dwelling units shall be separated from an adjacent dwelling unit or an adjacent grouping of two dwelling units by a common wall assembly having a fire resistance rating of not less than two hours when tested in accordance with ASTM E 119 or UL 263 and/or a floor ceiling assembly having a fire resistance rating of two hours when tested in accordance with ASTM E 119 or UL 263. This option is only permissible if the common wall does not contain plumbing or mechanical equipment, ducts or vents in

TABLE R302.1
EXTERIOR WALLS

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	(Fire-resistance rated)	1 hour-tested in accordance with ASTM E 119 or UL 263 with exposure *from* both sides	< 5 feet
	(Not fire-resistance rated)	0 hours	≥ 5 feet
Projections	(Fire-resistance rated)	1 hour on the underside	≥ 2 feet to 5 feet
	(Not fire-resistance rated)	0 hours	5 feet
Openings in walls	Not allowed	N/A	< 3 feet
	25% maximum of wall area	0 hours	3 feet
	Unlimited	0 hours	5 feet
Penetrations	All	Comply with Section *302.4*	< 5 feet
		None required	5 feet

For SI: 1 foot = 304.8 mm.
N/A = Not Applicable.

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the cavity of the common wall. The common wall shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of the roof sheathing. Penetrations of electrical outlet boxes shall be in accordance with Section 302.4.

Additionally, within any grouping of two dwelling units, separated as indicated above, the individual dwelling units shall be separated vertically and horizontally from adjacent dwelling units by wall and/or floor assemblies having a fire resistance rating of not less than one hour when tested in accordance with ASTM E 119 or UL 263.

When assemblies are required to be fire-resistance-rated, the supporting construction of such assemblies shall have an equal or greater fire-resistive rating.

302.2.1 Continuity. The fire-resistance-rated wall or assembly separating townhouses shall be continuous from the foundation to the underside of the roof sheathing, deck or slab. The fire-resistance rating shall extend the full length of the wall or assembly, including wall extensions through and separating attached enclosed accessory structures.

302.2.2 Parapets. Parapets constructed in accordance with Section 302.2.3 shall be constructed for townhouses as an extension of exterior walls or common walls in accordance with the following:

1. Where roof surfaces adjacent to the wall or walls are at the same elevation, the parapet shall extend not less than 30 inches (762 mm) above the roof surfaces.
2. Where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is not more than 30 inches (762 mm) above the lower roof, the parapet shall extend not less than 30 inches (762 mm) above the lower roof surface.

   Exception: A parapet is not required in the two cases above when the roof is covered with a minimum class C roof covering, and the roof decking or sheathing is of noncombustible materials or approved fire-retardant-treated wood for a distance of 4 feet (1219 mm) on each side of the wall or walls, or one layer of $^5/_8$-inch (15.9 mm) Type X gypsum board is installed directly beneath the roof decking or sheathing, supported by a minimum of nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a minimum distance of 4 feet (1219 mm) on each side of the wall or walls.
3. A parapet is not required where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is more than 30 inches (762 mm) above the lower roof. The common wall construction from the lower roof to the underside of the higher roof deck shall have not less than a 1-hour fire-resistance rating. The wall shall be rated for exposure from both sides.

302.2.3 Parapet construction. Parapets shall have the same fire-resistance rating as that required for the supporting wall or walls. On any side adjacent to a roof surface, the parapet shall have noncombustible faces for the uppermost 18 inches (457 mm), to include counterflashing and coping materials. Where the roof slopes toward a parapet at slopes greater than 2 units vertical in 12 units horizontal (16.7-percent slope), the parapet shall extend to the same height as any portion of the roof within a distance of 3 feet (914 mm), but in no case shall the height be less than 30 inches (762 mm).

302.2.4 Structural independence. Each individual *dwelling unit* shall be structurally independent.

Exceptions:

1. Foundations supporting exterior walls or common walls.
2. Structural roof and wall sheathing from each unit may fasten to the common wall framing.
3. Nonstructural wall and roof coverings.
4. Flashing at termination of roof covering over common wall.
5. *Dwelling units* separated by a common 2-hour fire-resistance-rated wall as provided in Section 302.2.
6. *Dwelling units stacked vertically.*

302.3 Two-family dwellings. Dwelling units in two-family dwellings shall be separated from each other by wall and/or floor assemblies having not less than a 1-hour fire-resistance rating when tested in accordance with ASTM E 119 or UL 263. Fire-resistance-rated floor-ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.

Exceptions:

1. A fire-resistance rating of $^1/_2$ hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13.
2. Wall assemblies need not extend through attic spaces when the ceiling is protected by not less than $^5/_8$-inch (15.9 mm) Type X gypsum board and an attic draft stop constructed as specified in Section 302.12.1 is provided above and along the wall assembly separating the dwellings. The structural framing supporting the ceiling shall also be protected by not less than $^1/_2$-inch (12.7 mm) gypsum board or equivalent.

302.3.1 Supporting construction. When floor assemblies are required to be fire-resistance rated by Section 302.3, the supporting construction of such assemblies shall have an equal or greater fire-resistance rating.

302.4 Dwelling unit rated penetrations. Penetrations of wall or floor/ceiling assemblies required to be fire-resistance rated in accordance with Section 302.2 or 302.3 shall be protected in accordance with this section.