

R301.7 Deflection. The allowable deflection of any structural member under the live load listed in Sections R301.5 and R301.6 shall not exceed the values in Table R301.7.

∩ The allowable deflection of structural members from the design live load must not exceed the values in Table R301.7. These limits are expressed in terms of the span length. Brittle finishes, such as plaster ceilings and exterior stucco walls, are protected by limiting the deflection of those elements. Commentary Figure R301.7 shows a simply supported beam with dead load deflection before the live load has been applied. It also shows the same beam after the live load has been applied. The vertical distance that the center of the beam has moved from the initial dead load deflection position is called the live load deflection. If a finish material is applied to this beam, the finish material is subject to distortion in proportion to this deflection.

TABLE R301.7
ALLOWABLE DEFLECTION OF STRUCTURAL MEMBERS^{a,b,c}
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	$L/240$
Exterior walls—wind loads ^a with flexible finishes	$L/120$

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

- 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.
- For cantilever members, L shall be taken as twice the length of the cantilever.
- 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 sandwich panels used in roofs or walls of sunroom additions or patio covers, the total load deflection shall not exceed $L/120$.

