

Table 12.2-1 (Continued)

Seismic Force-Resisting System	ASCE 7 Section Where Detailing Requirements Are Specified	Response Modification Coefficient, R^a	Overstrength Factor, Ω_0^g	Deflection Amplification Factor, C_d^b	Structural System Limitations Including Structural Height, h_n (ft) Limits ^c				
					Seismic Design Category				
					B	C	D ^d	E ^d	F ^e
G. CANTILEVERED COLUMN SYSTEMS DETAILED TO CONFORM TO THE REQUIREMENTS FOR:	12.2.5.2								
1. Steel special cantilever column systems	14.1	2½	1¼	2½	35	35	35	35	35
2. Steel ordinary cantilever column systems	14.1	1¼	1¼	1¼	35	35	NP ⁱ	NP ⁱ	NP ⁱ
3. Special reinforced concrete moment frames ⁿ	12.2.5.5 and 14.2	2½	1¼	2½	35	35	35	35	35
4. Intermediate reinforced concrete moment frames	14.2	1½	1¼	1½	35	35	NP	NP	NP
5. Ordinary reinforced concrete moment frames	14.2	1	1¼	1	35	NP	NP	NP	NP
6. Timber frames	14.5	1½	1½	1½	35	35	35	NP	NP
H. STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE, EXCLUDING CANTILEVER COLUMN SYSTEMS	14.1	3	3	3	NL	NL	NP	NP	NP

^aResponse modification coefficient, R , for use throughout the standard. Note R reduces forces to a strength level, not an allowable stress level.

^bDeflection amplification factor, C_d , for use in Sections 12.8.6, 12.8.7, and 12.9.2.

^cNL = Not Limited and NP = Not Permitted. For metric units use 30.5 m for 100 ft and use 48.8 m for 160 ft.

^dSee Section 12.2.5.4 for a description of seismic force-resisting systems limited to buildings with a structural height, h_n , of 240 ft (73.2 m) or less.

^eSee Section 12.2.5.4 for seismic force-resisting systems limited to buildings with a structural height, h_n , of 160 ft (48.8 m) or less.

^fOrdinary moment frame is permitted to be used in lieu of intermediate moment frame for Seismic Design Categories B or C.

^gWhere the tabulated value of the overstrength factor, Ω_0 , is greater than or equal to 2½, Ω_0 is permitted to be reduced by subtracting the value of 1/2 for structures with flexible diaphragms.

^hSee Section 12.2.5.7 for limitations in structures assigned to Seismic Design Categories D, E, or F.

ⁱSee Section 12.2.5.6 for limitations in structures assigned to Seismic Design Categories D, E, or F.

^jSteel ordinary concentrically braced frames are permitted in single-story buildings up to a structural height, h_n , of 60 ft (18.3 m) where the dead load of the roof does not exceed 20 psf (0.96 kN/m²) and in penthouse structures.

^kAn increase in structural height, h_n , to 45 ft (13.7 m) is permitted for single story storage warehouse facilities.

^lIn Section 2.2 of ACI 318. A shear wall is defined as a structural wall.

^mIn Section 2.2 of ACI 318. The definition of “special structural wall” includes precast and cast-in-place construction.

ⁿIn Section 2.2 of ACI 318. The definition of “special moment frame” includes precast and cast-in-place construction.

^oAlternately, the seismic load effect with overstrength, E_{mh} , is permitted to be based on the expected strength determined in accordance with AISI S110.

^pCold-formed steel – special bolted moment frames shall be limited to one-story in height in accordance with AISI S110.