

Table 15.4-1 Seismic Coefficients for Nonbuilding Structures Similar to Buildings

Nonbuilding Structure Type	Detailing Requirements	R	Ω_0	C_d	Structural System and Structural Height, h_n , Limits (ft) ^a				
					B	C	D	E	F
Steel storage racks	15.5.3	4	2	3.5	NL	NL	NL	NL	NL
Building frame systems:									
Steel special concentrically braced frames	AISC 341	6	2	5	NL	NL	160	160	100
Steel ordinary concentrically braced frame	AISC 341	3½	2	3¼	NL	NL	35 ^b	35 ^b	NP ^b
With permitted height increase	AISC 341	2½	2	2½	NL	NL	160	160	100
With unlimited height	AISC 360	1.5	1	1.5	NL	NL	NL	NL	NL
Moment-resisting frame systems:									
Steel special moment frames	AISC 341	8	3	5.5	NL	NL	NL	NL	NL
Special reinforced concrete moment frames	14.2.2.6 & ACI 318, including Chapter 21	8	3	5.5	NL	NL	NL	NL	NL
Steel intermediate moment frames	AISC 341	4.5	3	4	NL	NL	35 ^{c,d}	NP ^{c,d}	NP ^{c,d}
With permitted height increase	AISC 341	2.5	2	2.5	NL	NL	160	160	100
With unlimited height	AISC 341	1.5	1	1.5	NL	NL	NL	NL	NL
Intermediate reinforced concrete moment frames	ACI 318, including Chapter 21	5	3	4.5	NL	NL	NP	NP	NP
With permitted height increase	ACI 318, including Chapter 21	3	2	2.5	NL	NL	50	50	50
With unlimited height	ACI 318, including Chapter 21	0.8	1	1	NL	NL	NL	NL	NL
Steel ordinary moment frames	AISC 341	3.5	3	3	NL	NL	NP ^{c,d}	NP ^{c,d}	NP ^{c,d}
With permitted height increase	AISC 341	2.5	2	2.5	NL	NL	100	100	NP ^{c,d}
With unlimited height	AISC 360	1	1	1	NL	NL	NL	NL	NL
Ordinary reinforced concrete moment frames	ACI 318, excluding Chapter 21	3	3	2.5	NL	NP	NP	NP	NP
With permitted height increase	ACI 318, excluding Chapter 21	0.8	1	1	NL	NL	50	50	50

^aNL = no limit and NP = not permitted.^bSteel ordinary braced frames are permitted in pipe racks up to 65 ft (20 m).^cSteel ordinary moment frames and intermediate moment frames are permitted in pipe racks up to a height of 65 ft (20 m) where the moment joints of field connections are constructed of bolted end plates.^dSteel ordinary moment frames and intermediate moment frames are permitted in pipe racks up to a height of 35 ft (11 m).