

forces acting in the plane of the wall (sometimes referred to as a “vertical diaphragm”).

Structural Wall: Walls that meet the definition for bearing walls or shear walls.

WALL SYSTEM, BEARING: A structural system with bearing walls providing support for all or major portions of the vertical loads. Shear walls or braced frames provide seismic force resistance.

WOOD STRUCTURAL PANEL: A wood-based panel product that meets the requirements of DOC PS1 or DOC PS2 and is bonded with a waterproof adhesive. Included under this designation are plywood, oriented strand board, and composite panels.

11.3 SYMBOLS

The unit dimensions used with the items covered by the symbols shall be consistent throughout except where specifically noted. Symbols presented in this section apply only to the seismic requirements in this standard as indicated.

A_{ch} = cross-sectional area (in.² or mm²) of a structural member measured out-to-out of transverse reinforcement

A_0 = area of the load-carrying foundation (ft² or m²)

A_{sh} = total cross-sectional area of hoop reinforcement (in.² or mm²), including supplementary cross-ties, having a spacing of s_h and crossing a section with a core dimension of h_c

A_{vd} = required area of leg (in.² or mm²) of diagonal reinforcement

A_x = torsional amplification factor (Section 12.8.4.3)

a_i = the acceleration at level i obtained from a modal analysis (Section 13.3.1)

a_p = the amplification factor related to the response of a system or component as affected by the type of seismic attachment, determined in Section 13.3.1

b_p = the width of the rectangular glass panel

C_d = deflection amplification factor as given in Tables 12.2-1, 15.4-1, or 15.4-2

C_R = site-specific risk coefficient at any period; see Section 21.2.1.1

C_{RS} = mapped value of the risk coefficient at short periods as given by Fig. 22-17

C_{RI} = mapped value of the risk coefficient at a period of 1 s as given by Fig. 22-18

C_s = seismic response coefficient determined in Section 12.8.1.1 and 19.3.1 (dimensionless)

C_T = building period coefficient in Section 12.8.2.1

C_{vx} = vertical distribution factor as determined in Section 12.8.3

c = distance from the neutral axis of a flexural member to the fiber of maximum compressive strain (in. or mm)

D = the effect of dead load

D_{clear} = relative horizontal (drift) displacement, measured over the height of the glass panel under consideration, which causes initial glass-to-frame contact. For rectangular glass panels within a rectangular wall frame, D_{clear} is set forth in Section 13.5.9.1

D_{pl} = seismic relative displacement; see Section 13.3.2

D_s = the total depth of stratum in Eq. 19.2-12 (ft or m)

d_c = The total thickness of cohesive soil layers in the top 100 ft (30 m); see Section 20.4.3 (ft or m)

d_i = The thickness of any soil or rock layer i (between 0 and 100 ft [30 m]); see Section 20.4.1 (ft or m)

d_s = The total thickness of cohesionless soil layers in the top 100 ft (30 m); see Section 20.4.2 (ft or m)

E = effect of horizontal and vertical earthquake-induced forces (Section 12.4)

F_a = short-period site coefficient (at 0.2 s-period); see Section 11.4.3

F_i, F_n, F_x = portion of the seismic base shear, V , induced at Level i, n , or x , respectively, as determined in Section 12.8.3

F_p = the seismic force acting on a component of a structure as determined in Sections 12.11.1 and 13.3.1

F_{PGA} = site coefficient for PGA; see Section 11.8.3

F_v = long-period site coefficient (at 1.0 s-period); see Section 11.4.3

f'_c = specified compressive strength of concrete used in design

f'_s = ultimate tensile strength (psi or MPa) of the bolt, stud, or insert leg wires. For ASTM A307 bolts or A108 studs, it is permitted to be assumed to be 60,000 psi (415 MPa)

f_y = specified yield strength of reinforcement (psi or MPa)

f_{yh} = specified yield strength of the special lateral reinforcement (psi or kPa)