$T_n$  = Natural period of n'th mode [s]

 $t_{\rm f}$  = Flange thickness of a seismic link

 $t_{\rm w}$  = Web thickness of a seismic link

 $V_{\rm b}$  = Base shear in the earthquake direction considered

 $V_{\rm bx}$  = Base shear in x earthquake direction

 $V_{bCx}$  = Base shear obtained by modal combination in x earthquake direction

 $V_{\rm by}$  = Base shear in x earthquake direction

 $V_{\text{bCy}}$  = Base shear obtained by modal combination in y earthquake direction  $V_{\text{Ed}}$  = Shear force obtained from analysis for the seismic design situation

 $V_{\rm Ed}$  = Design shear force determined in accordance with capacity design rule

 $V_{\rm Ed\,E}$  = Shear force due to design seismic action

 $V_{\rm Ed,G}$  = Shear force due to non-seismic actions in seismic design situation

 $V_{\rm Ed,M}$  = Shear force due to application of plastic moment resistances at the two ends

 $V_i$  = i'th storey seismic shear in the earthquake direction considered

V<sub>ic</sub> = Sum of seismic shear forces of all columns at the i'th storey in the earthquake direction considered

 $V_{\rm is}$  = Sum of seismic shear forces in the earthquake direction considered at the i'th storey columns where strong column – weak beam condition is satisfied at both bottom and top joints

 $V_{\rm pl,Rd}$  = Design value of shear resistance of a member in accordance with EN 1993-1-1: 2004

 $V_{\rm wb\,Rd}$  = Shear buckling resistance of the web panel

 $V_{\rm wp,Ed}$  = Design shear force in web panel due to design seismic action effects

 $V_{\rm wp,Rd}$  = Shear resistance of the web panel in accordance with EN 1993- 1-8:2004, 6.2.4.1

 $W_i$  = Seismic weight of i'th storey of building

 $W_{\rm t}$  = Total seismic weight of building corresponding to total mass,  $M_{\rm t}$ 

 $\alpha$  = Confinement effectiveness factor; ratio of the smaller bending moments  $M_{\rm Ed,A}$  at one end of the link in the seismic design situation, to the greater bending moments  $M_{\rm Ed,B}$  at the end where the plastic hinge develops, both moments being taken as absolute values.

 $\alpha_G$  = Coefficient used for determining the gap size of a seismic joint

 $\alpha_i$  = Ratio of  $V_{is} / V_{ic}$  calculated for any i'th storey

 $\Delta_{ii}$  = Reduced storey drift of the j'th vertical element at i'th storey

 $(\Delta_i)_{avg}$  = Average reduced storey drift of the i'th storey

 $\delta_{ii}$  = Effective storey drift of the j'th vertical element at i'th storey

 $(\delta_i)_{max}$  = Maximum effective storey drift of the i'th storey

 $\Delta F_{\rm N}$  = Additional equivalent seismic load acting on the N'th storey (top) of building

 $\varepsilon$  = Shear amplification factor of wall

 $\varepsilon_a$  = Total strain of steel at Ultimate Limit State

 $\varepsilon_{cg}$  = Upper limit (capacity) of concrete compressive strain in the extreme fiber inside the confinement reinforcement

 $\varepsilon_{cu2}$  = Ultimate compressive strain of unconfined concrete  $\varepsilon_{s}$  = Upper limit (capacity) of strain in steel reinforcement

 $\varepsilon_{\text{sy,d}}$  = Design value of steel strain at yield

 $\eta_{ti}$  = Torsional Irregularity Factor defined at i'th storey of building  $\eta_{ci}$  = Strength Irregularity Factor defined at i'th storey of building  $\eta_{ki}$  = Stiffness Irregularity Factor defined at i'th storey of building

 $\Phi_{xin}$  = In buildings with floors modelled as rigid diaphragms, horizontal component of n'th mode shape in the x direction at i'th storey of building