Type of Element	ATC
Exposed element	20C
Non-exposed element	15C
Steel structures	25C

The early and seasonal thermal loads and their impact can be calculated based on **Ciria Report No.(660)** specification.

The value of (axial stiffness modifier) in thermal load equation is:

- (1.0) for Typical / *(repeated floors)* concrete slabs.

4. Seismic Loads:

4.1 American code (ASCE 7) and its updates and amendments.

4.2 The ground movement parameters to be used for (5%) critical damping and shear wave velocity of (760m/sec) are according to the following table

$PGA(g)$	$S_s\,(g)$	$S_1\,(g)$	$T_l\,(s)$
0.2	0.51	0.18	24

(i) The factorsPGA, S_s and S_1shall be adjusted according to the nature of the soil by using F_{PGA} , F_a , F_v (site amplification factors) and referring to tables (118-1, 114-1, 114-2) in the American code (ASCE7) consecutively.

(ii) In case of estimating the shear wave velocity for rocks for site class (B) instead of measuring it,(F_{PGA} = F_a = F_v=1)shall be used according to (ASCE7). The adjusted factors PGA, S_s and S_1 shall be labeled consecutively in ASCE7 as PGA_m, S_{Ms} and S_{M1} according to the nature of the soil.

4.3 The factor PGA_m shall be used for the calculation of soil liquefaction analysis; the seismic force impacting the PGA_m factor in the emirate is (M 6.2).

4.4 The seismic importance factor (I_e) for each building can be determined according to table (1.5-2) in (ASCE7).

4.5 The ground movement parameters for buildings with critical damping rate less than (5%) shall be calculated by dividing the factors S_{Ms} and S_{M1} on the damping- adjustment factors β_1 and β_s consecutively as mentioned in the table below.

4.6 The soil factor shall be calculated as per the recommendations of the soil investigation report for the project.