

- Whether inspection and maintenance are possible.
- As an alternative to the use of protective coatings, weather resistant steels to BS EN 10155 may be used. Steels complying with other prominent international codes such as the American and European codes are acceptable subject to review and approval by the authority.

4.3.5 FOUNDATION

Foundations shall accommodate all forces imposed on them. Attention should be given to the method of connecting the steel superstructure to the foundations and to the anchoring of holding-down bolts.

1. Where it is necessary to quote the foundation reactions, it should be clearly stated whether the forces and moments result are from factored or unfactored loads. Where they result from factored loads, the relevant factors for each load in each combination should be stated.

4.3.6 HOLDING DOWN BOLTS

Holding down bolts should be designed to resist tension due to uplift forces and tension due to bending moments as appropriate.

1. Holding-down bolts required to resist tension should be anchored by a washer plate or other load distributing member embedded in the foundation. This plate or member should be designed to span any grout tube or adjustment tube provided for the holding-down bolt.
2. Alternatively, a bend or hook in accordance with the minimum bend radius recommended in the codes may be used.
3. Expanding anchors or resin-grouted anchors are generally not recommended. If they are required in exceptional cases, it should be demonstrated that the required capacity can reliably be achieved, both by the anchor and by the foundation.

4.3.7 FATIGUE

1. Fatigue need not be considered unless a structure or element is subjected to numerous significant fluctuations of stress.
2. Stress changes due to normal fluctuations in wind loading need not be considered.
3. Structural members that support heavy vibrating machinery or plant should be checked for fatigue resistance.

4. Where aerodynamic instability can occur, account should be taken of wind induced oscillations.
5. Where fatigue is critical, all design details should be precisely defined and the required quality of workmanship should be clearly specified.
6. Resistance to fatigue should be determined by reference to BS 7608 or applicable codes.

4.3.8 STRUCTURAL INTEGRITY

All buildings shall be effectively tied together at each principal floor level.

1. Each column shall be effectively held in position by means of horizontal ties in two directions, approximately at right angles, at each principal floor level supported by that column.
2. Horizontal ties shall be provided at roof level, except where the steelwork only supports cladding that weighs not more than 0.7 kN/m2 and that carries only imposed roof loads and wind loads.
3. Continuous lines of ties should be arranged as close as practicable to the edges of the floor or roof and to each column line. Ties designed and provided as shown in Figures (4.1) and (4.2) are acceptable.

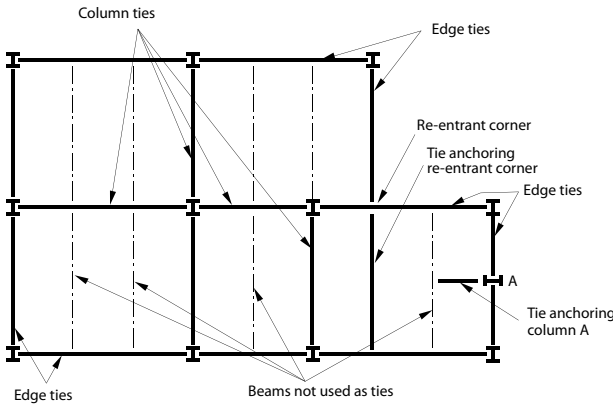


Fig (4.1) Tying of Columns – Beams connecting columns only and at reentrant corners used as Ties