A structural member shall not deviate from its intended length by more than:

- 1 mm in the case of compression members faced at both ends for bearing, or
- + 0 to - 4 mm in the case of other members.

Lengths of components shall be such that cumulative variations do not prejudice the accurate alignment of the completed structure.

Where two steel surfaces are required to be in contact to effect a bearing or frictional contact, the surfaces shall be prepared so that at least 90% of the area is touching before any clamping force is applied.

6.4.13 Dissimilar metals

Where dissimilar metals are used in close proximity to structural steel members or their connections, contact between such metals and the steel shall be avoided unless the Contractor can demonstrate to the satisfaction of the Engineer that contact between the dissimilar metals will not lead to galvanic corrosion.

Contact between aluminum or aluminum alloy and galvanized mild steel shall be permitted. For fixing aluminum to steel structures, bolts, nuts, washers and screws shall be galvanized.

Where galvanized parts may become sacrificial anodes to the main structure or where the electrolytic potential difference exceeds 250 mV, the parts shall be separated by an insulating medium of adequate strength.

6.4.14 Stainless steel

The requirements for stainless steel are given in Section 7.3.4 of these Specifications.

6.5 Structural Design Requirements

6.5.1 General

The Contractor shall carry out and document the structural design for the structures and buildings, which are defined to be under the responsibility of the Contractor as minimum in accordance with the requirement given in this section below. The structural design requirements should be implemented for the structural design that expressed above.

Structures should be capable of withstanding external lateral soil pressure when empty.

Structures should be capable of withstanding internal pressure when filled with water and assuming no lateral external load from soil and/or groundwater.

Combined structures should be capable of withstanding internal water pressure when one compartment is filled with water and the adjacent compartment is empty.

Structures should be capable of withstanding both external pressure support from soil and/or groundwater and internal pressure when filled with water.

The pressure from ground water and any external water should be taken into consideration.

All structures should be secured against uplift by their own weight together with the surrounding soil.