

shall be entered in the manufacturing data / project record books. These shall include the witnessed tests, and the documents shall be submitted to Client/Engineer prior to the despatch of the materials.

- F. Each pipe and fitting shall be indelibly marked over any factory applied coating with the diameter, nominal pipe thickness, class, grade of steel, length of pipe and works test pressure and shall in addition carry a unique reference number to enable items to be correlated to works fabrication records, works test certificates, delivery notes and the like. It shall be marked with wall thickness and steel grade. Wherever possible, the marks shall be painted on the outside of pipes and fittings close to one end.

## **23.3 Part 3 Execution**

### **23.3.1 Pipe Installation**

- A. Install pipe, fittings, and accessories in accordance with manufacturer's instructions.
- i. Provide qualification details of the manufacturer's technical expert to be assigned to the Contract. The technical expert shall have expertise, experience and skills necessary for advising and monitoring all aspects of transport, storage, handling, installation and testing of pipes as appropriate.
  - ii. The technical expert shall provide comprehensive technical assistance to the Contractor throughout the Contract and regularly monitor the Contractor's activities and report on shortcomings.

The Contractor shall provide the Engineer and DMAT copies of all instructions advice or reports given by the manufacturer's technical expert to him. The technical expert shall immediately inform the Engineer and DMAT of any omission, variations and detractions from the specification.

### **23.3.2 Hydrostatic Testing**

- A. Proposed methods and program for testing, including details of test equipment, shall be submitted to the Engineer for approval. All tests shall be witnessed by the Engineer or other person appointed by the Owner. All equipment necessary for carrying out testing and cleaning including water, pumps, gauges and calibration certificates, piped connections, stop ends and all other temporary works shall be provided prior to commencement of testing.