

# Global Press Tender for Steel Plates for Resitement POL Depot at Thinchupangkha , near Paro , Bhutan

## TECHNICAL SPECIFICATION OF STEEL PLATES CONFORMING TO IS 2062 E250 (Fe 410 w) Gr.B OR ASTM A 36 GRADE

### **1.0 SCOPE OF SUPPLY:**

The scope covers the supply of structural quality weldable steel plates for petroleum product storage tanks and fire water tanks at proposed POL Depot site at Thinchupangkha , Paro , Bhutan .

### **2.0 GENERAL DESCRIPTION:**

This section describes the requirements for technical delivery conditions and scope of inspection for the procurement of steel plates for storage tanks application in accordance with IS standards.

### **3.0 MANUFACTURING PROCESS :**

The supplier should submit a technical manufacturing plan to accomplish the required quality of steel plates as specified in the standard in the technical bid of the tender, the plan should cover the following:

- 3.1 Manufacturing Standard.
- 3.2 Grade of steel plate material to be manufactured.
- 3.3 Tolerances inline with standard
- 3.4 All the remarks that apply to the steel plate material

### **4.0 STANDARDS :**

**4.1 For steel plate material conforming to IS 2062 E 250 (Fe 410 W) Gr.B, the following codes & standards should be complied.**

- 4.1.1 Structural Quality Steel Plates shall conform to Latest Edition of IS 2062 E 250 (Fe 410 W) Gr.B Specifications.
- 4.1.2 The Marking shall be as per the Latest Edition of IS 2062 E 250 (Fe 410 W) Gr. B. Each product shall carry a tag or be marked with the Manufacturer's Name or Make mark. Designation of steel shall also be similarly marked on the product tag along with manufacturer's name or trade mark.
- 4.1.3 The Dimensional tolerance of the steel plates shall confirm to Latest Edition of IS 1852 Specifications. However, for width a tolerance of upto -0 / +20 mm is acceptable. This tolerance in width should be uniform throughout the length of the plate.
- 4.1.4 The Charpy Impact test requirements (for 12mm thk. & above) for the steel plates shall confirm to Latest Edition of IS 1757 Specifications.

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- 4.1.5 The Bend test requirements for the steel plates shall confirm to Latest Edition of IS 1599 Specifications.
- 4.1.6 For purposes the clause governing these standards and also other standards mentioned or referred therein should be adhered by the manufacturer for manufacturing and supplying of required steel plates.
- 4.2 For steel plate material conforming to ASTM A 36 grade, the following codes & standards should be complied.
  - 4.2.1 Structural Quality Steel Plates shall conform to Latest Edition of ASTM A 6/ A6 M Specifications.
  - 4.2.2 The Marking shall be as per the Latest Edition of ASTM A 6/A6 M. Each product shall carry a tag or be marked with the Manufacturer's Name or Make mark. Designation of steel shall also be similarly marked on the product tag along with manufacturer's name or trade mark.
  - 4.2.3 The Dimensional tolerance of the steel plates shall confirm to Latest Edition of ASTM A 6/A6 M Specifications. However, for width a tolerance of upto -0 / +20 mm is acceptable. This tolerance in width should be uniform throughout the length of the plate.
  - 4.2.4 The Charpy Impact test (for 12 mm and above ) requirements for the steel plates shall confirm to Latest Edition of ASTM A 370 -97a Specifications
  - 4.2.5 The Bend test requirements for the steel plates shall confirm to Latest Edition of ASTM A 370 -97a Specifications
  - 4.2.6 For purposes the clause governing these standards and also other standards mentioned or referred therein should be adhered by the manufacturer for manufacturing and supplying of required steel plates.

## 5.0 GENERAL REQUIREMENTS

- 5.1 Tolerances on other dimensions of plates shall be as per IS: 1852 [latest edition]. No negative tolerance in thickness is acceptable
- 5.2 Final rolling shall be lengthwise. Both "Trimmed" & "Un-Trimmed" plates are acceptable, however, the tolerance in width shall be upto -0/+20mm & uniform throughout the length of the plate. Other tolerances shall be as per IS-1852 [latest edition].
- 5.3 The payment & despatch shall be made on "Actual Weight" basis. The weight shall be taken at the vendor's own stockyard/plant/premises & BPCL reserves the right to witness the same. Thereafter in case the plates are received at BPCL end with different dimensions (other than that invoiced & weighed at vendor's end), the same shall not be accepted.



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Payment & despatch based on "Theoretical Weight" basis is also acceptable. However in case the plates are received at location with different dimensions (other than that invoiced at vendor's end), the same shall not be accepted. In this case the density of steel shall be taken as 7850 Kg./cubic meter.

5.4 Charpy test is mandatory at - 20 deg C and the value is to be 27 Joules for steel plates of thickness 12 mm and above

5.5 The steel plate material should be fully killed and fine grain steels.

5.6 The steel plates shall be supplied without painting/coating.

5.7 Nevertheless the following chemical and mechanical properties are mandatory to ensure the properties to meet the requirement.

### 6.0 SUPPLEMENTARY REQUIREMENTS

6.1.1 Heat analysis and product analysis shall be carried out for each heat as per the specifications of IS 2062 E 250 (FE 410 W) GR. B. [latest edition] and limiting values are as per the limits specified.

6.1.2 Mechanical properties shall meet the requirements as per IS 2062 E 250 (Fe 410 W) Gr. B [latest edition].

6.1.3 The products shall be sound and free from defects that preclude their intended use.

6.1.4 CERTIFIED DOCS, :- The supplier shall furnish 2 copies of the following certificates/documents inclusive of all tests required as per specifications duly certified by the Inspecting Authority whenever applicable before shipment of plates. The actual values obtained shall be recorded in the test certificates/documents. Material certificates shall conform to EN 10204: 2004 (E) "Type 3.2".

6.1.4.1 Chemical Analysis

6.1.4.2 Mechanical Test

6.1.4.3 Date of manufacture (final rolling)

6.2 For steel plate material conforming to ASTM A 36 grade, it should meet the supplementary requirements stated in clause 6.1 complying to their testing standard as specified in ASTM.

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## 7.0 Marking of Products

The finished steel plates shall be marked as per IS 2062 E 250 (Fe 410 W) Gr. B [latest edition] specifications and then supplied to purchaser. Each plate to be marked with unique identification number as per following example :

1 - 5 - 4 of 1030 - 'Purchase Order Number' where

1 - Number

5 - Thickness of plate

4 - No. of plate

1030 - Total qty of plates

## 8.0 INSPECTION AUTHORITY

8.1 Unless otherwise stated in the call-off/purchase Order, no third party inspection is required. Material test certificate duly certified by Mill's quality assurance/Quality Control department is acceptable.

8.2 Royal Govt. of Bhutan however reserves the right to inspect the steel plates by registered third party inspection agency of BPCL [LRIS/IRS/DNV/SGS/EIL] upto any extent as per IS 2062 E 250 (FE 410 W) GR. B [latest edition] and in such cases, all test certificates / documents shall be duly certified by the third party.

## 9.0 ACCEPTANCE

Royal Govt. of Bhutan reserves the right to accept or reject the material based on the aforementioned inspection data if it does not meet specification.

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