

1. SCOPE

This TDC specifies the requirements for the supply of carbon steel plates and rolled sections for ESP Structures and any other structures as applicable.

2. MATERIAL SPECIFICATION:

PLATES & Rolled sections : IS 2062

Additional Requirement : As listed below (This TDC gives requirements over and above the mandatory requirements of the specification)

Grade, Size and Qty. : As per Purchase order (PO)

Heat treatment and NDT : As per Purchase Order(PO)

3. CHEMICAL COMPOSITION AND PROCESS:

Plates:

- Plates of IS 2062 E250 BR, B0, C & IS 2062 E350 B0, C only shall be used.
- All plates shall be in killed condition.

Rolled section:

- IS 2062 E250 A, BR & B0 shall be in semi killed or killed condition
- IS 2062 E250 C, E350 B0, C shall be in killed condition

4. HEAT TREATMENT:

- IS 2062 E250 BR, B0, C; E350 B0, C:
 - Thickness up to and including 12mm in As rolled condition.
 - Thickness more than 12mm and up to and including 40mm shall be in Normalized rolled condition.
 - Thickness more than 40mm shall be vacuum degassed and in Furnace normalized condition only.

5. MECHANICAL TESTS:

- Frequency of all below tests: Minimum of 2 samples per heat.
- All mandatory tests shall be as per the applicable materials specifications.
- Plates of IS 2062 BR shall be impact tested at room temperature irrespective of plate thickness.

6. NON DESTRUCTIVE TEST:

Ultrasonic Test: For plates of thickness > 40mm, 100% UT as per ASTM A578 Level- B-S2.

7. FINISH AND REPAIR:

Plates shall be free from all mill scales, edge crack and other injurious defects. Repairs by fusion welding is prohibited. Mechanical removal of defects permitted subject to meeting minimum thickness and smooth surface.

8. MARKING (by mill):

- Specification
- Grade
- Melt number
- Maker's emblem/Code/ Identification and
- Plate number. PO No (BHEL PO only), buyer name to be painted on the product. Marking shall be done as indicated below:
 - All plates of thickness > 10mm: SI no: 1 to 4 shall be maintained by hard stamping and SI no 5 by paint stenciling.
 - All plates of thickness ≤ 10mm (except made from strip in coil form): SI no: 1 to 5 shall be maintained by paint stenciling.
 - Plates of thickness ≤ 10mm (produced from strip in coil form): SI no: 1 to 5 by paint stenciling on the top of each pile/ packet.

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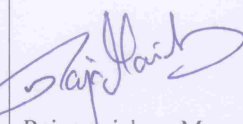
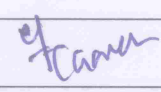
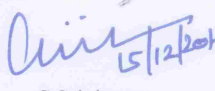
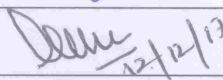
9. INSPECTION AND CERTIFICATION:

Products must be inspected & tested at supplier's works. Test certificate, in English, shall accompany each product with the following details:

- Purchase Order No., TDC No. & its Revision No., Test certificate No. & Date, Size, Plate number and Quantity-Melt wise.
- Material Specification and Grade with applicable year of code, Heat Number, Steel making process, de-oxidation process.
- Chemistry, Carbon equivalent and Heat Treatment details.
- Mechanical test values, including impact values shall be reported.
- NDE results with reference and acceptance standards.

RECORD OF REVISIONS

RECORD OF REVISIONS	
Rev.00	Original Issue

Prepared by	Reviewed by		Signature	Approved by
	Department	Name and Desig. (Shri/ S)		
 Rajamanickam.M Sr. Engr/ QA	ENGG (AQCS)	C. Ganesh DGM/ EDC- AQCS		 C.Srinivasan DGM/ QA& QC- Proc
	QC (PROC)	R. Kesavan Sr. Mgr/ Qc- Proc		
	MATERIAL PLANNING	M. Madhavan Sr. Mgr/ MPL		
	PURCHASE	R. Pandiyan Sr. Mgr/ Purchase		
	QA	R. Arunachalam DGM/ QA- Mech		
Issued by QUALITY ASSURANCE				