

 बी एच ई एल BHEL	TD219 Rev.00	PLANT PURCHASING SPECIFICATION HYDERABAD	HY 10170 Rev. No. 00 Page 1 of 2										
STRUCTURAL STEEL PLATES AND ROLLED SECTIONS GRADE: E 350													
1.0 SCOPE: This specification specifies requirements for supply of carbon steel plates and rolled sections of E350 Grade. 2.0 MATERIAL SPECIFICATION: a) SA/IS 2062, EN 10025-2, or equivalent grades as mentioned in the table below. b) Grade, Size, Quantity shall be as per Purchase Order (PO) c) Steel shall be supplied in fully killed condition. Table of Equivalent grades: <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <th rowspan="2">SL No</th> <th rowspan="2">SA / IS 2062</th> <th colspan="2">EN 10025-2</th> </tr> <tr> <th>Thk <= 40</th> <th>Thk > 40</th> </tr> <tr> <td>01</td> <td>E 350A, E 350BR</td> <td>S 355 JR</td> <td>S355JR+N</td> </tr> </table> 3.0 APPLICATION: The material as per this specification will be utilized for the items fabricated for Ash Handling system used in Coal power plants. 4.0 CONDITION OF DELIVERY: Plates, Bars & Sections : Hot rolled in straight lengths without twists and bends. 5.0 HEAT TREATMENT: All grades of SA/ IS 2062 E350 and EN 10025-2 Gr. S355- Plates of thickness more than 40mm shall be supplied in Furnace normalized condition only. 6.0 CHEMISTRY & MECHANICAL TESTS: a) Chemistry shall be checked melt wise. b) Mechanical tests shall be conducted as per applicable material specification c) Additional mechanical tests to be conducted are: i. Impact Testing shall be done for plates / sections of thickness > 50 mm irrespective of material grade/specification. ii. Through thickness ductility test to class Z15 as per EN 10164 (for Plus- I columns of E350 material) shall be conducted for applicable material codes as per PO.				SL No	SA / IS 2062	EN 10025-2		Thk <= 40	Thk > 40	01	E 350A, E 350BR	S 355 JR	S355JR+N
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HY10170	PLANT PURCHASING SPECIFICATION HYDERABAD	TD219 Rev.00	
Rev. No. 00			
Page 2 of 2			

7.0 NON DESTRUCTIVE TEST:

Ultrasonic Test shall be conducted for plates of thickness ≥ 25 mm as per ASTM A435.

8.0 TOLERANCES:

a) The tolerances on hot rolled material shall comply with IS:1852. However, no plate shall be under the specified thickness at any point.

b) Straightness for hot rolled bars: Unless otherwise specified, the permissible deviation in straightness shall not exceed 5mm in any 1000 mm length.

9.0 FINISH AND REPAIR:

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

10.0 PACKING & MARKING (by mill):

Plates/sections shall be transported suitably to avoid damage during transit. Each plate/section shall be marked with the following details,

1. Specification (SA/IS 2062 or EN 10025-2)
2. Grade
3. Melt number
4. Maker's emblem/Code/ Identification
5. Size (Thickness for plates & Size for section)
6. BHEL PO number
7. HY10170 Rev. 00

Sl no: 1 to 5 shall be maintained by hard stamping and Sl.no 6,7 by paint stenciling.

11.0 INSPECTION AND CERTIFICATION:

Plates / section shall be duly inspected by the supplier at their works and three copies of Test certificate, in English, shall accompany each product with the following details:

- a) Purchase Order No, Specification No. & its Revision No., Test certificate No. & Date, Size, Plate number and Quantity-Melt wise.
- b) Material Specification and Grade with applicable year of code, Heat Number, Steel making process, de- oxidation process (Specification designation used shall be SA/IS 2062 grades/ EN 10025-2).
- c) Chemistry, Carbon equivalent and Heat Treatment details.
- d) Mechanical test values, including impact values and through thickness ductility (where applicable), shall be reported.
- e) NDE results with reference and acceptance standards.