



WEST BENGAL STATE ELECTRICITY DISTRIBUTION COMPANY LIMITED

(A GOVT. OF WEST BENGAL ENTERPRISE)

**TECHNICAL SPECIFICATION FOR 13M/11M HOT ROLLED PARALLEL FLANGE STEEL
SECTIONS**

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1. SCOPE:

This specification covers design, manufacture, galvanizing, testing and supply of 13m/11M long WPB 150X150X36.98 RS JOIST.

2. STANDARDS:

The RS JOISTS shall comply with the requirements of IS 12778:2004 and IS 2062:2011 with Grade Designation: E250 (Fe 410 W) and Quality: "A" in respect of "dimensions and section properties" and steel specifications respectively.

3. DIMENSIONS AND SECTIONAL PROPERTIES:

Designation	Mass	Area	Depth	Width	Thickness		Root radius	Moment of Inertia		Radius of Gyration		Sectional modulus	
					Web	Flange		I _x	I _y	r _x	r _y	Z _x	Z _y
WPB 150X150X	M	a	D	B	t	T	R	I _x	I _y	r _x	r _y	Z _x	Z _y
	Kg/m	Cm ²	mm	mm	mm	mm	mm	Cm ⁴	Cm ⁴	Cm	Cm	Cm ³	Cm ³
	36.98	47.1	162	154	8	11.5	8	2210	706.2	6.85	3.87	273.2	91.5

4. ROLLING AND CUTTING TOLERANCE:

4.1 Dimensional Tolerance

Designation	Depth	Width	Thickness	
			Web	Flange
WPB 150X150X36.98	D	B	t	T
	mm	mm	mm	mm
	+/-3	+/-3	+/-1	+/-1.5

Other dimensional tolerance will be in conformity to IS 12779:1989.

4.2 Mass Tolerance

The tolerance on mass per metre of individual section shall be +/- 4 percent of the specified mass i.e 36.98Kg/m. Mass tolerances for lot however shall be within +/- 3 percent of the specified values.

4.3 Cutting Tolerance

Cutting tolerance shall be within + 100, - 0 mm from the specified values.

5. EMBOSsing ON EACH JOIST:

Following Distinct non-erasable embossing to be made on each RS JOIST:

- Name & Logo of the manufacturer.
- ISI mark.
- Designation of steel and Size of the JOIST

GENERAL TECHNICAL PARTICULARS

FOR

WPB 150X150X36.98

1. PARALLEL FLANGE STEEL SECTIONS:

1.1 Dimensions and Properties:

Sl.no.	Particulars	WPB 150X150X36.98	Manufacturer's Data
1	Length of Joist in Mtr.	13Mtr/11Mtr	
2	Weight Kg/m	36.98kg/m	
3	Depth (D) of section in mm	162mm	
4	Width (W) of section in mm	154mm	
5	Thickness of flange (T) in mm	11.5mm	
6	Thickness of web (t) in mm	8mm	
7	Root radius (R) in mm	8mm	
8	Moment of Inertia I _x (cm ⁴) I _y (cm ⁴)	2210 cm ⁴ 706.2 cm ⁴	
9	Radius of Gyration (cm) r _x r _y	6.85cm 3.87cm	
10	Sectional modulus Z _x (cm ³) Z _y (cm ³)	273.2 cm ³ 91.5 cm ³	

1.2 Mechanical properties:

Sl.no.	Test	Requirement as per IS 2062:2011 with Grade Designation: E250 (Fe 410 W) and Quality: "A"	Manufacturer's Data
A	Tensile Test: i. Yield Stress (MPa)	Min 250	
	ii. Tensile Strength (MPa)	Min 410	
	iii. Percentage Elongation A, Min at Gauge Length, L _o =5.65	23	
B	Bend test: The test piece at room temperature shall withstand bending without cracking through 180° to an internal diameter not greater than:	Internal Bend Diameter: 2X Thickness of test piece.	

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1.3 Chemical properties:

Sl.no.	Test	Requirement as per IS 2062:2011 with Grade Designation: E250 (Fe 410 W) and Quality: "A"	Manufacturer's Data
1	Carbon%	0.23	
2	Manganese%	1.5	
3	Sulphur%	0.045	
4	Phosphorous%	0.045	
5	Silicon%	0.4	
6	Carbon equivalent %(Max.)	0.42	
7	Mode of De-oxidation	Semi-killed or killed	

Signature of the Bidder with Company Seal

** This form is to be duly filled in by the Bidder and submitted along with the Tender

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