

**Government of India
Ministry of Railways**



**INDIAN RAILWAY STANDARD SPECIFICATION
FOR STEEL BASE PLATE
(Provisional - 2019)**

**Track Design Directorate
Research Designs and Standards Organisation
Manak Nagar, Lucknow-226011**

0. Foreword

- 0.1 This specification is being issued for the first time as Indian Railway Standards Specification, Provisional -2019, in compliance to Railway Board's letter no. 2004/Track-II/22/22/1 Pt. (RDSO) dated 02.04.2019.
- 0.2 This standard specification is intended to cover the technical provisions relating to material, manufacturing and tests of Steel Base Plate for Zero Toe Load Fastening System on H – Beam Sleepers.

1. SCOPE

- 1.1 This standard covers requirements of fabricated Steel Base Plate with welded steel shoulders for Railway Track application on H-beam sleeper over girder bridges. The steel base plate shall be produced from rolled steel section machined to required cant and the steel shoulders shall be welded on to the steel plate. The composite unit henceforth shall be called steel base plate.
- 1.2 The standard draw reference from Indian standard IS 2062 – 2011 which may be used as reference document.

2. MANUFACTURE

- 2.1 Steel for base plate shall be manufactured by any process of steel making except Bessemer process.
- 2.2 The chemical composition of steel section used for fabricating steel base plates shall be as per Grade 'E 250 BR' of IS 2062 – 2011.
- 2.3 Dimension: Steel base plate shall be fabricated as per dimensions specified in the RDSO's drawing.

3. FREEDOM FROM DEFECTS

- 3.1 Finished steel base plates shall be reasonably free from flaws, laminations, imperfect edges etc.
- 3.2 Minor surface defects may be removed by grinding provided the thickness is not reduced locally by more than 4% below the minimum specified thickness.

4. SELECTION AND PREPARATION OF TEST SAMPLES

- 4.1 For selection and preparation of test samples Clause 9 of IS 2062 – 2011 shall be applicable.

5. TESTS

- 5.1 Tensile Test: For tensile test Clause 10 of IS 2062 – 2011 shall be applicable.
- 5.2 Bend Test: For bend test Clause 11 of IS 2062 – 2011 shall be applicable.
- 5.3 Chemical composition: Chemical analysis shall be done as per requirement of Clause 8 of IS 2062 – 2011.
- 5.4 Weld strength: The welded shoulders shall withstand vertical pull not less than 13 tonne and lateral thrust not less than 8 tonne without failure.
- 5.5 Dimensions: Dimensions of fabricated Steel Base Plate with welded steel shoulders shall be checked with Go-No Go Gauges approved by RDSO to comply with Provision 2.3 of this standard.
- 5.6 All testing including cost of samples shall be at the cost of the manufacturer.

6. DOCUMENTATION

- 6.1 The test result shall be document in a suitable format.
- 6.2 The test result shall be submitted for approval before delivery.

7. PRE ACCEPTANCE TEST

- 7.1 For pre acceptance test, 10 nos. samples of fabricated Steel Base Plate with welded steel shoulders shall be drawn by inspecting agency and tested in manufacturer's lab as per following:

Nature of Test	No. of Samples	Acceptance level	Remarks
Tensile	1	Clause 5.1	On specially prepared test piece
Bend test	1	Clause 5.2	
Chemical composition	1	Clause 5.3	On same sample
Weld Strength test	2	Clause 5.4	
Freedom from defects	4	Provision 3	On separate samples
Dimensions	4	Clause 5.5	

- 7.2 All the samples mentioned above should pass the all tests indicated in Clause 7.1 above except dimension.
- 7.3 In case of failure in Freedom from defects & Dimensions twice the number of samples shall be tested.

8. ACCEPTANCE QUALITY TESTS

8.1 Tests: For inspection of the item, 1000 nos. fabricated Steel Base Plate with welded steel shoulders or part thereof shall form a lot.

Nature of Test	No. of test samples per 1000 plates	Acceptance Standard
(i) Chemical Composition	1	As per Provision 5.3
(ii) Tensile Test	1	As per Provision 5.1
(iii) Bend Test	1	As per Provision 5.2
(iv) Freedom from defects (visual)	4	As per Provision 3
(v) Weld Strength	2	As per Provision 5.4

8.2 Dimensions of fabricated Steel Base Plate with welded steel shoulders shall be checked with Go-No Go Gauges approved by RDSO as per relevant gauge drawing to comply with Clause 5.5 of this standard. For sample size and acceptance double sampling plan as detailed in Tables 1 & 3 A (General Inspection Level- I) with AQL 2.5% of IS 2500 (Part 1) shall be applicable.

9. RETEST

9.1 In case of failure to comply with any of the tests under Clause 8.1, twice the no. of samples shall be drawn and tested for that particular test. The results of testing should meet the acceptance standard for acceptance of the batch.

10. PACKING

10.1 The steel base plates shall be packed in suitable packing so as to avoid loss or damage during transit.

11. GUARANTEE

11.1 The materials shall be guaranteed for one and half year from the date of supply or one year from the date these are put in track whichever is earlier.

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