



Government of India
Ministry of Railways

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(Revision 0)

**Schedule of Infrastructure requirements for manufacturing & testing
facilities and quality control requirements**
For
Empty Load Device
(Specn. No. IR-ELD-10)

Inspection & Liaison Directorate
Research Designs & Standards Organisation
Manak Nagar Lucknow – 226011

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(Price Rs. 300/-)

1.0 SCOPE:

- 1.1 The schedule of technical requirements covers the norms for manufacture of empty Load Device.

2.0 GENERAL & MANUFACTURING FACILITIES:

The vendors seeking approval shall comply with all the below mentioned requirements.

- 2.1 Manufacturers should have adequate covered space for storing raw material, finished items awaiting despatch and arranging inspection. Manufacturer shall have adequate facilities for manufacture and testing of Empty Load Device conforming to RDSO drawing.
- 2.2 There should be a foundry of adequate capacity for casting of cap and body or the castings may be procured from RDSO approved sources.

3.0 MACHINERY AND PLANT:

Suitable machinery and plant of suitable capacity should be available:-

- 3.1 At least three lathe machines for boring, threading and machining of various components.
- 3.2 Drop forging facility of suitable capacity for tare tie rod etc. or the forged components may be bought from RDSO approved sources.
- 3.3 At least two drilling machines of suitable capacity for drilling of holes in components upto 30mm.
- 3.4 Suitable Iron foundry for casting casing, crank pin, lever arm, cover, catch and tumbler etc. or the components may be sourced from RDSO approved suppliers.
- 3.5 Facility of die-punch of suitable capacity for shaping of cup.
- 3.6 At least one spring coiling machine of suitable capacity for various springs or the same may be sourced from RDSO approved suppliers.
- 3.7 Facility for zinc plating.

4.0 QUALITY CONTROL REQUIREMENT

- 4.1 The firm should have acquired ISO 9000 series certification. The product for which the approval is sought should be broadly covered in the scope of this certification for manufacture and supply.

- 4.2 Quality manual of the firm pertaining to ISO 9000 certification should clearly indicate at any stage the control over manufacturing and testing of the said railway product.
- 4.3 Traceability of product/parts thereof should be ensured from raw material to finished stage.
- 4.4 Quality assurance plan for the product should be available detailing various aspects like:
- a. Organisational chart.
 - b. Flow process chart.
 - c. Stage inspection details.
 - d. Various parameters to be maintained to ensure control.
 - e. Policy of disposal of rejected material.
- 4.5 The head of the inspection/quality control section must be a diploma holder with 5 years experience in the relevant field.
- 4.6 Ensure that there exists a quality manual of the firm indicating control over production and testing.
- 4.7 Ensure that there exists a system of documentation of rejections at customer end and a mechanism for warranty replacement.
- 4.8 System should exist for documentation of the following:
- 4.8.1 Incoming raw material with Test certificate reference of supplier as well as internal test/audit checking from outside agency.
 - 4.8.2 The details regarding stage inspection and test result.
 - 4.8.3 System for calibration of Test & measuring equipment.
- 4.9 Empty/Loaded tie rod must be sourced from RDSO approved sources only with RDSO Inspection.

5.0 TESTING FACILITIES:

- 5.1 Vernier callipers and gauges for checking dimensional accuracy of various dimensions should be there.
- 5.2 Testing equipment for checking operational performance and dimension measurement during operation should be there.