



**Government of India  
Ministry of Railways**

**QMS-25:2009  
(Revision 0)**

**Schedule of Infrastructure, manufacturing & testing facilities  
and quality control requirements**

for

**Brake Beam**

(Specn. No. WD-21 Casnub 22NLB-93)

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

**March'2009**

(Price Rs. 300/-)

## 1.0 SCOPE

1.1 This schedule covers the technical requirement for manufacture, testing and supply of brake beam to be fitted in cast steel bogies.

## 2.0 REQUIREMENT

The vendor seeking approval shall have the required facilities as mentioned below:

### 2.1 General Infrastructure and manufacturing facilities

Manufacturer should have adequate covered accommodation for storing raw material, testing, inspection items awaiting despatch.

### 2.2 Machinery and Plant

Ensure that the following machines are available :

2.2.1 Centre lathe m/c of suitable size for boring and drilling of centre strut casting

2.2.2 Gas cutting arrangement for cutting channel, flats etc.

2.2.3 Arc welding set of suitable nos. must be available for fabrication works

2.2.4 Electrodes heating chamber with temperature controller

2.2.5 Hydraulic press/ball press for making brake beam truss

2.2.6 Hand grinder of suitable capacity and in sufficient nos.

2.2.7 Power saw of 610mm stroke for sectioning of brake beam

2.2.8 Hand drilling m/c for making holes in end casting

2.2.9 Weighing m/c of at least 150 kg capacity.

2.3 Ensure that a suitable welding fixture for holding the brake beam while fabrication is available.

## 3.0 TESTING FACILITIES

3.1 Load testing m/c with accessories of 30T capacity for conducting load test

3.2 Hardness testing m/c capable of measuring the hardness upto 500 BHN should be available.

3.3 Suitable gauges for checking dimensional accuracy of the component should be available.

3.4 Vernier Calliper, dial indicator and other necessary measuring instruments should be available.

## 4.0 QUALITY CONTROL

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

- 4.2 Quality manual of the firms for ISO 9000 should clearly indicate at any stage the control over manufacturing and testing of the said railway product.
- 4.3 There exists system of easy traceability of the product from casting stage to finished product stage.
- 4.4 Quality assurance plan for the product 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 castings should be implemented and record is maintained for documentary evidence.
- 4.5 A diploma holder must be head of the inspection/final control section with 5 years experience in the relevant field.
- 4.6 There exists a quality manual of the firm indicating the extent of control over production and testing.
- 4.7 There exists a system of documentation in respect of rejection at customer end, warranty replacement
- 4.8 System should exist for documentation of the following :
  - 4.8.1 Incoming raw material with TC reference of supplier as well as internal test/audit checking from outside agency.
  - 4.8.2 Stage inspection and test result.
  - 4.8.3 Calibration records
- 4.9 Ensure that a list of sublet vendors for supply of castings is available. The system to ensure the status in regard to their approval by RDSO, should be existing.
- 4.10 Ensure that a proper system is available to deal the customer feedback.
- 4.11 Ensure that all the relevant specifications and IS Standard are available.