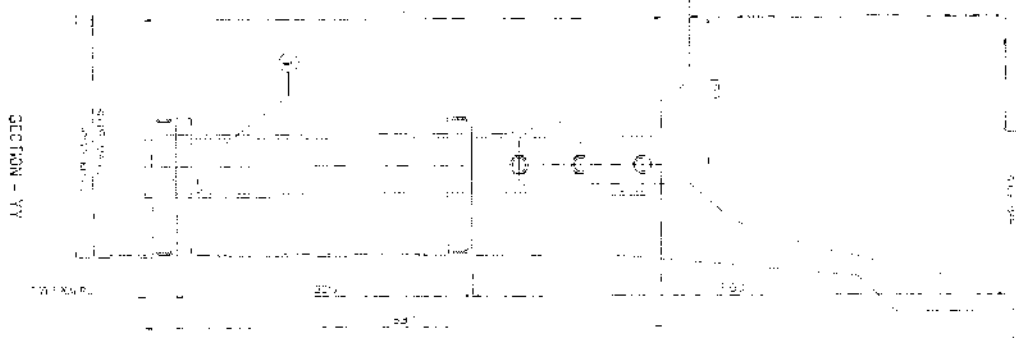
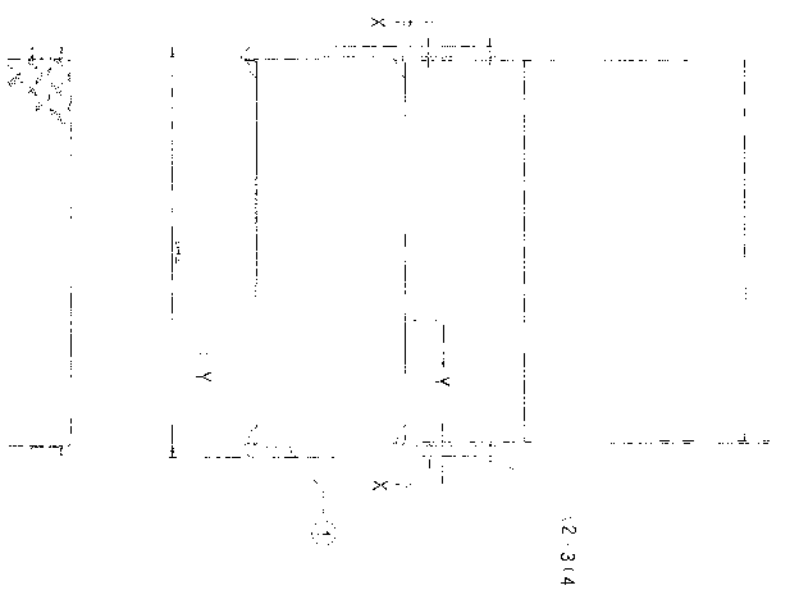


ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID.
 FOR UNLTD ENLARGED DIMENSIONS REFER M000003



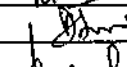
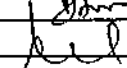
DETAILS BEGINS STARTING WITH ALL INTERNAL REFERENCES. LISTS ONLY AND ARE NOT FOR ISSUE.
 DATE OF FIRST ISSUE



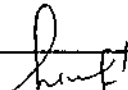
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| <p>INDIAN RAILWAYS STANDARD BRGND 0024105</p> | <p>PI NO. 050095/05 BRGND 0024105</p> |
| <p>FOOT STEP ARRANGEMENT</p> | <p>DATE OF FIRST ISSUE</p> |


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| SCHEDULE | SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR FOOT STEP ARRANGEMENT TO DRG. NO. CC24105 | MDST: 39 Rev: NIL PAGE 1 OF 3 |
| | | Dated 12.12.2005 |

SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR FOOT STEP ARRANGEMENT

| NAME | DESIGNATION | SIGNATURE | DATE | LEVEL |
|----------------|-------------|---|----------|----------|
| Harish Kumar | SSE/VD |  | 12.12.05 | Prepared |
| Joginder Singh | ADE/VD |  | 12.12.05 | Agreed |
| Amitabh Sinha | Dy CME/TOT |  | 14.12.05 | Reviewed |
| S K Aggarwal | CDE |  | 27/12/05 | Approved |

| Issue/Rev | Details of Changes | Date |
|-----------|--------------------|------|
| | | |


Prepared By


Agreed By

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|----------|--|----------------------------------|
| SCHEDULE | SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR FOOT STEP ARRANGEMENT TO DRG. NO. CC24105 | MDST: 39 Rev: NIL PAGE 2 OF 3 |
| | | Dated 12.12.2005 |

1.0 REQUIREMENTS

1.1 This schedule is applicable for footstep arrangement to drawing no. CC24105. The vendors seeking approval shall comply with all the requirements mentioned below :

2.0 GENERAL & MANUFACTURING FACILITIES

2.1 Covered area with adequate space underneath for storage of raw materials e.g. billets, round corner squares, rounds etc. The covered area should have display board showing different colour shades nominated to different grades of steel to avoid mix up of materials. Arrangement of painting the billets, RCS rounds etc with particular paint shade previously nominated according to the grade of steel should be available.

2.2 Minimum 1 No. of band saw machine should be available.

2.3 Adequate machining facilities comprising of radial drilling machine etc. of suitable capacities and standard makes should be available.

2.4 At least one no. electrical arc welding set of standard make shall be available.

2.5 Adequate Nos. of hand grinders for removal of fins & burrs shall be available.

2.6 The firm shall have atleast one power press of standard make with set of blanking and forming/bending tool.

2.7 The raw material and hardware shall be procured from authorized distributor of original manufacturer and firm should procure material with test certificate from primary manufacturer

2.8 The firm shall comply with IS:822 regarding selection of weld wire, storage of consumables, calibration of welding equipment, training of welder, testing of welding and remedies for welding defects.

2.9 The welder shall have a minimum of 2 years experience of the same type of welding.

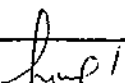
2.10 The firm shall have suitable facility of grit blasting/ shot blasting as per MDTS141.

2.11 The firm shall have separate painting booth with exhaust facility for painting the components as per MDTS141

3.0 TESTING FACILITIES

3.1 **Chemical Lab:** The firm should have permanent arrangement with NABL certified Lab or a reputed steel making company for arranging the spectro analysis of the material.

3.2 **Physical Testing Lab:** The firm must possess a well-equipped physical lab with following facilities:


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| SCHEDULE | SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR FOOT STEP ARRANGEMENT TO DRG. NO. CC24105 | MDST: 39 Rev: NIL PAGE 3 OF 3 |
| | | Dated 12.12.2005 |

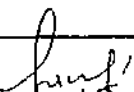
- Universal testing machine of 40t capacity with load/ deflection plotting arrangement to conduct UTS, Yield strength.
- The firm shall have lab. for conducting non- destructive test for welding as per requirement of the purchaser.

3.3 Other Testing Facilities: The firm shall possess the following:

- The firm shall have adequate facilities for preparation of test sample. Facilities like machining, grinding, polishing etc. should be available in house.
- Adequate number of fine punches for stamping marking particulars on finished components.
- Adequate numbers of measuring instruments such as:
 - Digital Vernier Calipers - 0 mm to 300 mm
 - Measuring scales – 1 meter
 - Set of radius gauge.
 - Profile gauges
 - Surface table.
 - Vernier height gauge.

4.0. QUALITY CONTROL REQUIREMENTS

- 4.1 There should be a system to ensure the traceability of the product from raw material stage to finished product stage. This system should also facilitate to identify the raw material composition from the finish product stage.
- 4.2 Ensure that there is a QAP for the product detailing various aspects: -
- QA Organisational Chart
 - Flow Process Chart
 - Stage inspection details
 - Various parameters and to ensure control over them
- 4.3 There should be at least one full time technologist having a minimum bachelor's degree in relevant field & 5 years experience or a person with diploma in relevant field with 12 years experience.
- 4.4 The firm should have acquired ISO: 9000 series certification and the product for which an approval is sought should be broadly covered in the scope of the certification for manufacture and supply.
- 4.5 The Quality manual of the firm for ISO: 9000 should clearly indicate at any stage the control over manufacturing and testing of the said railway product.
- 4.6 The firm shall ensure that proper analysis is being done on monthly basis to study the rejection at various internal stages and it is documented.
- 4.7 The firm shall ensure that all the relevant specifications, IS standards are available with them.


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