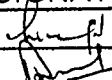


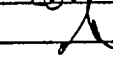
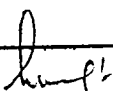


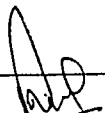
SCHEDULE	SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR LUGGAGE RACK FOR SLR COACHES TO DRG. NO. LB64126 & LB64104	MDST: 46 Rev: NIL PAGE 1 OF 4
		Dated 31.01.2006

## SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR LUGGAGE RACK FOR SLR COACHES

NAME	DESIGNATION	SIGNATURE	DATE	LEVEL
Harish Kumar	SSE/VD		31.1.06	Prepared
Joginder Singh	ADE/VD		1.2.06	Agreed
Amitabh Sinha	Dy CME/TOT		4.2.06	Reviewed
S K Aggarwal	CDE		6/2/06	Approved

Issue/Rev	Details of Changes	Date

  
Prepared By

  
Agreed By

SCHEDULE	SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR LUGGAGE RACK FOR SLR COACHES TO DRG. NO. LB64126 & LB64104	MDST: 46 Rev: NIL PAGE 2 OF 4
		Dated 31.01.2006

## 1.0 REQUIREMENTS

1. This schedule is applicable for luggage rack for SLR coaches to drawing. no. LB64104 & LB64126. 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. sheets, pipes 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 sheets, pipes etc with particular paint shade previously nominated according to the grade of steel should be available.
- 2.2 Minimum 1 No. of band saw /power hacksaw machine should be available.
- 2.3 Adequate machining facilities comprising of drilling machine, shearing machine etc. of suitable capacities and standard makes should be available.
- 2.4 The firm shall have atleast one press brake of suitable capacity and of standard make along with suitable punch and dies shall be available for component forming.
- 2.5 Atleast two number of MIG/MAG welding machine of suitable capacity and standard make shall be available.
- 2.6 Adequate Nos. of hand grinders for removal of fins & burrs shall be available.
- 2.7 The raw material should be procured from authorized distributor of original manufacturer of steel 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 fabricator shall have adequate arrangement of jig/fixture/clamping device for assembly work.
- 2.11 The firm shall have suitable facilities for shot blasting/ phosphating.
- 2.12 The firm shall have separate painting booth with suitable exhaust for paint application to MDTs-140.

## 3.0 TESTING FACILITIES

- 3.1 **Chemical Lab:** The firm should have permanent arrangement with NABL certified Lab or a

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SCHEDULE	SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR LUGGAGE RACK FOR SLR COACHES TO DRG. NO. LB64126 & LB64104	MDST: 46 Rev: NIL PAGE 3 OF 4
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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:

- Universal testing machine of 40t capacity with load/ deflection plotting arrangement to conduct UTS, Yield strength.
- The firm shall have arrangement 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.
- Facility for Bend test in accordance with IS: 1599 should be available
- 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 – 2 meter
  - Inside & outside Micrometers - Ranging from 0 to 150 mm
  - GO & NO-GO gauges.
  - Profile gauges.
  - Surface table

#### 4.0. QUALITY CONTROL REQUIREMENTS

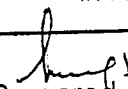
4.1 There should be a system to ensure the traceability of the product from raw material stage to finished product stage. This system should also facilitate to identify the raw material composition from the finish product stage.

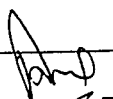
4.2 Ensure that there is a QAP for the product detailing various aspects: -

- QA Organizational Chart
- Flow Process Chart
- Stage inspection details
- Various parameters and to ensure control over them

4.3 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.

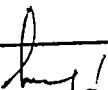
4.4 There should be at least one full time bachelor's degree in engineering with 5 years experience in relevant field or a person with diploma in engineering with 12 years experience in relevant field.

  
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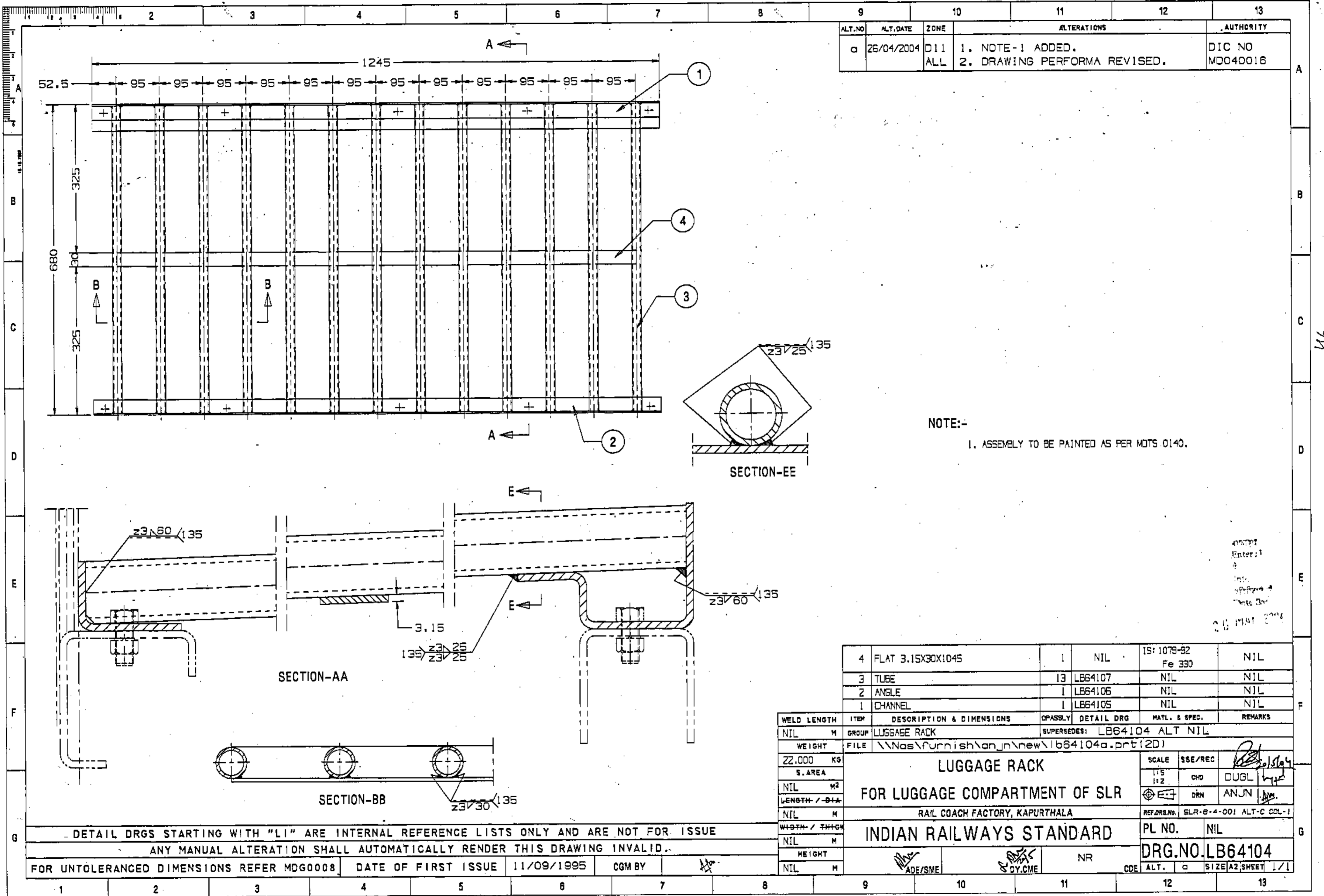
  
Agreed By

SCHEDULE	SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR LUGGAGE RACK FOR SLR COACHES TO DRG. NO. LB64126 & LB64104	MDST: 46 Rev: NIL PAGE 4 OF 4
		Dated 31.01.2006

- 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 should 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 should ensure that all the relevant specifications, IS standards are available with them.

  
Prepared By

  
Agreed By



ALT. NO	ALT. DATE	ZONE	ALTERATIONS	AUTHORITY
0	26/04/2004	D11 ALL	1. NOTE-1 ADDED. 2. DRAWING PERFORMA REVISED.	DIC NO MDO40016

NOTE:-  
1. ASSEMBLY TO BE PAINTED AS PER MDTs 0140.

ITEM	DESCRIPTION & DIMENSIONS	QTY	UNIT	MATL. & SPEC.	REMARKS
4	FLAT 3.15X30X1045	1	NIL	IS: 1079-92 Fe 330	NIL
3	TUBE	13	LB64107	NIL	NIL
2	ANGLE	1	LB64105	NIL	NIL
1	CHANNEL	1	LB64105	NIL	NIL

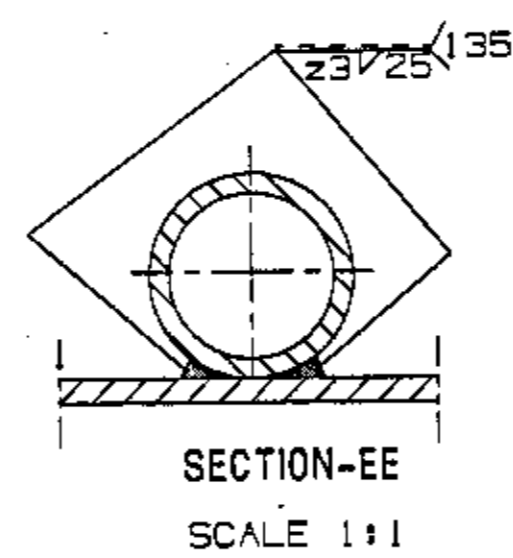
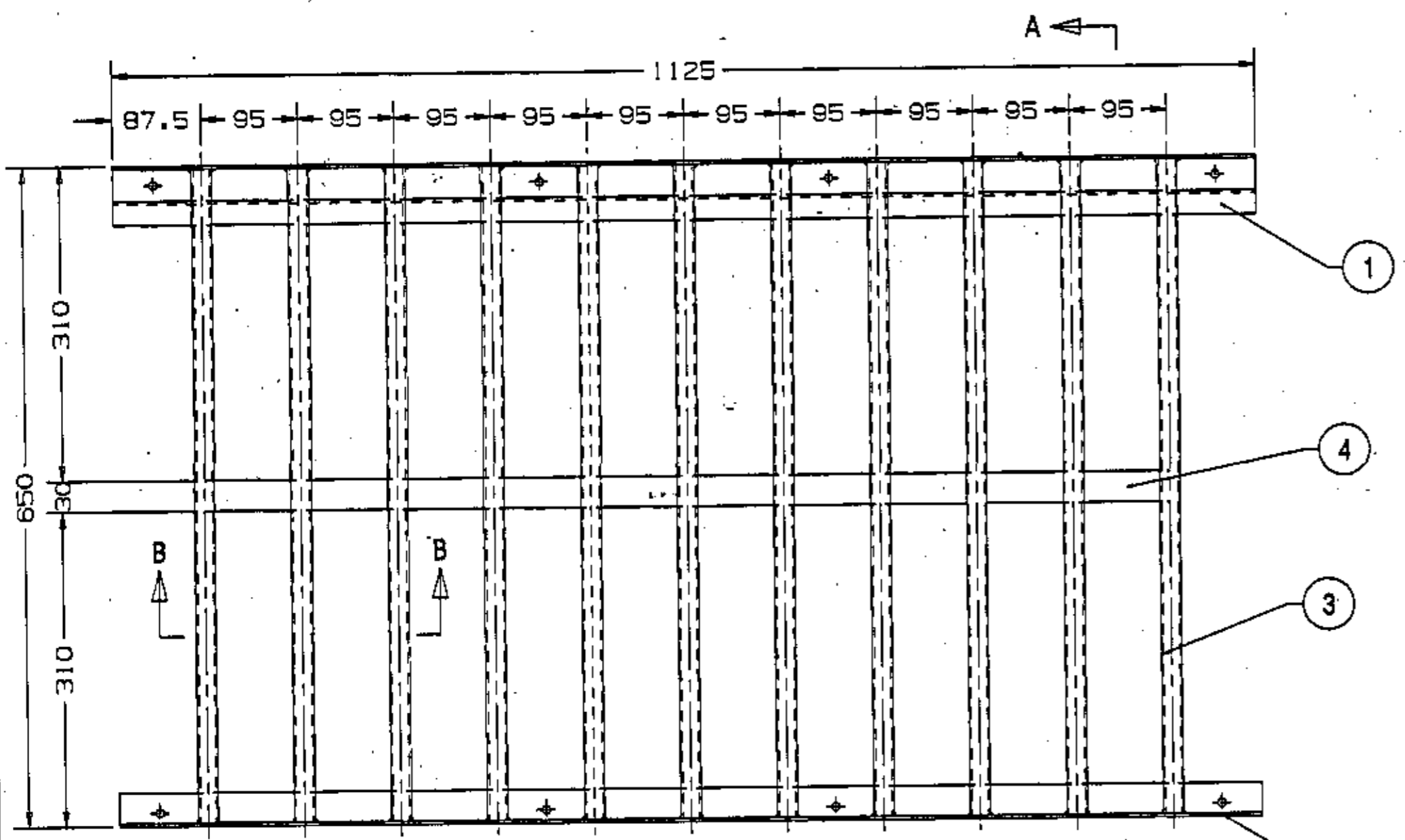
WELD LENGTH	ITEM	DESCRIPTION & DIMENSIONS	QTY	UNIT	MATL. & SPEC.	REMARKS
NIL	M	GROUP	LUGGAGE RACK		SUPERSEDES: LB64104 ALT NIL	
WEIGHT	FILE	\\Nas\ furnish\an\j\new\lb64104a.prt (2D)				
22.000	KG	LUGGAGE RACK				
S. AREA	INDIAN RAILWAYS STANDARD					
NIL	M <sup>2</sup>	FOR LUGGAGE COMPARTMENT OF SLR				
LENGTH / DIA	RAIL COACH FACTORY, KAPURTHALA					
NIL	M	REF.DRG.No. SLR-B-4-001 ALT-C COL-1				
WIDTH / THICK	INDIAN RAILWAYS STANDARD					
NIL	M	PL NO. NIL				
HEIGHT	DRG.NO. LB64104					
NIL	M	ADE/SME				
		DY.CME		NR		CDE
				ALT.		SIZE/A2 SHEET 1/1

DETAIL DRGS STARTING WITH "LI" ARE INTERNAL REFERENCE LISTS ONLY AND ARE NOT FOR ISSUE  
 ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID.  
 FOR UNTOLERANCED DIMENSIONS REFER MDG0008 DATE OF FIRST ISSUE 11/09/1995 CGM BY

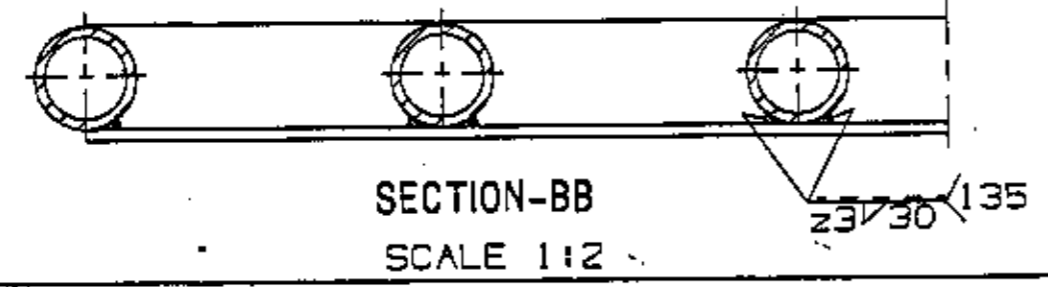
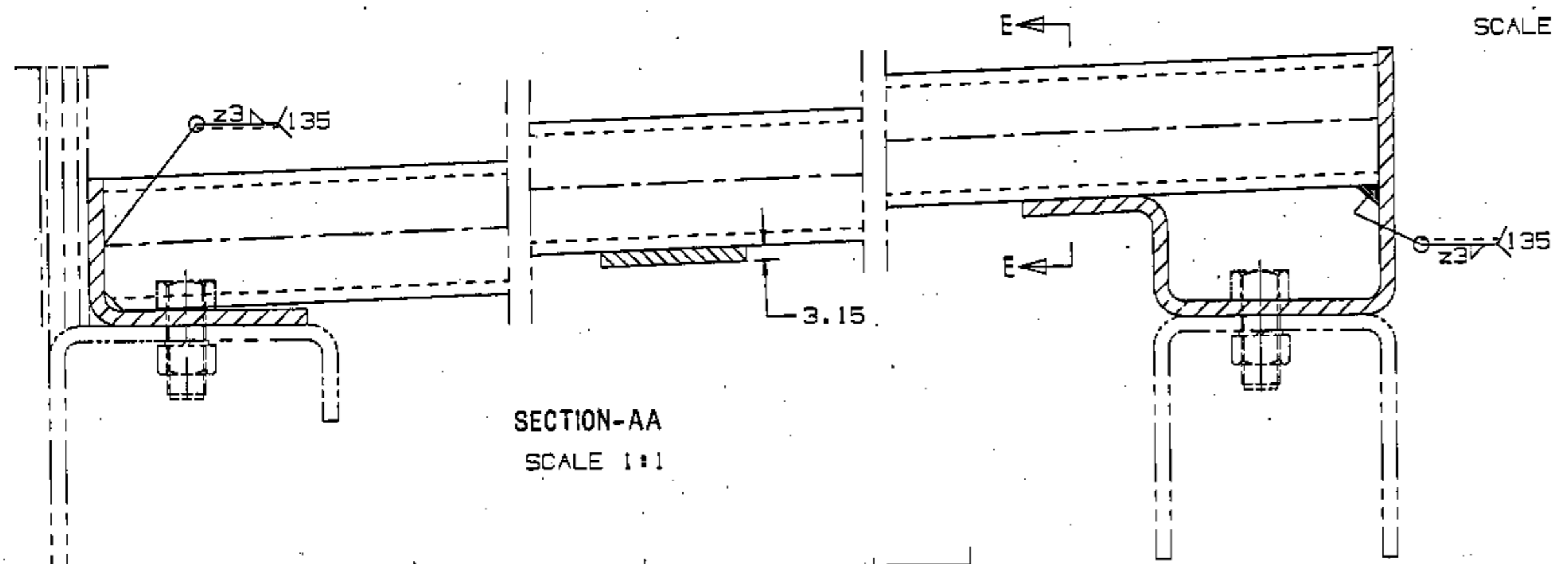
ENTERED  
 DATE 26/04/2004

46

ALT. NO.	ALT. DATE	ZONE	ALTERATIONS.	AUTHORITY
0	26/04/2004	ALL	1. NOTE-1 ADDED. 2. DRAWING PERFORMA REVISED.	DIC NO MD040016



NOTE:-  
1. ASSEMBLY TO BE PAINTED AS PER MDTS 0140.



ITEM	DESCRIPTION & DIMENSIONS	QTY	GROUP	MATL. & SPEC.	REMARKS
4	FLAT 3.15X30X950	1	NIL	IS: 2062-92 Fe 410WB	NIL
3	TUBE	11	LB64129	NIL	NIL
2	ANGLE	1	LB64128	NIL	NIL
1	CHANNEL	1	LB64127	NIL	NIL

WELD LENGTH	ITEM	DESCRIPTION & DIMENSIONS	QTY	GROUP	MATL. & SPEC.	REMARKS
2.800	M	LUGGAGE RACKS				
WEIGHT	FILE	/users2/furnish/inteq/lb64126a.prt (2D)				
18.618	KG	LUGGAGE RACK				SCALE 1:5
S.AREA					SSE/REC	CHD DUGL
NIL	M <sup>2</sup>					DRN ANJN
LENGTH	RAIL COACH FACTORY, KAPURTHALA				REF.DRG.No.	SLR-B-4-001 ALT-C COL-11
NIL	M	INDIAN RAILWAYS STANDARD				PL NO. 01140267
WIDTH					DRG.NO.	LB64126
NIL	M					ALT. 0
HEIGHT					SIZE/A2	SHEET 1/1
NIL	M					

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FOR UNTOLERANCED DIMENSIONS REFER MDG0008 DATE OF FIRST ISSUE 13/05/1999 CGM BY

20 MAY 2004