



QM-C-7.1/BOGIE/0007
Inspection Plan(Check Sheet)

Item: Fabricated Bogie Frame & Bolster Assembly for Locomotive
Specn. : VL.Spec-6 Rev 02 of Apr'2011
Amd.:
Drg. No. & Alt.:

1. Name of Component :
2. Firm's Name :
3. Date (Period) of Inspection :
4. Contract Details
 - a) Purchase Order No. & Date :
 - b) Order placing Authority :
 - c) Specification No. as P.O. :
 - d) Drawing No. as per P.O. :
5. Quantity on Order :
6. Quantity offered for Inspection :
7. Consignee :
8. Validity of D.P. of P.O. :
9. Remarks on adherence to firm's QAP. :
10. Remarks on calibration of Measuring Instruments & Testing Facilities. :
11. Remarks on availability of latest copies of Specification & Standards referred. :

Signature of firms Representative

RDSO Representative



CHECKS ON MANUFACTURING QUALITY

1. Raw Material		
Remarks of Inspector on quality of raw material to be checked from internal inspection records.		
1.	Whether the firm has procured the steel plates from SAIL / TISCO or other reputed manufacturers along with their test certificates.	
2.	Whether the firm has correlated the test certificates with the stamping on steel plates.	
3.	Whether the chemical composition and mechanical properties of steel plates used for fabrication of bogie frames as given in these certificates confirm to the material specified in the drawings.	
4.	Whether the internal tests have been carried out by the firm from the steel plates for conformity to IS : 2062 Gr. Fe4 10 WC, killed & normalized quality.	
5.	Whether all places have been checked visually for surface defects such as cracks, dents, pitting, bent, rust, scales and records have been maintained.	
6.	Whether the plates have been subjected to ultrasonic test on the entire surface for detection of sub-surface defects and ultrasonic testing is carried out as per ASTM A : 435 /IS : 4225 using angular / normal probes.	
7.	Remarks of the Inspector on check of the test certificates & internal test records of steel plates.	
8.	Remarks of the Inspector on check of the visual inspection record of steel plates for defects such as dents, pitting & straightness of steel plates.	
9.	Remarks of the Inspector on check of the ultrasonic testing record of steel plates for sub-surface defects.	
10.	Remarks of the Inspector on check of raw material and deviation in material specification of raw material, if any.	
2. Welders' Qualification		
1.	Remarks of the Inspector on qualification of welders employed for welding of bogie frame.	

Signature of firms Representative

RDSO Representative



3. Quality of Weld Joints		
Remarks of inspector on quality of weld joints to be checked from internal inspection records.		
1.	Whether welding of bogie frame done by MIG welding.	
2.	Whether consumables used for welding conform to RDSO approved brands.	
3.	Remarks on Dye Penetrate Test on all weld lengths.	
4.	Remarks on Magnetic Particle Test of critical areas.	
5.	Remarks on Radiography / Ultrasonic test of butt weld.	
4. Stress Relieving		
Remarks of Inspector on check of the internal inspection records of the firm on stress relieving of bogie frame.		
1.	Whether all rework including rectification welding and straightening operations has been completed before stress relieving.	
2.	Whether stress relieving has been carried out in oil fired / electric furnace equipped with thermocouples and graphical recorders.	
3.	Whether distortion of bogie frame was observed after stress relieving to be checked from dimension check sheets.	
4.	Whether stress relieving procedure / cycle conforms to the recommended stress relieving procedure placed at Annexure-1 as checked by the graphical record and certificate of stress relieving.	
5. Dimensional Checks to be conducted by the Inspector "After Machining of Bogie Frame"		
1.	Whether detailed dimension check sheets have been prepared by the firm for state inspection during manufacturing of bogie frame.	
2.	Check dimensions and geometry of bogie frame after machining as per attached dimension check sheets.	
3.	Whether all the dimensions of bogie frame are within the specified limits.	

Signature of firms Representative

RDSO Representative



<u>CHECK SHEET FOR DYE PENETRATION TEST</u> (Inspection / Proof Load Test)	
--	--

Date :

Item No.

Drg. No.

Project :

D.P. Chemical

Brand Name

Code No.

Make

1. Flaw Check Cleaner
2. Flaw Check Penetrant
3. Flaw Check Developer

Mode of application :

Test carried out as per Spec, IS : 3658:

Test Results

Job	Location	Observation	Remarks
Checked by :		Quality Assurance Department :	

Remarks of Inspector

Signature of firms Representative

RDSO Representative



CHECK SHEET FOR MAGNETIC PARTICLE (Inspection / Proof Load Test)			
NAME OF FIRM			
BOGIE FRAME S.NO.			
MANUFACTURING STAGE			
DRAWING NO.			
SENSITIVITY			
MAGNETISATION			
MAGNETISING CURRENT			
TEST METHOD			
TYPE OF TESTING			
EQUIPMENT SL.NO.			
ACCEPTANCE STANDARD			
OBSERVATIONS :			
LOCATION	DEFECT LEVEL	REPAIR DONE (IF ANY)	OBSERVATION AFTER REPAIR
Checked by :		Quality Assurance Department :	

Remarks of Inspector

Signature of firms Representative

RDSO Representative



**CHECK SHEET FOR ULTRASONIC TEST
OF BUTT WELD JOINTS**

(Inspection / Proof Load Test)

Name of Firm :
Drawing No. :
Description of Job :
Equipment used :
Angle probe used :
Calibration :
Acceptance standard :
Couplant :
Energy :

BUTT JOINT DETAILS :

(A) BOGIE FRAME ASSY. (TOP)

- (1) End transom right
- (2) Middle transom right
- (3) Pivot transom right
- (4) End transom left
- (5) Middle transom left
- (6) Pivot transom left

(B) BOGIE FRAME ASSY. (BOTTOM)

- (7) End transom right
- (8) Middle transom right
- (9) Pivot transom right
- (10) End transom left
- (11) Middle transom left
- (12) Pivot transom left

Checked by :

Quality Assurance Department :

Remarks of Inspector

Signature of firms Representative

RDSO Representative



	CHECK SHEET FOR ULTRASONIC TEST (Inspection / Proof Load Test)	
--	--	--

REPORT NO. :

DATE :

DESCRIPTION			
IDNT. NO.		LENGTH/ AREA CKD	
DRG. NO.	PROJ.	MATL	
TESTING METHOD :	COUPLANT :	SURF COND.	
TYPE OF UFD INSTR USED		MAKE :	
TYPE OF PROBE NORMAL / ANGLE / TR	SIZE OF PROBE	FREQUENCY	PROBE ANGLE
CALIB RANGE	ATTENUATOR	SENSITIVITY	
SPEC / ACCEPT NORM :			
LOCATION OF SCANNING	OBSERVATION	REMARKS	
Checked by :		Quality Assurance Department :	

Remarks of Inspector

Note: Dimensional check of Fabricated Bogies:
Sheet to be attached as pe relevant Drawing.

Signature of firms Representative

RDSO Representative