



QM-C-7.1/CRF/0001
Inspection Plan(Check Sheet)

Item : CRF sections for wagons (BOXNR WAGONS)
Spec. : WD-01-CRF-08, Aug'08
Drg. No. : WD-07064-S-01 Alt- 8

Firm's Name:

Product Description:

Drg No:

1. 5% or min. 2 sets of the Product offered in Random

2. Date (period) of Inspection:

3. Contract Details:

a. Contract no. and Date:

b. Order Placing Authority:

c. Specification no.:

d. Drawing no. :

4.Quantity on order:

5.Quantity offered for inspection:

6.Quantity already passed for this contract:

7.Raw Materials Test details:

a. Date of final product test for physical properties:

b. Name and details of Test House:

c. Result of last test (verify from certificate):

d. Last audit conducted:



Tests for Dimensions / Visual, Spec. No. WD-01-CRF-08 (Aug. 08) Drawing no. WD-07064-S-01 for CRF section for BOXNR wagons														
Sampling Plan: 5% or min. 2 sets														
i) Wherever mentioned "give values", actual values be written														
ii) Other items where OK/Not OK is to be indicated, this may be using GO-NOGO gauges.														
S.No	Item/Parameter	Item (Description, Item No. as per Drawing)	Side Top Coping, Item No. 1 Ch 100x100x6x9990 mm	Body Side Stanchion, Item No.2, Top Hat:117x85x48x6 mm	Door Way Middle Stanchion Item No.3,Top Hat :117x85x48x6 mm	Door Way Cross Bar Pressing, Item No.4,CH:145x34x6x154 4 mm	Side Wall End Middle Coping, Item No.5,Top Hat:117x85x48x6 mm	End Top Coping Pressing, Item No.6, Ch:100x100x6x2960 mm						
	Value spe/actual		Value spec.	Value actual	Value spec.	Value actual	Value spec.	Value actual	Value spec.	Value actual	Value spec.	Value actual	Value spec.	Value actual
1	Item No. as per Annexure to PO													
2	Total Quantity offered													
3	Sampled Quantity													
4	Heat No.													
5	Length	Give value	9990+4/-1		2271+3/-1		1132±1.0		1544±1.0		814.5±1.0		2960 +3/-1.0	
6	Bottom Width	OK/Not OK			117±1.25		117±1.25				117±1.25			
7	Flange1	OK/Not OK	100±1.50		48±1.25		48±1.25		34±1.25		48±1.25		100±1.50	
8	Flange2	OK/Not OK	100±1.50		48±1.25		48±1.25		34±1.25		48±1.25		100±1.50	
9	Thickness	Give value	6±0.3		6±0.3		6±0.3		6±0.3		6±0.3		6±0.3	
10	Angle	OK/Not OK	90±1°15'		90±1°15'		90±1°15'		90±1°15'		90±1°15'		90±1°15'	
11	Radius Inner	OK/Not OK	R12±1.5		R12±1.5		R12±1.5		R12±1.5		R12±1.5		R12±1.5	
12	Bow	Give value (1 in 600)												
13	Camber	Give value (1 in 600)												
14	Height I	OK/Not OK			85±1.25		85±1.25		145±1.25		85±1.25			
15	Height II	OK/Not OK			85±1.25		85±1.25				85±1.25			
16	Waviness	OK/Not OK (spcd. 2mm max)												
17	Twist	Give value (spcd. Max. 1°/metre length)												
18	Marking	OK/Not OK (Mfr's name, month/year of manufacture and Heat No. shall be punched)												
19	Appearance	Free from deep marks, cracks and other serious defects												



S.No	Item/Parameter	Item (Description, Item No. as per Drawing)	End Stanchion Bottom, Item No.7, Top Hat: 117 X 85 X48X 6X938 mm		End wall Middle Coping, Item No.8A Top Hat: 117 X 85 X48X 6 mm		End Stanchion Middle, Item No.8B Top Hat: 117 X 85 X48X 6 mm		Door Frame Middle item No.9, Ch: 45X45X4 mm		Door Frame Side, Item No.10, Ch: 45 X 45 X 4.0 mm		Door Frame Top, Item No.11, Ch: 45 X 48.15 X 3.15 mm	
			Value spec.	Value actual	Value spec.	Value actual	Value spec.	Value actual	Value spec.	Value actual	Value spec.	Value actual	Value spec.	Value actual
1	Item No. as per Annexure to PO													
2	Total Quantity offered													
3	Sampled Quantity													
4	Heat No.													
5	Length	Give value	938±1.0		2960 +3/-1.0		544±1.00		729±1.0		777±1.0		1470±1.0	
6	Bottom Width	OK/Not OK	117±1.25		117±1.25		117±1.25		45±1.25		45±1.25		45±1.25	
7	Flange1	OK/Not OK	48±1.25		48±1.25		48±1.25							
8	Flange2	OK/Not OK	48±1.25		48±1.25		48±1.25							
9	Thickness	Give value	6±0.3		6±0.3		6±0.30		4±0.2		4±0.2		3±0.2	
10	Angle	OK/Not OK	90±1°15'		90±1°15'		90±1°15'		90±1°15'		90±1°15'		90±1°15'	
11	Radius Inner	OK/Not OK	R12±1.5		R12±1.5		R12±1.5		R6±1.5		R6±1.5		R5±1.5	
12	Bow	Give value (1 in 600)												
13	Camber	Give value (1 in 600)												
14	Height I	OK/Not OK	85±1.25		85±1.25		85±1.25		45±1.25		45±1.25		48.15±1.25	
15	Height II	OK/Not OK	85±1.25		85±1.25		85±1.25		45±1.25		45±1.25			
16	Waviness	OK/Not OK (spcd. 2mm max)												
17	Twist	Give value (spcd. Max. 1°/metre length)												
18	Marking	OK/Not OK (Mfr's name, month/year of manufacture and Heat No. shall be punched)												
19	Appearance	Free from deep marks, cracks and other serious defects												



S.No	Item/Parameter	Item (Description, Item No. as per Drawing)	Door Frame Bottom Item No.12, Angle 45X 48 X 65 X 5.0 mm		Corner Stanchion, Item No.13, Angle: 100 X 100 X 10.0 mm		Cover Plate, Item No.14, 150x50x8 mm		Side Crib Angle (outer), Item No.15, 50x50x4 mm		Side Crib Angle (Inner), Item No.16, 50x50x4 mm		End crib angle, Item No.17, 50x50x4 mm	
			Value spec.	Value actual	Value spec.	Value actual	Value spec.	Value actual	Value spec.	Value actual	Value spec.	Value actual	Value spec.	Value actual
1	Item No. as per Annexure to PO													
2	Total Quantity offered													
3	Sampled Quantity													
4	Heat No.													
5	Length	Give value	1380±1.0		2277+3/-1		88±1.0		1655±1.0		3518+3/-1		2960+3/-1	
6	Bottom Width	OK/Not OK	45±1.25		100±1.50		150±1.5		50±1.25		50±1.25		50±1.25	
7	Flange1	OK/Not OK												
8	Flange2	OK/Not OK												
9	Thickness	Give value	5±0.25		10±0.5		8±0.40		4±0.20		4±0.20		4±0.20	
10	Angle	OK/Not OK	116±1°15'		90±1°15'		90±1°15'		90±1°15'		90±1°15'		90±1°15'	
11	Radius Inner	OK/Not OK	R8±1.5		R20±1.5		R16±1.5		R6±1.5		R6±1.5		R6±1.5	
12	Bow	Give value (1 in 600)												
13	Camber	Give value (1 in 600)												
14	Height I	OK/Not OK	48±1.25		100±1.5		50±1.5		50±1.25		50±1.25		50±1.25	
15	Height II	OK/Not OK	65±1.25											
16	Waviness	OK/Not OK (spcd. 2mm max)												
17	Twist	Give value (spcd. Max. 1°/metre length)												
18	Marking	OK/Not OK (Mfr's name, month/year of manufacture and Heat No. shall be punched)												
19	Appearance	Free from deep marks, cracks and other serious defects												



S.No	Item/Parameter	Item (Description, Item No. as per Drawing)	Door side middle coping, Item No.18, Top hat: 117x85x48x6 mm		Side Middle Coping (Centre), Item No.19, Top hat: 117 x85 x48x 6 mm		End Stanchion Top, Item No.20, Top hat: 117 X 85 X48X 6 mm		Packing Cover Plate, Item No.21, Angle: 130x50x8 mm	
1	Item No. as per Annexure to PO									
2	Total Quantity offered									
3	Sampled Quantity									
4	Heat No.									
	Value spe/actual		Value spec.	Value actual	Value spec.	Value actual	Value spec.	Value actual	Value spec.	Value actual
5	Length	Give value	715±1.0		713±1.0		597.5±1.0		110±1.0	
6	Bottom Width	OK/Not OK	117±1.25		117±1.25		117±1.25		130±1.5	
7	Flange1	OK/Not OK	48±1.25		48±1.25		48±1.25			
8	Flange2	OK/Not OK	48±1.25		48±1.25		48±1.25			
9	Thickness	Give value	6±0.30		6±0.30		6±0.30		8±0.40	
10	Angle	OK/Not OK	90±1° 15'		90±1° 15'		90±1° 15'		90±1° 15'	
11	Radius Inner	OK/Not OK	R12±1.5		R12±1.5		R12±1.5		R16±1.5	
12	Bow	Give value (1 in 600)								
13	Camber	Give value (1 in 600)								
14	Height I	OK/Not OK	85±1.25		85±1.25		85±1.25		50±1.50	
15	Height II	OK/Not OK	85±1.25		85±1.25		85±1.25			
16	Waviness	OK/Not OK (spcd. 2mm max)								
17	Twist	Give value (spcd. Max. 1°/metre length)								
18	Marking	OK/Not OK (Mfr's name, month/year of manufacture and Heat No. shall be punched)								
19	Appearance	Free from deep marks, cracks and other serious defects								



Test Report of properties of CRF

Test Report of properties of CRF												
i) Heat No.												
ii) Name of the manufacturer of raw material												
iii) Manufacturer's WTC No./date												
S.No	Test Results	C (0.03% max)	Si (1% max)	Mn (0.8-1.5%)	Cr (10.8-12.5%)	Ni (1.5% max)	P (0.03% max)	Si (0.03% max)	0.2% proof stress (35-45 kg/mmsq.	% elongation (25% min on a gauge length of 50mm)	UTS 50 kg/mm sq min	Bend test (as per ASTM A-240)
1	Results of manufacturer's WTC											
2	Results of samples taken by vendor from raw material (See * below)											
3	Results of samples taken by RDSO inspector from final product											
i)	Name of inspector											
ii)	Date sample taken											
iii)	Lab where testing carried out											
iv)	Product from which sample taken											
Note (*): Each heat of coil / plate to be checked from the Raw material, min of two samples of size 250 mm x 200 mm to be drawn, one sample to be tested, the other sample shall be preserved for min. 4 months with due traceability to the heat and shall be furnished to RDSO wherever required)												