

**SPECIFICATION FOR MERCHANT FLAT BARS FOR USE ON
3-PHASE A.C. FRIEGHT WAG-9 (CO-CO) & WAP-5 (BO-BO)
ELECTRIC LOCOS FOR INDIAN RAILWAYS.**

SPECIFICATION No. CLW/MS/3/106 ALT.5
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ISSUED BY:
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ALTERATION RECORD SHEET

ALT. No.	DATE	DESCRIPTION	REASON	SIGNATURE
1	17.08.2000	REF. NO.2 OF DRG. NO. 1209-10.437-210 ADDED.	AS IT IS OMMITTED.	S/d- 17.08.2000
2	25.02.2002	SL. NO. 4, 5, 7, 8, 9, 11, 17 & 24 DELETED FROM THIS SPEC. REF. NO. 2 OF DRG. NO. 1209-10.437-211 DELETED DRG. NO. 1209-10.437-211 REF. NO. 2 DELETED VIDE ALT.1 SL. NO. 8.5 ADDED.	AS PER ABB's DRGS. AND SHOPS REQUIREMENT VIDE L/No. ELM/51 (WAG-9) DATED 31.07.2001.	S/d- 28.02.2002
3	29.10.2010	DRG. NO. 1. 1209-10.437-210 ALT.2 2. 1209-05.427-055 ALT.1 3. 1209-02.426-230 ALT.1 4. 1209-02.426-229 ALT.1 5. 1209-02.426-228 ALT.1 6. 1209-03.435-154 ALT.2 7. 1209-03.435-153 ALT.2 8. 1209-03.435-152 ALT.2 9. 1209-08.431-041 ALT.1 10. 1209-08.430-244 ALT.1	MATL. SPEC. CHANGED FROM IRS M-41 TO IS 2062 GR.C	S/d- 29.10.2010
4	16.11.2010	ANNEXURE – B ADDED	TO PROCURE FLAT BARS FOR WAP-5 LOCO.	S/d- 16.11.2010
5	20.08.2025	Qty/Loco & material specn column deleted from Annexure-A. Material specn column deleted from Annexure-B. Note added below Annexure-A & Annexure-B	To avoid confusion of Qty/Loco for procurement. Material specn column deleted as it is already mentioned in respective drgs	

Specification have been digitized and all alterations have been incorporated

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TECHNICAL SPECIFICATION OF MERCHANT FLAT BARS FOR USE ON 3-PHASE A.C. FRIEGHT WAG-9 (CO-CO) & WAP-5 (BO-BO) ELECTRIC LOCOS FOR INDIAN RAILWAYS

1. **SCOPE:**

This specification covers the minimum requirement of design, manufacturing and supply condition of Merchant Flat Bars for use on WAG-9 (Co-Co) & WAP-5, 3-phase electric locos for Indian Railways.

2. **SCOPE OF SUPPLY:**

Merchant Flat Bars to be supplied per loco, in a set, as per attached Annexure-A for WAG-9 (Co-Co) loco & Annexure-B for WAP-5 loco of this specification. The quantity of each item per set shall be equal to quantity per loco indicated in the individual drg/as mentioned in ref. category noted below Annexure-A & Annexure-B.

3. **GENERAL:**

Merchant flat bars are of steel used in loco at various location to ease the production time cycle.

4. **TECHNICAL REQUIREMENT:**

- 4.1. Steel plate used in making flats shall be corrosion resistant and conform to IRS: M-41 Gr.I & IS:2062:2011 Gr.E250 Cu Quality-C Killed Normalized.
- 4.2. Flats are to be clean cut, Edges clearly sheared and truly squared to the specified dimension.
- 4.3. Finished material shall be free from cracks, flaws, lamination, rough jogged and imperfect edges and other harmful defects.
- 4.4. Each flat shall be straight and square to the edge. Deformation is not acceptable.
- 4.5. Metal shall not be effected/corroded when exposed in 100% relative humidity or max. ambient temperature of 80°C or heavy rain fall.

5. **MANUFACTURE:**

- 5.1. Flats shall be manufactured from corrosion resistant steel conforming to IS:2062:2011 Gr.E250 Cu Quality-C Killed Normalized.
- 5.2. Anti-corrosion treatment to be done before supplying the material.
- 5.3. Weight of each finished product shall be within the specified limit.
- 5.4. Surface shall be finished with proper method.

6. **INSPECTION AND TESTING:**

- 6.1. Inspection be done by authorized representative of CLW at manufacturer's works premises. Any failure/defect noticed during inspection shall immediately be rejected/replaced.

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- 6.2. Tensile test, bend test to be conducted and certificate to be produced during inspection, which will be arranged & borne by supplier.
- 6.3. Material test certificate to be submitted during inspection. Test piece can also be collected for further M&C Exam.

7. **QUALITY ASSURANCE:**

As per ISO: 9000:2015 or latest.

8. **PACKING & DELIVERY:**

- 8.1. Protective packaging to be done, with trade mark, which is suitable for the transport and storage under climatic and environmental condition as stipulated, which will prevent any damage to the material during handle, transit and storage.
- 8.2. The product shall be given temporary rust preventive coating for protection during storage and Transit
- 8.3. Each item shall be marked with supplier's trade mark and date.
- 8.4. Tenderer can contact CLW Design office for any technical clarification in doubt if any.
- 8.5. Prior to prototype inspection CLW'S representative will be deputed to seal the sample piece of the material specified for test in the government approved/ RDSO approved test lab. The lab test report should be produced at the time of prototype inspection.

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ANNEXURE-A OF SPECIFICATION NO. CLW/MS/3/106**MERCHANT FLAT BARS FOR WAG-9(CO-CO) LOCOS**

S.N	DESCRIPTION	DRG. NO.
1.	Merchant Flat Bar (10 Thk)	1209-02.426-228
2.	Merchant Flat Bar (10 Thk)	1209-02.426-229 REF.1
	Merchant Flat Bar (10 Thk)	1209-02.426-229 REF.2
	Merchant Flat Bar (10 Thk)	1209-02.426-229 REF.3
	Merchant Flat Bar (10 Thk)	1209-02.426-229 REF.4
3.	Merchant Flat Bar (8 Thk)	1209-02.426-230 REF.1
	Merchant Flat Bar (8 Thk)	1209-02.426-230 REF.2
4.	TAPPING PLATE (10 Thk) (Merchant Flat Bar)	1209-05.427-055 REF.1
	TAPPING PLATE (10 Thk) (Merchant Flat Bar)	1209-05.427-055 REF.2
5.	TAPPING PLATE (Merchant Flat Bar) 10 Thk	1209-08.430-244
6.	Merchant Flat Bar 6 Thk	1209-08.431-041
7.	TOP BAR (Merchant Flat Bar) 12 Thk	1209-09.433-067
8.	TAPPING BLOCK (Merchant Flat Bar) 10 Thk	1209-03.435-152
9.	TAPPING BLOCK (Merchant Flat Bar) 10 Thk	1209-03.435-153
10.	TAPPING BLOCK 10 Thk	1209-03.435-154
11.	TAPPING BLOCK (Merchant Flat Bar) 10 Thk	1209-03.435-156
12.	Merchant Flat Bar 16 Thk	1209-10.437-207
13.	MOUNTING BAR (Merchant Flat Bar) 20 Thk	1209-10.437-208
14.	MOUNTING BAR (Merchant Flat Bar) 20 Thk	1209-10.437-209
15.	Merchant Flat Bar (10 Thk) FOR PANTO	1209-10.437-210 REF 1 & 2
16.	MOUNTING BAR-340 LG (16 Thk)	1209-10.437-211 REF 1

NOTE: QTY/LOCO & LATEST ALT. NO.OF DRAWINGS TO BE FOLLOWED AS MENTIONED IN RELATED CATEGORY NO. R/9/0114, R/9/0116 AND R/9/0117 FOR WAG-9HC AND WAP-7 LOCOS.

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ANNEXURE-B FOR WAP-5 LOCO**MERCHANT FLAT BARS**

SL.NO.	DRG. DESCRIPTION	SIZE WIDTH X THK.	DRG.NO.	REF. C&D NO.
1.	Tapping Plate	40X12	IA022-00154	B302/200
2.	Bar 12Sq X 30 LG	12X12	IA022-00223	B302/257
3.	Bar 12Sq X 30 LG	12X12	IA022-00223	B302/261
4.	Stop	12X12	IA021-00420	B302/309
5.	Stop	12X12	IA021-00420	B302/335
6.	Plate Tapping	30X10	IA052-00153	B303/013
7.	Plate Tapping	25X10	IA052-00156	B303/014
8.	Plate Tapping	25X12	IA052-00155	B303/015
9.	Plate Tapping	30X6	IA082-00269	B306/064
10.	Plate Tapping	30X6	IA082-00269	B306/071
11.	Plate Tapping	20X8	IA082-00180	B306/166
12.	Tapping Flat	25x8	IA081-00435	B306/203
13.	Tapping Flat	25x8	IA082-00436	B306/204
14.	Tapping Flat	20x10	IA082-00438	B306/206
15.	Flat	50X10	IA082-00404	B306/403
16.	Tap Pad	40X6X100 LG	1210-08.130-004 Ref-3	B306/417
17.	Tapping Plate	50X6	IA082-00396	B308/010
18.	Tapping Plate	50X6	IA082-00396	B308/014
19.	Tapping Plate	50X6	IA082-00396	B308/018
20.	Tapping Plate	50X6	IA082-00396	B308/022
21.	Tapping Plate	20X10	1210-03.135-001 & 002 Ref-11	B312/026
22.	Tapping Plate	20X10	1210-03.135-001 & 002 Ref-12	B312/027
23.	Tapping Plate	20X10	1210-03.135-001 & 002 Ref-13	B312/028
24.	Tapping Plate	20X10	1210-03.135-001 & 002 Ref-14	B312/029
25.	Mounting Bar 920LG	40X20	IA106-00426	B315/116
26.	Mounting Bar 330LG	20X20	IA106-00427	B315/117
27.	Mounting Bar 240LG	45X20	IA106-00428	B315/118
28.	Mounting Bar 250LG	30X20	IA106-00429	B315/119
29.	Mounting Bar 340LG	30X16	IA106-00436	B315/123
30.	Mounting Bar 135LG	20X20	IA106-00493	B315/144
31.	Tapping Block	20X10	IA032-00038	B315/210
32.	Opening Support Bar	20X10	IA106-00014	B315/023
33.	Opening Support Bar	20X10	IA106-00015	B315/024
34.	Filters Duct-190LG Bar-Conv. Roof Hatch	30X16	IA106-00425	B315/115

NOTE: QTY/LOCO & LATEST ALT. NO. OF DRAWINGS TO BE FOLLOWED AS MENTIONED IN RELATED CATEGORY NO. R/10/0079, R/10/0080 AND R/10/0082 FOR WAP-5 LOCOS.

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