

# **SPECIFICATION FOR SHACKLE FOR WAG-9HC/WAP-7(Co-Co) & WAP-5 (Bo-Bo) ELECTRIC LOCOMOTIVES**

**SPECIFICATION No. CLW/ES/3/0152 ALT.C**

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### ALTERATION RECORD SHEET

ALT. No.	DATE	REASON	AUTHORITY
A	26.04.1999	Items against material schedule bearing Sl. No. 2 to 8 are deleted. Quantity/Loco against Sl. No.1 is increased from 1 to 4 and required quantity for WAP-5 are six nos.	S/d- 26.04.1999
B	22.02.2025	Para 1, 3, 5, 5.1, 7 & 8 modified. Sl. No. 2 to 8 deleted from scope of supply and quantity per loco for WAP-5 added at Para-4.	22.02.2025
C	20.08.2025	(i) Qty/Loco Column Deleted From Para 4 (Scope Of Supply) And Note Added Below Para 4. (ii) Material Specification is updated.	

Specification have been digitized and all alterations have been incorporated.

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### **SPECIFICATION FOR SHACKLE**

#### **1. SCOPE :**

This specification covers the manufacture and supply of Shackle for WAG-9HC/WAP-7 (Co-Co) & WAP-5 (Bo-Bo) 3-Phase, 25 Kv. 50 Hz. AC Locomotive.

#### **2. CLIMATIC AND ENVIRONMENTAL CONDITION:**

Maximum atmospheric temperature : +70°C (in sun) & +50°C (in shade)  
Humidity : 100% saturation during rainy season.

##### **Reference site condition:**

(i) Ambient Temperature (Operating) : Max 55°C min. 0°C  
(ii) Humidity : 60%  
(iii) Altitude : 160 m above mean sea level.  
(iv) Rain Fall : Very heavy in certain areas.

The Locomotive will be designed to permit its running at 10 km/hr in flood water level of 102mm above rail level.

Atmosphere during hot weather : Extremely dusty and desert terrain in certain areas.

Coastal areas : Locomotive and equipment will be design to work in coastal areas in humid and salty laden atmosphere.

Vibration : The equipment sub-system and their mounting arrangement will be designed to withstand vibrations and shocks encountered in service as specified in corresponding IEC publications unless otherwise prescribed.

#### **3. STANDARD:**

As per relevant drawing.

#### **4. SCOPE OF SUPPLY:**

SL. No.	Description	Ident. No.	Fig. No.	Matl.
1	SHACKLE	HBTB 416444 P0114	1	SST18/8 Stainless Steel, Cold Rolled as per IS 6603:2024 Gr. X04Cr18Ni10Ti /Gr. 321

**Note:** Qty/Loco to be followed as mentioned in related category no. P/2/0284 in clubbed category no. P/0/0284, P/0/0284a & P/0/0284b for WAG-9HC, WAP-7 & WAP-5 locos respectively. Also category no. P/2/0285 in clubbed category no. P/0/0285 for ELAAU/ DANKUNI.

Material for above items is Stainless Steel 18/8 (X6 Cr Ni Ti18 10); Cold rolled as per DIN 17440 (07.85).

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**5. DRAWINGS**

The following drawing is attached with the specification:

Drawing No. : CLW/ES/3/SK-1/0152

5.1. Technical documents to be furnished by the supplier as part of the contract.

**6. TESTS :**

Type test and routine test shall be carried out according to the relevant IS/IEC Standard.

**6.1. NAME PLATE :**

- (i) Manufacture's name
- (ii) Year of manufacture
- (iii) Trade mark if any
- (iv) Batch no. and code.

**7. SUBMISSION OF TENDER QUOTATION:**

- 7.1. All tender documents including the quotation shall be submitted in triplicate including any correspondence till a contract is finalised.
- 7.2. The tenderer shall give sufficient information to prove that his factory has adequate facilities and capacity to manufacture the above materials to meet fully the technical requirements of the specification and quality of materials and workmanship.
- 7.3. Quotation shall not be considered complete unless all information is furnished and are therefore liable to be rejected.
- 7.4. Past test reports (if any).

**8. TECHNICAL DOCUMENTS TO BE SUPPLIED BY THE SUPPLIER:-**

- i) Type test reports : 10 Copies
- ii) Routine test reports along with each set : 4 Copies.

**9. QUALITY ASSURANCE:**

Quality assurance should be as per ISO 9000.

**NOTE :** The name and year of manufacture of the firm should be embossed on the item.

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