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Note: Modification indicated in Red Ink at sheet no. 4 & 6 of specification.

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**SPECIFICATION  
FOR  
SET OF CABLE DISCONNECTION TM-1 to TM-6  
FOR WAG-9 AND WAP-7  
FOR  
THREE PHASE ELECTRIC LOCOMOTIVES  
Specification No : CLW/ES/3/0128  
Issue Date :- 09.06.1997  
ENCLOSURES:  
DRG. No. CLW/ES/3/SK-1/0128**

**ISSUED BY  
DY. CHIEF ELECTRICAL ENGINEER/D-I  
CHITTARANJAN LOCOMOTIVE WORKS  
CHITTARANJAN - 713331  
Dist: WEST BURDWAN  
WEST BENGAL (INDIA)**

Prepared By	Checked By	Approved By
<b>TANUSHREE ROY</b> Digitally signed by TANUSHREE ROY Date: 2023.04.11 16:32:26 +05'30' <b>SSE/ Drg. (ELECT)</b>	<b>JAYVEER KUMAR</b> Digitally signed by JAYVEER KUMAR Date: 2023.04.11 16:34:02 +05'30' <b>SSE/ Drg. (ELECT)</b>	<b>RAVI YADAV</b> Digitally signed by RAVI YADAV Date: 2023.04.13 17:49:12 +05'30' <b>Dy.CEE/D-I</b>

Signature Not Verified

Digitally signed by JAYVEER KUMAR  
Date: 2023.04.18 16:51:48  
Reason: IREPS-CRIS  
Location: New Delhi

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ALTERATION RECORD SHEET

SL.No.	Date of Amendment	Page No.	Alteration	Reason	Authority
1.	28.02.2003	5	A	Fire Retardant/ Self-extinguishing clause included in Page No.5	Sd/-
2.	09.04.2009	5	B	In Sheet No. 05, the Hole center will be 15 mm from the end of the Bus Bar in Fig. No.5 as per instruction of Dy. CEE/ EL.	Sd/-
3.	23.02.2018	4	C	Material of compression plate and spacer has been changed from Bakelite to Glass reinforced Polyester dough moulding compounds Gr-D3 as per IS:13411 with approval of Dy.CEE/D-I on dtd:- 23.02.2018	Sd/-

**Specification has been digitized and all alterations have been incorporated.**

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<b>TANUSHREE ROY</b> <small>Digitally signed by TANUSHREE ROY Date: 2023.04.11 16:32:54 +05'30'</small> <b>SSE/ Drg. (ELECT)</b>	<b>JAYVEER KUMAR</b> <small>Digitally signed by JAYVEER KUMAR Date: 2023.04.11 16:34:19 +05'30'</small> <b>SSE/ Drg. (ELECT)</b>	<b>RAVI YADAV</b> <small>Digitally signed by RAVI YADAV Date: 2023.04.13 17:49:40 +05'30'</small> <b>Dy.CEE/D-I</b>

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### 1. SCOPE

This specification covers the manufacture and supply of Set of Cable Disconnection TM- 1 to TM-6 for WAG-9 (Co-Co), 6000 HP, 3-phase, 25 kv 50 Hz AC locomotive.

### 2. SERVICE CONDITIONS

#### 2.1 CLIMATIC & ENVIRONMENTAL CONDITION:-

Maximum atmospheric temperature	+70°C (in Sun) & 50°C (in Shade)
Normal Humidity	60%.
Maximum Humidity	100% saturation during rainy season
Altitude	160 m.a.s.l
Rainfall	Very heavy in certain areas. The equipment should be designed in such a way as to withstand its running at 10 Km/hr. in flood water level of 102 mm 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 subsystem and their mounting arrangement will be designed to withstand vibration and shocks encountered in service as specified in corresponding standard unless otherwise prescribed.

### 3. STANDARDS

The relevant IEC, BS, DIN, Standard & Indian standard specification shall apply with respect to all materials used in the manufacture of Cable Disconnection TM-1 to TM-6.

### 4. SCOPE OF SUPPLY

Sl.No.	Description	ABB Ref. Ident. No.	Qty./ Loco	CLW Drg. No.
1.	Cable Disconnection TM-1	3EHP130282R0001	1	CLW/ES/3/SK-1/0128
2.	Cable Disconnection TM-2	3EHP130282R0002	1	CLW/ES/3/SK-1/0128
3.	Cable Disconnection TM-3	3EHP130282R0003	1	CLW/ES/3/SK-1/0128
4.	Cable Disconnection TM-4	3EHP130282R0004	1	CLW/ES/3/SK-1/0128
5.	Cable Disconnection TM-5	3EHP130282R0005	1	CLW/ES/3/SK-1/0128
6.	Cable Disconnection TM-6	3EHP130282R0006	1	CLW/ES/3/SK-1/0128

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TANUSHREE ROY <small>Digitally signed by TANUSHREE ROY Date: 2023.04.11 16:33:10 +05'30'</small> SSE/ Drg. (ELECT)	JAYVEER KUMAR <small>Digitally signed by JAYVEER KUMAR Date: 2023.04.11 16:34:35 +05'30'</small> SSE/ Drg. (ELECT)	RAVI YADAV <small>Digitally signed by RAVI YADAV Date: 2023.04.13 17:49:55 +05'30'</small> Dy.CEE/D-I



Draft copy of specification for set of Cable Disconnection TM-1 to TM-6  
for WPS-9 & WAP-7  
Note! modification indicated in Red. *(Signature)*

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## 5. SUBMISSION OF TENDER QUOTATION

- 5.1 All tender documents including the quotation shall be submitted in duplicate including any correspondence till a contract is finalized.
- 5.2 The tenderer shall give sufficient information to prove that his factory has adequate facilities and capacity to manufacture the CABLE DISCONNECTION to meet fully the technical requirements of the specification and quality of materials and workmanship.
- 5.3 Quotation shall not be considered complete unless all information is furnished and are therefore liable to be rejected .
- 5.4 Detailed drawings of the CABLE DISCONNECTION should be submitted for approval of purchaser.
- 5.5 Standard fasteners of M/s TVS, M/s LPS, M/s Un-Brako and Spring Washers of M/s FORBES make only to be used.
- 5.6 Tenderer shall fix a Name Plate on the equipment indicating (i) Manufacturer's Name (ii) Electrical rating (iii) Month and year of manufacture (iv) Sl. No. of the equipment.

## 6. DRAWINGS

The following drawings are attached with the specification:-  
Drg. No. CLW/ES/3/SK-1/0128

Fig. No.	Description	ABB Ref.	Material
1.	Bracket	3EHP431227	SST 6XCrNiTi 1810 Cold rolled
2.	Compression Plate	HBTB416302	Glass reinforced polyester dough moulding compound Gr- D3 as per IS:13411
3.	Insulation Plate	3EHP431587	Polyester Resin
4.	Threaded rod	HBTB416304	<del>Glass reinforced plastic/ Fibre reinforced plastic</del> *
5.	Terminal Bar	3EHP431586	Electrolytic tough pitch Cu. Medium cold rolled as per DIN 1787 (Silver Plated 2-3 micron)
6.	Spacer	HBTB416301	Glass reinforced Polyester dough compounds Gr.D3 as per IS:13411
7.	Washer	7500	A13/24 SST, A2-70 or A4-70 as per DIN 125, DIN 17440
8.	Con Washer	7602	13/19 SPR ST M2.5-M8: Spr St C60; >M10; 50CrV4
9.	Hex. Nut	7701	0.8 D M12 SST A2-70/ A4-70 (ISO 3506) as per DIN 934/ DIN 267 T.4

- 6.1 Technical documents and drawings to be furnished by the supplier as part of the contract.

\* material of Threaded Rod : SST<sup>rod</sup> covered with Fibre reinforced plastic (FRP)

## 7. TESTS:-

Type test and routine test shall be carried out according to the Standard.

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TANUSHREE ROY <small>Digitally signed by TANUSHREE ROY Date: 2023.04.11 16:33:32 +05'30'</small> SSE/ Drg. (ELECT)	JAYVEER KUMAR <small>Digitally signed by JAYVEER KUMAR Date: 2023.04.11 16:35:07 +05'30'</small> SSE/ Drg. (ELECT)	RAVI YADAV <small>Digitally signed by RAVI YADAV Date: 2023.04.13 17:50:15 +05'30'</small> Dy.CEE/D-I

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

- i. Type test reports : 10 Copies
- ii. Routine test report along with each set : 4 Copies.
- iii. Maintenance Manual : 20 Copies
- iv. Detailed drawings : 6 Copies

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<p>TANUSHREE ROY</p> <p>Digitally signed by TANUSHREE ROY Date: 2023.04.11 16:35:24 +05'30'</p> <p>SSE/ Drg. (ELECT)</p>	<p>JAYVEER KUMAR</p> <p>Digitally signed by JAYVEER KUMAR Date: 2023.04.11 16:35:36 +05'30'</p> <p>SSE/ Drg. (ELECT)</p>	<p>Dy.CEE/D-I</p>



Draft copy of specification for set of Cable Disconnection TM-1 to TM-6 for WAG-9 & WAP-7

Note: Modification indicated in red. *Amey*

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