

**TENDER SPECIFICATION**

No.: CLW/ES/03/0646

ALT. Sheet	A	B	C	D			
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Specification : No. of Pages - 08
 Annexure-A1 : No. of Pages - 05
 Annexure-A2 : No. of Pages - 27
 Annexure-A3 : No. of Pages - 28 32 Alt-'C'

Total No. of Sheets: 68 72 Alt-'C' ALT 'D'

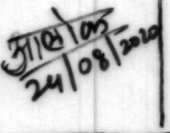
**SPECIFICATION FOR SET OF HARNESSSED CABLES
FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES**

ISSUED BY:

CHITTARANJAN LOCOMOTIVE WORKS
P.O. CHITTARANJAN – 713365, DIST. P.BURDWAN,
WEST BENGAL (INDIA)

SPECIFICATION FOR SET OF HARNESSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES	Prepared By <i>Jaywant Kumar</i> SSE/D/Elect.	Reviewed By <i>[Signature]</i> SEE/D/CON	ELECTRIC LOCO DESIGN OFFICE CHITTARANJAN LOCOMOTIVE WORKS/CHITTARANJAN(W.B.) Specification No. CLW/ES/03/0646			
	Approved By <i>[Signature]</i> Dy.CEE/D-I		ALT	A	B	C D

ALTERATION SHEET

SL NO	DATE	CLAUSE NO.	PAGE NO.	DESCRIPTION	ALT.	APPROVED BY
1.	15.10.18	Annexure- B1 & B2	34,5, 36	Annexure- B1 & B2 has been revised with approval of competent authority.	A	-sd_
2.	12.01.19	-	-	Specification has been reviewed and revised with earlier alterations and modifications with approval of competent authority.	B	
3.	27.09.19	Annexure A3	29 & 32	Control cables are included/ Modified for Push Pull operation in WAP-7 loco in Annexure-A3 with approval of CA.	C	
4.	24.08.2020	S-1	Sheet No 5 & 8	Correcction in STR No. as CLW/(2017)/ELDO/(E)/STR/01, Rev '0' in Clause NO. S-1 with approval of CA on dtd. 24.08.2020	D	

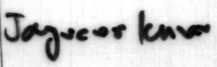
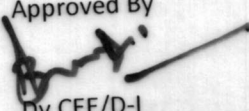
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SPECIFICATION FOR SET OF HARNESSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES	Prepared By <i>Jayashree Kumar</i> SSE/D/Elect.	Reviewed By <i>[Signature]</i> SEE/D/CON	ELECTRIC LOCO DESIGN OFFICE CHITTARANJAN LOCOMOTIVE WORKS/CHITTARANJAN(W.B.) Specification No. CLW/ES/03/0646				
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1. Scope:

The scope of this specification covers the manufacturing and supplies of harnessed cables of WAG-9H & WAP-7 Three phase electric locomotive.

2. Service conditions:**Climate and environmental condition:**

Maximum atmospheric temperature	:- + 70 °C (Under sun) + 50 °C (in shade) - 30 °C TO + 80 °C
Ambient temperature: -	60%
Normal humidity: -	100%, saturation during rainy season.
Maximum humidity: -	Up to 160 m above mean sea level
Altitude: -	Extremely dusty and desert terrain in certain areas.
Atmosphere during hot weather: -	Locomotive and equipment is designed to work in coastal areas in humid and salt laden atmosphere.
Coastal areas: -	Very heavy in certain areas. The equipment should be designed in such way as to withstand its running at 10 km/hr in flood water level of 102 mm above rail level.
Rainfall: -	The equipment sub system and their mounting arrangement will be designed to withstand vibration and shock encountered in service as specified in corresponding IEC publication unless otherwise prescribed.
Vibration: -	

3. Scope of Supply:

3.1 Firm shall supply the complete set of harnessed cable looms for WAG - 9H/ WAP-7 locomotives as specified below:-

Loco Type	Applicable Annexure
WAG-9H	A1 & A2
WAP-7	A1 & A3

3.2 Firm shall supply required materials i.e. Connectors, Sockets, Sleeves, Lugs etc for open end of harnessed cable loom specified in Annexure.

4. Standards:

The standards should be as per relevant IEC, DIN, IS and other Indian/ International standards as given in specifications/drawings of various items used in cable harness.

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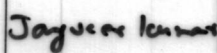
5. Submission of Tender/Quotation:

- 5.1 The tenderer shall give sufficient information to prove that his factory has adequate facilities and capacity to manufacture and supply the complete set of harnessed cable with quality of materials and workmanship meeting technical requirements of this specification and latest version of STR No. ~~CLW/STR/01~~ **CLW/(2017)/ELDO/(E)/STR/01**
- 5.2 Offer shall be considered incomplete and liable to be rejected unless all information are furnished.

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6.0 Quality Assurance:

- 6.1 Material used for manufacturing of harnessed cable looms such as E-beam cables, lugs, connectors, heat shrinkable sleeves etc shall only be procured from approved source of CLW.
- 6.2 To ascertain the quality of material, test certificates of material from OEM are to be submitted to Railways. However, if required, Railways reserves the right to inspect material at OEM's premises in the presence of Railway representatives to ensure the quality of material.
- 6.3 The firm should submit detailed QAP including work procedure, drawings etc for approval to Railways before commencement of supply.
- 6.4 Successful tenderer may collect any other technical details/ drawings, if required as per schedule of item, from CLW design office.
- 6.5 Proper tools shall be used for manufacturing harnessed cable. The healthiness of the same is to be demonstrated to CLW inspector during prototype and routine inspection.
- 6.6 List of material requirement for Harnessed Cable Looms for WAG-9H/ WAP-7 Loco given in Annexure-A1 is for general guidance or indicative only. There can be minor variation in requirement of material which should be brought out by firm during execution of work for scrutiny and approval of CLW.
- 6.7 Any additional quantity of items as per schedule of material or any other accessories such as brackets, hardware, insulating items etc. required for completion of harnessed cable looms of loco will be supplied by the firm.
- 6.8 Firm should have traceability up to component level.
- 6.9 All operators should be trained in IPC/WHMA – A – 620A by authorized

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certified agency.

7. Approval of Sample:

- 7.1** The first time supplier shall make available one prototype of item for inspection and prototype test at its premises to CLW.
- 7.2** The stage inspection of manufacturing process being adopted to be demonstrated by firm to representative of CLW during prototype Inspection.
- 7.3** During type test or routine test if it is considered necessary by CLW's authorized representative to carry out any further tests or trials, the supplier will arrange for the same by quickest means.

8. Tests:

Type test and routine test shall be carried out according to relevant Internationals/ Indian standards, IEC: 60309, BS EN 50343.

- 8.1 Type test:** All the type tests, mentioned in clause 8.5 shall be carried out on prototype unit. The firm manufacturing for the first time shall get prototype type approved by CLW.
- 8.2 Routine test:** Routine test mentioned in clause 8.5 shall be carried out on each by the manufacturer at his works to ensure compliance with the specification and drawings.
- 8.3** Test protocol shall be submitted by firm for approval before proceeding prototype test.
- 8.4** A copy of the internal test report, conducted by the firm shall be supplied to inspecting authority during type test and routine test.

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8.5 Table for Tests:

Type test shall be carried out on all types of cables.

Tests for Harness at the firm's premises					
SN	Tests	Standards	Clause No.	Type test	Routine test
1.	Dimension and Visual Inspection	---	---	Yes	Yes
2.	General Concerning Testing	BS EN 50343	7.1	Yes	Yes
3.	Checking of electrical Continuity.	---	---	Yes	Yes
4.	Insulation Impedance Test	BS EN 50343	7.2.3	Yes	Yes
5.	Millivolt drop test.	---	---	Yes	Yes ^(a)
6.	Pull out and contact pressure Test.	BS EN 50343	G.2	Yes	Yes ^(b)
7.	Tensile Strength	EN 60512 – 16 - 20	---	Yes	Yes ^(b)
8.	Micrograph Test	VW 60330	---	Yes	Yes ^(b)
9.	Crimp Height and Width measurement test	---	---	Yes	Yes ^(b)
10.	Voltage Withstand Test	BS EN 50343	7.2.2	Yes	---

(a) In Routine Test, Millivolt drop test shall be carried out on 5% of quantity or minimum 01 (One) set.

(b) Being destructive test, Pull out and contact pressure Test, Tensile Strength Test, Micrograph Test and Crimp Height and Width Measurement Test shall be carried out on prepared samples instead of Harneess Cables.

9. Identification /marking:

The tenderer shall fix a name plate using Printed SD Sleeve (Confirming to latest version of CLW Specification No. CLW/ES/03/0154) of appropriate size on the supply equipment a following:

i) Manufacturer's name & Monogram/Brand.

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- ii) Loom No., Coordination & Connection No.
 iii) Month & year of Mfg. and SL. No.

10. Reference:

This specification is made on the basis of original equipment Manufacturer by ABB for Indian Railways.

11. Packing:

11.1 Packing of harnesses shall be done as per standard packing practices to the satisfaction of Railways. Harnesses shall be bunched together and shall be supplied as single unit per Loco. Each harness shall be duly bunched individually and legibly marked as per detailed specified in Annexure.

11.2 Following documents shall be submitted along with the supply of material to ascertain sourcing of material from OEM:

1. Certificate of compliance
2. Guarantee Certificate

However, during inspection, the inspector may also verify invoice to ascertain the sourcing of material from OEM.

12. Enclosures:

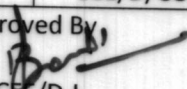
- ANNEXURE - A1:** Raw materials used for manufacturing of Harnessed cables.
ANNEXURE - A2: Scope of supply of Harnessed Cables for WAG-9H locomotives.
ANNEXURE - A3: Scope of supply of Harnessed Cables for WAP-7 locomotives.

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RAW MATERIALS USED FOR MANUFACTURING HARNESSED CABLE LOOMS FOR WAG-9H/WAP-7
THREE PHASE ELECTRIC LOCOMOTIVES

Sl.No.	Description of item		ABB Identification	Specification No.			
Item - I	Single Core Cable						
1.	CAB 4GKW-AX 1.5 1800V BK		3EHW470015P0015	CLW/ES/03/0458 with Latest Alteration.			
2.	CA 4GKW-AX 2.5 1800V BK		3EHW470015P0025				
3.	CA 4GKW-AX 6 1800V BK		3EHW470015P0060				
4.	CA 4GKW-AX 10 1800 BK		3EHW470015P0100				
5.	CA 4GKW-AX 16 1800V BK		3EHW470015P0160				
6.	CA 4GKW-AX 25 1800 BK		3EHW470015P0250				
7.	CA 4GKW-AX 35 1800 V BK		3EHW470015P0350				
8.	CA 4GKW-AX 50 1800V BK		3EHW470015P0500				
9.	CA 4GKW-AX 70 1800 V BK		3EHW470015P0700				
10.	CA 4GKW-AX 95 1800 V BK		3EHW470015P0950				
11.	CA 4GKW-AX 120 1800 V BK		3EHW470015P1200				
12.	CA 9GKW-AX 70 4000 V BK		3EHW470016P0700				
13.	CA 9GKW-AX 95 4000 V BK		3EHW470016P0950				
14.	CA 9GKW-AX 120 4000 V BK		3EHW470016P1200				
15.	CA 9GKW-AX 150 4000 V BK		3EHW470016P1500				
16.	CAB 3GKW 0.5 FLEX YE-GN		HZN 452926P0301				
17.	CABLE 0.6CU/ETFE GNGE		HZN 452890P0854				
Item - II	Multi Core Cable						
1.	CAB 2X2X1.0 SCR		3EHP470001P1004	CLW/ES/03/0459 with Latest Alteration.			
2.	CAB 2X2X0.5 SCR		3EHP470000P0504				
3.	CAB 3X4X1.0 SCR		3EHP470001P1012				
4.	CAB 2X1.0 SCR.		3EHP470001P1002				
5.	CAB 2X0.5 SCR		3EHP470000P0502				
6.	CAB 3X0.5 SCR		3EHP470000P0503				
7.	CAB 9X0.5 SCR		3EHP470000P0509				
8.	CAB 9X0.5 TWIST		3EHP470002P0509				
9.	CAB 5X0.5 SCR		3EHP470000P0505				
10.	CAB 25X0.5 TWIST		3EHP470002P0525				
Item - III	Set of Connectors						
1.	PLUG ASSEMBLY (KIT)		HBT 315076R0011	CLW/ES/03/0124 with Latest Alteration.			
2.	PLUG, 4P/40 SKT "N" INDOOR		HBTB315176R0113				
3.	PLUG 4P/40 SKT "N" INDOOR		HBTB315176R0114				
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4.	L-PLUG, 4P/40 SKT "N" INDOOR	HBTB315176R0213
5.	PLUG P7/24 SKT "N" INDOOR	HBTB315110R0011
6.	PLUG13P/32 SOCKET"N"	HBTB315111R0001
7.	PLUG13P/32 SKT"N"INDOOR	HBTB315111R0011
8.	PLUG22P/36 SKT"N" INDOOR	HBTB315112R0011
9.	PLUG25P/40 SKT"N"INDOOR	HBTB315113R0011
10.	PLUG61P/40 SKT"N"INDOOR	HBTB315157R0011
11.	PLUG, 5 CRIMP SOCKET S16	HBTB415399P0012
12.	PLUG 4P BU "N" IR CA SPRT	3EHW470084R0001
13.	PLUG, SIZE 22/19POLE	3EHP431609R0001
14.	PLUG, SIZE 28/37POLE	3EHP431609R0002
15.	PLUG, 9P D-SUB, SIZE 1	HBTB316240R0009
16.	PLUG 9 POLES	HETT401293P0001
17.	DUMMY PLUG, SIZE 16BL	HBTB415399P0005
18.	"ANDERSON" PLUG PP 120A	*1321 BLAU
19.	"ANDERSON" PLUG PP 120A	*1321G3 ROT
20.	"ANDERSON" CONTACTS 120A	*1319
21.	CONTACT SOCKET 12/2.5	HBTB415298P0008
22.	CONTACT SOCKET 12/1.0	HBT 415298P0004
23.	CONTACT SOCKET 12/1,5	HBT415298P0006
24.	CONTACT SOCKET 16/1.0	HBT 415299P0006
25.	CONTACT SOCKET 16/0.5	HBT 415299P0002
26.	CONTACT SOCKET SIZE 16	HBTB415399P0002
27.	CONTACT SKT SIZE 8 2.5 MM2	3EHW 470117P002
28.	CONTACT SKT SIZE 8 6 MM2	3EHW 470117P004
29.	CONTACT SOCKET	3EHP430759P0002
30.	SOCKET 13P/32 PIN"N" IND	HBTB315159R0011
31.	SOCKET 35P/40 PIN"N" IND	HBTB315162R0011
32.	SOCKET 5P/S18 PIN"N"	HBT315075R0011
33.	CONTACT PIN S16 0, 5-1 MM2	HBTB415399P0001
34.	CONTACT PIN 12/1.5	HBT415298P0005
35.	CONTACT PIN 12/2,5	HBT415298P0007
36.	CONTACT PIN 12/1.0	HBT415298P0003
37.	CONNECTOR SKT 0.23.,0.5	SE 408197P0013
38.	CONTACT SOCKET AWG 24-20	HESG455638P0120
39.	CONTACT AWG 24-20	HESN455638P0120
40.	CONNECTOR SPEED SENSOR	HBTB415399P0022
41.	PROTECTIVE CAP/ CABLE CLIP	HETT401293P0032
42.	SOCKET BODY A IP PA	3EHW470001P0001

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43.	ADAPTER STRAIGHT SIZE 18	HBT415278P0001	
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Item - IV Set of Cable Lugs

1.	KB-SCH 0.5-1.0/M4 CU VZN	3EHP470026P0004
2.	CABLE LUG 0.5-1.0/M5	3EHP470026P0005
3.	CABLE LUG 1.5-2.5/M5	3EHP470026P0015
4.	CABLE LUG 1.5-2.5/M4 CU VZN	3EHP470026P0014
5.	CABLE LUG 1.5-2.5/M6 CU VZN	3EHP470026P0016
6.	CABLE LUG 4-6/M5 CU VZN	3EHP 470026P0105
7.	CABLE LUG 4-6/M8 CU VZN	3EHP 470026P0108
8.	CABLE LUG 16.0/M10 CU VZN	3EHP470026P0510
9.	CABLE LUG 4.0-6.0/M6 CU VZN	3EHP470026P0106
10.	CABLE LUG 8-2.5	KN 6762210P0208
11.	CABLE LUG 10.0/M8 CU VZN	3EHP 470026P0208
12.	CABLE LUG 16.0/M8	3EHP470026P0508
13.	CABLE LUG 10.0/M10 CU VZN	3EHP 470026P0210
14.	CA-LUG 16.0/M10 CU VZN	3EHP470026P0510
15.	CABLE LUG 35.0/M8 CU VZN	3EHP470026P1008
16.	CA LUG 35.0/M10 CU VZN	3EHP470026P1010
17.	CA LUG 70.0/M8 CU VZN	3EHP470026P1908
18.	CA LUG 70.0/M10 CU VZN	3EHP470026P1910
19.	CA LUG 70.0/M12 CU VZN	3EHP470026P1912
20.	CA LUG 95.0/M8 CU VZN	3EHP470026P2408
21.	CA LUG 95.0/M10 CU VZN	3EHP470026P2410
22.	CA LUG 120.0/M10 CU VZN	3EHP470026P3010
23.	CA LUG 120.0/M12 CU VZN	3EHP470026P3012
24.	CA LUG 150.0/M10 CU VZN	3EHP470026P3710
25.	CA LUG 150.0/M12 CU VZN	
26.	CA LUG 2L 120/M10 CU VZN	HBT416074P0010
27.	CABLE LUG INSUL 3-1.5	HCSN400689P0012
28.	CABLE LUG INSUL .4-2.5	HCSN400689P0023
29.	CABLE LUG PIN TYPE 2.5	GMN945210P0002
30.	SLEEVE 6.3 1.0-2.5 CUSN	3EHW470001P0035
31.	LUG 6, 3X0.8 CUSN	NBT 200235P0511

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Item - V Set of Copper Sleeves

1.	SCREEN SLEEVE I.GSB 205	HBTB416489P0020
2.	SCREEN SLEEVE I.GSB 225	HBTB416489P0022
3.	SCREEN SLEEVE I.GSB 312	HBTB416489P0031

CLW/ES/03/0205 with
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WAG-9H & WAP-7 THREE
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Prepared By

Jayveer Kumar

SSE/D/Elect.

Reviewed By

[Signature]

SEE/D/CON

**ELECTRIC LOCO DESIGN OFFICE
CHITTARANJAN LOCOMOTIVE
WORKS/CHITTARANJAN(W.B.)**

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4.	SCREEN SLEEVE I.GSB 550	HBTB416489P0035
5.	SCREEN SLEEVE A.GSC 312	HBTB416489P0118
6.	SCREEN SLEEVE A.GSC 425	HBTB416489P0125
7.	SCREEN SLEEVE A.GSC 460	HBTB416489P0126
8.	SCREEN SLEEVE A.GSC 710	HBTB416489P0129
9.	SCREEN SLEEVE A10.28/11	HZN 452936P0123
10.	CABLE SLEEVE 1.5-8	NB 485270P0067
11.	CABLE SLEEVE 2.5-8.0	NB 485270P0069
12.	CABLE SLEEVE 2.5-10	NB485270P0029
13.	CONNECTOR 6.3X0.8 CU/SN	GMN 485104P0155
14.	END SLEEVE, MAX 15 CABLES	HBTB316239P0004

Item - VI Set of Non Metallic S.D. Sleeves

1.	EXP INSUL TUBE 10/15 PA	HBTB416099P0014
2.	EXP INSUL TUBE 11/22PA	HBTB416099P0001
3.	EXP INSUL TUBE 22/35PA	HBTB416099P0017
4.	EXP INSUL TUBE 14/20PA	HBTB416099P0015
5.	EXP INSUL TUBE 8/12PA	HBTB416099P0013
6.	EXP INSUL TUBE 8/15 PA	HBTB416099P0007
7.	EXP INSUL TUBE 28/40 PA	HBTB416099P0018
8.	PLATE:TMS-CM 10-50 YEL	3EHP416008P0001
9.	RATING PLATE,TMS	3EHP416007P0001
10.	SHRINKDOWN SLV DTMS 1/8	HBT 416006P0003
11.	SHRINKDOWN SLV DTMS 1/4	HBT 416008P0003
12.	SHRINKDOWN SLV DTMS 1/2	HBT 416010P0003
13.	SHRINKDOWN SLV DTMS 3/8	HBTB416009P0003
14.	SHRINKDOWN SLV DTMS 3/16	HBTB416007P0003
15.	SD SLEEVE YEL/GREEN 12/6	HBTB416269P0003
16.	SD SLEEVE YEL/GREEN 3/1.5	HBTB416269P0001
17.	SD Sleeve YEL/Green 26/13	HBTB416269P0005
18.	SPACER, NYLON SIZE16 BLUE	HBTB415309P0001
19.	SPACER, NYLON SIZE12 YEL	HBTB415309P0002
20.	SD SLEEVE 6.4X0.28 PE 5 BK	F 415788P0106
21.	SD SLEEVE 12.7X0.28PE5 BK	F 415788P0108
22.	SD Sleeve 25.4x0.38PE5 BK	F 415788P0110
23.	SD Sleeve 25.4x0.38PE5 TR	F 415788P0610
24.	SD SLEEVE 12.7X0, 28PE5 G/YEL	F 415788P0708
25.	SD SLEEVE, SIZE 24/32	HBTB415391P0012
26.	SD SLEEVE 2.4X0.22PE5 G/YEL	F415788P0703

CLW/ES/03/0154 with
Latest Alteration.

SPECIFICATION FOR SET OF HARNESSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES	Prepared By <i>Jayveer Kumar</i>	Reviewed By <i>[Signature]</i>	ELECTRIC LOCO DESIGN OFFICE CHITTARANJAN LOCOMOTIVE WORKS/CHITTARANJAN(W.B.)				
	SSE/D/Elect.	SEE/D/CON	Specification No. CLW/ES/03/0646				
	Approved By <i>[Signature]</i> Dy.CEE/D-I		ALT	A	B	C	D

27.	SD SLV 6.4X0.28-PE5 G/YEL	F 415788P0706	
28.	SD SLV 9.5X0.28-PE5 G/YEL	F 415788P0707	
29.	SD SLEEVE, SIZE 18	HBTB415399P0011	
30.	ADHESIVE SD SLEEVE 12/3	HBTB416411P0002	
31.	ADHESIVE SD SLEEVE 16/4	HBTB416411P0003	
32.	ADHESIVE SD SLEEVE 24/6	HBTB416411P0004	
33.	ADHESIVE SD SLEEVE 32/8	HBT416411P0005	
Item - VII	Set of Cable Ties		
1.	CABLE TIE 186X4.8 PA	NBT 402938P0003	CLW/ES/03/0131 with Latest Alteration.
2.	CABLE TIE 140X3.6 PA	NBT 402938P0002	
3.	CABLE TIE 338X7.6 PA	NBT 402938P0005	
4.	CABLE TIE 360X4.8 PA	NBT 402938P0004	
Item - VIII	Set of Non Metallic Hose (Neoprene Hose)		
1.	NEOPRENE HOSE 12/16	HBT 415326P003	CLW/ES/03/094 with Latest Alteration.
2.	NEOPRENE HOSE 22/26	HBT 415326P008	
Item - IX	Set of Metallic Hose (Braided)		
1.	BRAIDED STEEL HOSE, READY	3EHP431532P0010	CLW/ES/03/0309 with Latest Alteration.
2.	BRAIDED HOSE EXP 10/17 ST	HBTB416096P0001	
Item - X	Set of Cable Gland		
1.	GLAND PG21 WITH BELLMOUTH	3EHP431532P0006	CLW/ES/03/0129 with Latest Alteration.
2.	CABLE GLAND PG21 MS NI	HZN451989P005	
Item - XI	Set of Faston Lug		
1.	"FASTON" PLUG 7.7*08.8	3EHP431498P0001	CLW/ES/03/0643with Latest Alteration.
Item - XII	Mounting Assembly		
1.	SOCKET MOUNTING PANNEL	3EHP330233R0001	CLW/ES/03/0317 with Latest Alteration.
2.	SOCKET MOUNTING SHEET	3EHP330234R0001	

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES	Prepared By <i>Jayveer Kumar</i>	Reviewed By <i>[Signature]</i>	ELECTRIC LOCO DESIGN OFFICE CHITTARANJAN LOCOMOTIVE WORKS/CHITTARANJAN(W.B.)				
	SSE/D/Elect.	SEE/D/CON	Specification No. CLW/ES/03/0646				
	Approved By <i>[Signature]</i> Dy. CEE/D-I		ALT	A	B	C	D

SCOPE OF SUPPLY OF HARNESSED CABLES FOR WAG-9H LOCOMOTIVES

SN	Loom Number	From			To			Cable Size (Sq.mm)	Cable Length (Meter)	ABB Identification	
		Location	Lug Type	End (Open/Close)	Location	Lug Type	End (Open/Close)				
1.	113	Terminal Box Earthing	CABLE LUG 95.0 / M10 CU VZN 3EHP470026P2410 (01 No)	Open	Earthing Choke	CABLE LUG 95.0 / M10 CU VZN 3EHP470026P2410 (01 No)	Close	CAB 4 GKW-AX 95 1800 V BK (3EHW470015P0950)	8	3EHP431528	
2.	123A	Filter Cubicle	CABLE LUG 150.0 / M10 CU VZN 3EHP470026P3710 (01 No)	Open	Roof 2	CABLE LUG 150.0 / M10 CU VZN 3EHP470026P3710 (01 No)	Close	CAB 9 GKW - AX 150 4000V BK (3EHW470016P1500)	7.5	3EHP431528	
3.	123B	Filter Cubicle	CABLE LUG 150.0 / M10 CU VZN 3EHP470026P3710 (01 No)	Open	Roof 2	CABLE LUG 150.0 / M10 CU VZN 3EHP470026P3710 (01 No)	Close	CAB 9 GKW - AX 150 4000V BK (3EHW470016P1500)	7.5	3EHP431528	
4.	123C	Filter Cubicle	CABLE LUG 150.0 / M10 CU VZN 3EHP470026P3710 (01 No)	Open	Roof 2	CABLE LUG 150.0 / M10 CU VZN 3EHP470026P3710 (01 No)	Close	CAB 9 GKW - AX 150 4000V BK (3EHW470016P1500)	7.5	3EHP431528	
5.	124	Filter Cubicle	CABLE LUG 120.0 / M10 CU VZN 3EHP470026P3010 (01 No)	Open	Earthing Choke	CABLE LUG 120.0 / M10 CU VZN 3EHP470026P3010 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	2	3EHP431528	
6.	125A	Filter Cubicle	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (01 No)	Close	Main TFP	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (01 No)	Open	CAB 9 GKW-AX 70 4000 V BK (3EHW470016P0700)	6.5	3EHP431528	
7.	125B	Filter Cubicle	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (01 No)	Close	Main TFP	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (01 No)	Open	CAB 9 GKW-AX 70 4000 V BK (3EHW470016P0700)	6.5	3EHP431528	
8.	125C	Filter Cubicle	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (01 No)	Close	Main TFP	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (01 No)	Open	CAB 9 GKW-AX 70 4000 V BK (3EHW470016P0700)	6.5	3EHP431528	
9.	125D	Filter Cubicle	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (01 No)	Close	Main TFP	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (01 No)	Open	CAB 9 GKW-AX 70 4000 V BK (3EHW470016P0700)	6.5	3EHP431528	
10.	126A	Filter Cubicle	CABLE LUG 70.0 / M10 CU VZN	Close	Main TFP	CABLE LUG 70.0 / M10 CU VZN	Open	CAB 9 GKW-AX 70 4000 V BK	7	3EHP431528	
SPECIFICATION FOR SET OF HARNESSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES							Specification No. CLW/ES/03/0646				
SSE/D/Elect.		AEE/ D-I		Dy.CEE/D-I		ALT	D				

			3EHP470026P1910 (01 No)			3EHP470026P1910 (01 No)		(3EHW470016P0700)		
11.	126B	Filter Cubicle	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (01 No)	Close	Main TFP	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (01 No)	Open	CAB 9 GKW-AX 70 4000 V BK (3EHW470016P0700)	7	3EHP431528
12.	130	Filter Cubicle	CABLE LUG 120.0 / M10 CU VZN 3EHP470026P3010 (01 No)	Close	Conn. To Earth to Loco	CABLE LUG 120.0 / M10 CU VZN 3EHP470026P3010 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1	3EHP431529
13.	131	Terminal Box Earthing	CABLE LUG 95.0 / M10 CU VZN 3EHP470026P2410 (01 No)	Open	Earthing Choke	CABLE LUG 95.0 / M10 CU VZN 3EHP470026P2410 (01 No)	Close	CAB 4 GKW-AX 95 1800 V BK (3EHW470015P0950)	2.5	3EHP431528
14.	132	Main Converter-1	CABLE LUG 95.0 / M10 CU VZN 3EHP470026P2410 (01 No)	Close	Conn. To Earth to Loco	CABLE LUG 95.0 / M10 CU VZN 3EHP470026P2410 (01 No)	Close	CAB 9 GKW-AX 95 4000 V BK (3EHW470016P0950)	0.8	3EHP431529
15.	141	Earthing Choke	CABLE LUG 95.0 / M10 CU VZN 3EHP470026P2410 (01 No)	Close	Terminal Box Earthing	CABLE LUG 95.0 / M10 CU VZN 3EHP470026P2410 (01 No)	Open	CAB 4 GKW-AX 95 1800 V BK (3EHW470015P0950)	11	3EHP431528
16.	142	Earthing Choke	CABLE LUG 95.0 / M10 CU VZN 3EHP470026P2410 (01 No)	Close	Terminal Box Earthing	CABLE LUG 95.0 / M10 CU VZN 3EHP470026P2410 (01 No)	Open	CAB 4 GKW-AX 95 1800 V BK (3EHW470015P0950)	14.5	3EHP431528
17.	143	Earthing Choke	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (01 No)	Close	Conn. To Earth to Loco	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (01 No)	Close	CAB 4 GKW-AX 70 1800 V BK (3EHW470016P0700)	0.5	3EHP431529
18.	144	Main Converter-2	CABLE LUG 95.0 / M10 CU VZN 3EHP470026P2410 (01 No)	Close	Conn. To Earth to Loco	CABLE LUG 95.0 / M10 CU VZN 3EHP470026P2410 (01 No)	Close	CAB 9 GKW-AX 95 4000 V BK (3EHW470016P0950)	0.8	3EHP431529
19.	161	Terminal Box Earthing	-	Close	Bogie 1	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (01 No)	Close	CAB 4 GKW-AX 70 1800 V BK (3EHW470015P0700)	1.25	3EHP431532
20.	162	Bogie 1	-	Close	Terminal Box Earthing	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (01 No)	Close	CAB 4 GKW-AX 70 1800 V BK (3EHW470015P0700)	1.25	3EHP431532
21.	163	Terminal Box Earthing	-	Close	Bogie 2	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910	Close	CAB 4 GKW-AX 70 1800 V BK (3EHW470015P0700)	1.25	3EHP431532

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

						(01 No)				
22.	164	Bogie 2	-	Close	Terminal Box Earthing	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (01 No)	Close	CAB 4 GKW-AX 70 1800 V BK (3EHW470015P0700)	1.25	3EHP431532
23.	115A (TM-1)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Bogie 1	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530
24.	115B (TM-1)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Bogie 1	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530
25.	115C (TM-1)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Bogie 1	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530
26.	116A	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	9 (9.2 for of CGL & Siemens make propulsion system)	3EHP431531
27.	116B	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	9 (9.2 for of CGL & Siemens make propulsion system)	3EHP431531
28.	116C	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	9 (9.2 for of CGL & Siemens make propulsion system)	3EHP431531
29.	116D	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	9 (9.2 for of CGL & Siemens make propulsion system)	3EHP431531

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

30.	116E	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	9 (9.2 for of CGL & Siemens make propulsion system)	3EHP431531
31.	116F	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	9 (9.2 for of CGL & Siemens make propulsion system)	3EHP431531
32.	121A (TM-2)	Bogie 1	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530
33.	121B (TM-2)	Bogie 1	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530
34.	121C (TM-2)	Bogie 1	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530
35.	122A	Bogie 1	CABLE LUG 120.0 / M10 CU VZN 3EHP470026P3010 (01 No)	Close	Conn. To Earth to Loco	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	2	3EHP431530
36.	122B	Bogie 1	CABLE LUG 120.0 / M10 CU VZN 3EHP470026P3010 (01 No)	Close	Conn. To Earth to Loco	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	2	3EHP431530
37.	122C	Bogie 1	CABLE LUG 120.0 / M10 CU VZN 3EHP470026P3010 (01 No)	Close	Conn. To Earth to Loco	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	2	3EHP431530
38.	133A (TM-2)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	7 (7.2 for of CGL & Siemens make propulsion system)	3EHP431531

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

39.	133B (TM-2)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	7 (7.2 for of CGL & Siemens make propulsion system)	3EHP431531
40.	133C (TM-2)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	7 (7.2 for of CGL & Siemens make propulsion system)	3EHP431531
41.	133D (TM-2)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	7 (7.2 for of CGL & Siemens make propulsion system)	3EHP431531
42.	133E (TM-2)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	7 (7.2 for of CGL & Siemens make propulsion system)	3EHP431531
43.	133F (TM-2)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	7 (7.2 for of CGL & Siemens make propulsion system)	3EHP431531
44.	148A (TM-3)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	5.3 (5.5 for of CGL & Siemens make propulsion system)	3EHP431531
45.	148B (TM-3)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	5.3 (5.5 for of CGL &	3EHP431531

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			(01 No)			(01 No)			Siemens make propulsion system)	
46.	148C (TM-3)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	5.3 (5.5 for of CGL & Siemens make propulsion system)	3EHP431531
47.	148D (TM-3)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	5.3 (5.5 for of CGL & Siemens make propulsion system)	3EHP431531
48.	148E (TM-3)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	5.3 (5.5 for of CGL & Siemens make propulsion system)	3EHP431531
49.	148F (TM-3)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Main Converter-1	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	5.3 (5.5 for of CGL & Siemens make propulsion system)	3EHP431531
50.	166A (TM-3)	Bogie 1	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530
51.	166B (TM-3)	Bogie 1	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530
52.	166C (TM-3)	Bogie 1	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530
53.	149A	Main Converter-2	CABLE LUG 120.0 /	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE	Open	CAB 9 GKW-AX 120	5.3	3EHP431531

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

	(TM-4)		M12 CU VZN 3EHP470026P3012 (01 No)			120 / M10 CU VZN HBTB416074P0010 (01 No)		4000 V BK (3EHW470016P1200)	5.3 (5.5 for of CGL & Siemens make propulsion system)	
54.	149B (TM-4)	Main Converter-2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	5.3 (5.5 for of CGL & Siemens make propulsion system)	3EHP431531
55.	149C (TM-4)	Main Converter-2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	5.3 (5.5 for of CGL & Siemens make propulsion system)	3EHP431531
56.	149D (TM-4)	Main Converter-2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	5.3 (5.5 for of CGL & Siemens make propulsion system)	3EHP431531
57.	149E (TM-4)	Main Converter-2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	5.3 (5.5 for of CGL & Siemens make propulsion system)	3EHP431531
58.	149F (TM-4)	Main Converter-2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	5.3 (5.5 for of CGL & Siemens make propulsion system)	3EHP431531
59.	167A (TM-4)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012	Close	Bogie 2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			(01 No)			(01 No)				
60.	167B (TM-4)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Bogie 2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530
61.	167C (TM-4)	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Bogie 2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530
62.	145A (TM-5)	Main Converter-2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	7 (7.2 for of CGL & Siemens make propulsion system)	3EHP431531
63.	145B (TM-5)	Main Converter-2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	7 (7.2 for of CGL & Siemens make propulsion system)	3EHP431531
64.	145C (TM-5)	Main Converter-2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	7 (7.2 for of CGL & Siemens make propulsion system)	3EHP431531
65.	145D (TM-5)	Main Converter-2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	7 (7.2 for of CGL & Siemens make propulsion system)	3EHP431531
66.	145E (TM-5)	Main Converter-2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	7 (7.2 for of CGL & Siemens make propulsion system)	3EHP431531
67.	145F	Main Converter-2	CABLE LUG 120.0 /	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE	Open	CAB 9 GKW-AX 120	7	3EHP431531

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

	(TM-5)		M12 CU VZN 3EHP470026P3012 (01 No)			120 / M10 CU VZN HBTB416074P0010 (01 No)		4000 V BK (3EHW470016P1200)	7 (7.2 for of CGL & Siemens make propulsion system)	
68.	146A	Bogie 2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530
69.	146B	Bogie 2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530
70.	146C	Bogie 2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530
71.	147A (TM-6)	Main Converter-2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	9 (9.2 for of CGL & Siemens make propulsion system)	3EHP431531
72.	147B (TM-6)	Main Converter-2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	9 (9.2 for of CGL & Siemens make propulsion system)	3EHP431531
73.	147C (TM-6)	Main Converter-2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	9 (9.2 for of CGL & Siemens make propulsion system)	3EHP431531
74.	147D (TM-6)	Main Converter-2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	9 (9.2 for of CGL & Siemens make propulsion system)	3EHP431531

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

									propulsion system)	
75.	147E (TM-6)	Main Converter-2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	9 (9.2 for of CGL & Siemens make propulsion system)	3EHP431531
76.	147F (TM-6)	Main Converter-2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 2-HOLE 120 / M10 CU VZN HBTB416074P0010 (01 No)	Open	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	9 (9.2 for of CGL & Siemens make propulsion system)	3EHP431531
77.	151A	Bogie 2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530
78.	151B	Bogie 2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530
79.	151C	Bogie 2	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	Disconnect of Motor Cable	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	1.31	3EHP431530
80.	152A	Bogie 2	CABLE LUG 120.0 / M10 CU VZN 3EHP470026P3010 (01 No)	Close	Conn. To Earth to Loco	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	2	3EHP431530
81.	152B	Bogie 2	CABLE LUG 120.0 / M10 CU VZN 3EHP470026P3010 (01 No)	Close	Conn. To Earth to Loco	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	2	3EHP431530
82.	152C	Bogie 2	CABLE LUG 120.0 / M10 CU VZN 3EHP470026P3010 (01 No)	Close	Conn. To Earth to Loco	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (01 No)	Close	CAB 9 GKW-AX 120 4000 V BK (3EHW470016P1200)	2	3EHP431530

AUXILLIARY CABLES

SN	Loom Number	From			To			Cable Size (Sq.mm)	No of Cable x Cable Length (Meter)	ABB Identification
		Location	Connector Type & Lug Type	End (Open/ Close)	Location	Connector Type & Lug Type	End (Open/ Close)			

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I		Dy.CEE/D-I			ALT	D			

1.	217	Cubicle Driver Cab-1	WAGO	Open	Aux. Converter-1	SET OF COMPLETE PLUG / PLUG P7/24 SOCKET 'N' INDOOR HBTB315110R0011 (01 No) CONTACT SOCKET 12/2.5 HBT415298P0008 (07 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	7x12.4	3EHP431533
2.	220	Connector to TM Blower	CABLE LUG 16.0/M8 3EHP470026P0508 (03 Nos)	Close	HB-1	CABLE LUG 16.0/M8 3EHP470026P0508 (03 Nos)	Open	CAB 4 GKW-AX 16 1800 V BK (3EHW470015P0160)	3x6.8 1x0.5	3EHP431533
3.	221	HB-1	SET OF COMPLETE PLUG / PLUG 4P/40 SOCKET 'N' INDOOR HBTB315176R0114 (01 No)	Open	Aux. Converter-1	SET OF COMPLETE PLUG / PLUG 4P/40 SOCKET 'N' INDOOR HBTB315176R0114 (01 No)	Close	CAB 4 GKW-AX 50 1800 V BK (3EHW470015P0500)	3x5.5	3EHP431533
4.	223	HB-1	PLUG 4 P BU "N" IR CA / CONNECTOR 3EHW470084R0001 (01 No) CONTACT SOCKET SIZE 8 / 2.5 MM2 3EHW470321P2025 (04 Nos)	Close	Scavenge Blower	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (03 Nos)	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	3x6	3EHP431533
5.	224	HB-1	CABLE LUG 10.0/M8 3EHP470026P0208 (03 Nos)	Open	Main Compressor- 1	CABLE LUG 10.0/M8 3EHP470026P0208 (03 Nos)	Open	CAB 4 GKW-AX 10 1800 V BK (3EHW470015P0100)	3x11.5	3EHP431533
6.	225	HB-1	PLUG 4 P BU "N" IR CA / CONNECTOR 3EHW470084R0001 (01 No) CONTACT SOCKET SIZE 8 / 2.5 MM2 3EHW470321P2025 (04 Nos)	Close	Scavenge Blower to MR Blower	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (03 Nos)	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	3x6	3EHP431534
7.	226	HB-1	PLUG 4 P BU "N" IR CA / CONNECTOR 3EHW470084R0001 (01 No) CONTACT SOCKET SIZE 8 / 2.5 MM2 3EHW470321P2025	Close	Connector to MR Blower	2.5/M6 CU VZN 3EHP470026P0016 (04 Nos)	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	3x7 1x1.2	3EHP431533

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			(04 Nos)							
8.	227	HB-1	PLUG 4 P BU "N" IR CA / CONNECTOR 3EHW470084R0001 (01 No) CONTACT SOCKET SIZE 8 / 6 MM2 3EHW470321P2060 (04 Nos)	Close	Oil Pump Transformer	CA-LUG 4.0-6.0/M6 CU VZN 3EHP470026P0106 (03 Nos)	Close	CAB 4 GKW-AX 6 1800 V BK (3EHW470015P0060)	3x14.5	3EHP431533
9.	228	HB-1	CABLE LUG 16.0/M8 3EHP470026P0508 (03 Nos) CABLE LUG 16.0/M10 CU VZN (01 No)	Close	Connector to Oil cooling unit-1	CABLE LUG 16.0/M8 3EHP470026P0508 (03 Nos) CABLE LUG 16.0/M10 CU VZN (01 No)	Open	CAB 4 GKW-AX 16 1800 V BK (3EHW470015P0160)	3x15.5 1X0.8	3EHP431533
10.	229	NOT IN USE								
11.	230	HB-1	CA-LUG 4.0-6.0/M8 CU VZN 3EHP470026P0108 (03 Nos)	Open	Oil Pump Converter-1	CA-LUG 4.0-6.0/M6 CU VZN 3EHP470026P0106 (03 Nos)	Open	CAB 4 GKW-AX 6 1800 V BK (3EHW470015P0060)	3x14.5	3EHP431533
12.	231	HB-1	SET OF COMPLETE PLUG / PLUG 4P/40 SOCKET 'N' INDOOR HBTB315176R0112 (01 No)	Open	HB-2	SET OF COMPLETE PLUG / PLUG 4P/40 SOCKET 'N' INDOOR HBTB315176R0112 (01 No)	Close	CAB 4 GKW-AX 25 1800 V BK(3EHW470015P0250)	3x17.5	3EHP431533
13.	232	HB-1	SET OF COMPLETE PLUG / PLUG P7/24 SOCKET 'N' INDOOR HBTB315110R0011 (01 No) CONTACT SOCKET 12/6.0 HBT415298P0012 (07 Nos)	Close	HB-2	SET OF COMPLETE PLUG / PLUG P7/24 SOCKET 'N' INDOOR HBTB315110R0011 (01 No) CONTACT SOCKET 12/6.0 HBT415298P0012 (07 Nos)	Close	CAB 4 GKW-AX 6 1800 V BK (3EHW470015P0060)	7x18.5	3EHP431533
14.	233	HB-1	SET OF COMPLETE PLUG / PLUG 4P/40 SOCKET 'N' INDOOR HBTB315176R0112	Open	HB-2	SET OF COMPLETE PLUG / PLUG 4P/40 SOCKET 'N' INDOOR HBTB315176R0112 (01 No)	Close	CAB 4 GKW-AX 25 1800 V BK(3EHW470015P0250)	3x17.5	3EHP431533

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			(01 No)							
15.	234	HB-1	CABLE LUG 35.0/M8 CU VZN 3EHP470026P1008 (01 No)	Close	Conn. To Earth to Loco	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (01 No)	Close	CAB 4 GKW-A X 35 1800 V BK(3EHW470015P0350)	1x0.4	3EHP431536
16.	235	BUR - 1	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (04 Nos)	Close	Main TFP	CABLE LUG 70.0/ M12 CU VZN 3EHP470026P1912 (04 Nos)	Open	CAB 4 GKW-AX 70 1800 V BK (3EHW470015P0700)	4x4.8	3EHP431534
17.	236	BUR - 1	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (01 No)	Close	Conn. To Earth to Loco	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (01 No)	Close	CAB 4 GKW-A X 35 1800 V BK(3EHW470015P0350)	1x1	3EHP431536
18.	237	BUR - 1	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (02Nos)	Close	BUR - 2	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (02Nos)	Open	CAB 4 GKW-AX 70 1800 V BK (3EHW470015P0700)	1x12 1x12	3EHP431534
19.	241	Oil Pump Converter-2	CA-LUG 4.0-6.0/M6 CU VZN 3EHP470026P0106 (03 Nos)	Open	HB-2	CA-LUG 4.0-6.0/M8 CU VZN 3EHP470026P0108 (03 Nos)	Open	CAB 4 GKW-AX 6 1800 V BK (3EHW470015P0060)	3x14.5	3EHP431533
20.	242	Connector to Oil cooling unit-2	CABLE LUG 16.0/M8 3EHP470026P0508 (03Nos) CABLE LUG 16.0/M10 CU VZN 3EHP470026P0510 (01 No)	Close	HB-2	CABLE LUG 16.0/M8 3EHP470026P0508 (04 Nos)	Open	CAB 4 GKW-AX 16 1800 V BK (3EHW470015P0160)	3x15.5 1X0.8	3EHP431533
21.	244	Oil Pump Transformer	CA-LUG 4.0-6.0/M6 CU VZN 3EHP470026P0106 (03 Nos)	Open	HB-2	PLUG 4 P BU "N" IR CA / CONNECTOR 3EHW470084R0001 (01 No) CONTACT SOCKET SIZE 8 / 6 MM2 3EHW470321P2060 (04 Nos)	Close	CAB 4 GKW-AX 6 1800 V BK (3EHW470015P0060)	3x14.5	3EHP431533
22.	245	Main TFP	CABLE LUG 70.0/ M12 CU VZN 3EHP470026P1912 (08Nos)	Open	BUR - 2	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (08Nos)	Close	CAB 4 GKW-AX 70 1800 V BK (3EHW470015P0700)	8x5.8	3EHP431534
23.	246	Main TFP	CABLE LUG 70.0/ M12 CU VZN	Close	BUR - 2	CABLE LUG 70.0 / M10 CU VZN	Open	CAB 4 GKW-AX 70 1800 V BK	6x8	3EHP431534

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			3EHP470026P1912 (06 Nos)			3EHP470026P1910 (06 Nos)		(3EHW470015P0700)		
24.	247	Not in use								
25.	248									
26.	249	Connector to MR Blower	PLUG 4 P BU "N" IR CA / CONNECTOR 3EHW470084R0001 (01No) CONTACT SOCKET SIZE 8 / 2.5 MM2 3EHW470321P2025 (04 Nos)	Close	HB-2	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (04Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	3x7.5 1x1.2	3EHP431533
27.	251	Main Compressor- 2	CABLE LUG 10.0/M8 3EHP470026P0208 (03Nos)	Open	HB-2	CABLE LUG 10.0/M8 3EHP470026P0208 (03 Nos)	Open	CAB 4 GKW-AX 10 1800 V BK (3EHW470015P0100)	3x11.5	3EHP431533
28.	252	Scavenge Blower to MR Blower-2	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (02Nos)	Open	HB-2	PLUG 4 P BU "N" IR CA / CONNECTOR 3EHW470084R0001 (01No) CONTACT SOCKET SIZE 8 / 2.5 MM2 3EHW470321P2025 (04Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	3x6	3EHP431533
29.	253	Scavenge Blower to MR Blower	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01 No)	Close	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01 No)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x0.5	3EHP431536
30.	254	Scavenge Blower	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (03 Nos)	Open	HB-2	PLUG 4 P BU "N" IR CA / CONNECTOR 3EHW470084R0001 (01No) CONTACT SOCKET SIZE 8 / 2.5 MM2 3EHW470321P2025 (04 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	3x7	3EHP431533
31.	255	Scavenge Blower	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Close	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x0.5	3EHP431536
32.	256	BUR - 2	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (04 Nos)	Open	HB-2	CABLE LUG 70.0 / M10 CU VZN 3EHP470026P1910 (04 Nos)	Close	CAB 4 GKW-AX 70 1800 V BK (3EHW470015P0700)	4x5.8	3EHP431534
33.	257	BUR - 2	SET OF COMPLETE	Open	HB-2	SET OF COMPLETE	Close	CAB 4 GKW-AX 50	3x6	3EHP431533

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			PLUG / PLUG 4P/40 SOCKET 'N' INDOOR HBTB315176R0114 (01No)			PLUG / PLUG 4P/40 SOCKET 'N' INDOOR HBTB315176R0114 (01 No)		1800 V BK (3EHW470015P0500)		
34.	258	BUR - 2	SET OF COMPLETE PLUG / PLUG 4P/40 SOCKET 'N' INDOOR HBTB315176R0114 (01No)	Open	HB-2	SET OF COMPLETE PLUG / PLUG 4P/40 SOCKET 'N' INDOOR HBTB315176R0114 (01No)	Close	CAB 4 GKW-AX 50 1800 V BK (3EHW470015P0500)	3x6	3EHP431533
35.	259	BUR - 2	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (01No)	Close	Conn. To Earth to Loco	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (01 No)	Close	CAB 4 GKW-A X 35 1800 V BK(3EHW470015P0350)	1x1	3EHP431536
36.	260	HB-2	CABLE LUG 16.0/M10 CU VZN 3EHP470026P0510 (01No) CABLE LUG 16.0/M8 3EHP470026P0508 (03 Nos)	Close	Connector to TM Blower	CABLE LUG 16.0/M8 3EHP470026P0508 (03 Nos)	Open	CAB 4 GKW-AX 16 1800 V BK (3EHW470015P0160)	3X6.8 1x0.5	3EHP431533
37.	261	HB-2	SET OF COMPLETE PLUG / PLUG P7/24 SOCKET 'N' INDOOR HBTB315110R0011 (01 No) CONTACT PIN 12/1.5 HBT415298P0005 (07 Nos)	Close	Cubicle Driver Cab-2	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	7x12	3EHP431533
38.	262	HB-2	CABLE LUG 35.0/M8 CU VZN 3EHP470026P1008 (01No)	Close	Conn. To Earth to Loco	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (01No)	Close	CAB 4 GKW-A X 35 1800 V BK(3EHW470015P0350)	1x0.4	3EHP431536
39.	273	Main Compressor- 1	CABLE LUG 10.0/M8 3EHP470026P0208 (01No)	Open	Conn. To Earth to Loco	CA-LUG 10.0/M10 CU VZN 3EHP470026P0210 (01No)	Close	CAB 4 GKW-AX 10 1800 V BK (3EHW470015P0100)	1x4	3EHP431536
40.	274	Oil Pump Transformer	CA-LUG 4.0-6.0/M6 CU VZN 3EHP470026P0106 (01No)	Close	Conn. To Earth to Loco	CA-LUG 4.0-6.0/M6 CU VZN 3EHP470026P0106 (01No)	Open	CAB 4 GKW-AX 6 1800 V BK (3EHW470015P0060)	1x2.75	3EHP431536
41.	275	Oil Pump Converter	CA-LUG 4.0-6.0/M6 CU VZN 3EHP470026P0106	Close	Conn. To Earth to Loco	CA-LUG 4.0-6.0/M6 CU VZN 3EHP470026P0106	Open	CAB 4 GKW-AX 6 1800 V BK (3EHW470015P0060)	1x2.7	3EHP431536

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			(01No)			(01No)				
42.	276	Oil Pump Converter	CA-LUG 4.0-6.0/M6 CU VZN 3EHP470026P0106 (01No)	Close	Conn. To Earth to Loco	CA-LUG 4.0-6.0/M6 CU VZN 3EHP470026P0106 (01No)	Open	CAB 4 GKW-AX 6 1800 V BK (3EHW470015P0060)	1x2.7	3EHP431536
43.	277	Oil Pump Transformer	CA-LUG 4.0-6.0/M6 CU VZN 3EHP470026P0106 (01No)	Close	Conn. To Earth to Loco	CA-LUG 4.0-6.0/M6 CU VZN 3EHP470026P0106 (01No)	Open	CAB 4 GKW-AX 6 1800 V BK (3EHW470015P0060)	1x2.75	3EHP431536
44.	278	Main Compressor- 2	CABLE LUG 10.0/M8 3EHP470026P0208 (01No)	Open	Conn. To Earth to Loco	CA-LUG 10.0/M10 CU VZN 3EHP470026P0210 (01No)	Close	CAB 4 GKW-AX 10 1800 V BK (3EHW470015P0100)	1x4	3EHP431536
45.	211	Crew Fan	CABLE LUG 1.5-2.57 M5 3EHP470026P0015 (02 Nos)	Close	Cubicle Driver Cab-1	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	2x7.2	3EHP431535
46.	212	Crew Fan	CABLE LUG 1.5-2.57 M5 3EHP470026P0015 (01No)	Close	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x2.5	3EHP431536
47.	213	Cubicle Driver Cab-1	WAGO	Open	Rotary Switch Cab Heater	CABLE SLEEVE 2.5- 10 NB485270P0029 (04 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	4x6	3EHP431535
48.	214	Cubicle Driver Cab-1	CABLE LUG 8-2.5 KN6762210P0208 (02Nos) CABLE TERMINAL TYPE 18B,2.5 SQ.MM. (02 Nos)	Close	Cab Heater/ Ventilation	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	4X6	3EHP431533
49.	216	Cubicle Driver Cab-1	WAGO	Open	Crew Fan	CABLE LUG 1.5-2.57 M5 3EHP470026P0015 (02 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	2x7.2	3EHP431535
50.	218	Cubicle Driver Cab-1	CABLE LUG 10.0/M8 3EHP470026P0208 (01 No)	Close	Conn. To Earth to Loco	CA-LUG 10.0/M10 CU VZN 3EHP470026P0210 (01 No)	Close	CAB 4 GKW-AX 10 1800 V BK (3EHW470015P0100)	1x0.4	3EHP431536
51.	219	Crew Fan	CABLE LUG 1.5-2.57 M5 3EHP470026P0015 (01No)	Close	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x2.5	3EHP431536
52.	238	Scavenge Blower	CA-LUG 1.5-2.5/M6	Close	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M6	Close	CAB 4 GKW-AX 2.5	1x0.5	3EHP431536

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			CU VZN 3EHP470026P0016 (01No)			CU VZN 3EHP470026P0016 (01No)		1800 V BK (3EHW470015P0025)		
53.	239	Scavenge Blower	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Close	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x0.5	3EHP431536
54.	279	Cab Heater/ Ventilation	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Close	Conn. To Earth to Loco	CABLE LUG 8-2.5 KN6762210P0208 (01No)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x0.8	3EHP431536
55.	263	Cab Heater/ Ventilation	WAGO	Open	Cubicle Driver Cab-2	CABLE LUG 8-2.5 KN6762210P0208 (02 Nos) CABLE TERMINAL TYPE 18B,2.5 SQ.MM. (02 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	4x6	3EHP431533
56.	266	Crew Fan	CABLE LUG 1.5-2.57 M5 3EHP470026P0015 (02 Nos)	Close	Cubicle Driver Cab-2	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	2x7.2	3EHP431535
57.	267	Crew Fan	CABLE LUG 1.5-2.57 M5 3EHP470026P0015 (01 No)	Close	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01 No)	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x2.5	3EHP431536
58.	268	Rotary Switch Cab Heater	CABLE SLEEVE 2.5- 10 NB485270P0029 (04 Nos)	Close	Cubicle Driver Cab-2	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	4x6	3EHP431535
59.	269	Cubicle Driver Cab-2	WAGO	Open	Crew Fan	CABLE LUG 1.5-2.57 M5 3EHP470026P0015 (02 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	2x7.2	3EHP431535
60.	270	Cubicle Driver Cab-2	CABLE LUG 10.0/M8 3EHP470026P0208 (01 No)	Close	Conn. To Earth to Loco	CA-LUG 10.0/M10 CU VZN 3EHP470026P0210 (01 No)	Close	CAB 4 GKW-AX 10 1800 V BK (3EHW470015P0100)	1x0.4	3EHP431536
61.	271	Crew Fan	CABLE LUG 1.5-2.57 M5 3EHP470026P0015 (01 No)	Close	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01 No)	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x2.5	3EHP431536
62.	280	Cab Heater/ Ventilation	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016	Close	Conn. To Earth to Loco	CABLE LUG 8-2.5 KN6762210P0208 (01 No)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x1.1	3EHP431536

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			(01 No)							
63.	MOD-1	HB-1	CABLE LUG 10.0/M8 3EHP470026P0208 (03 Nos)	Open	HB-2	CABLE LUG 10.0/M8 3EHP470026P0208 (03 Nos)	Open	CAB 4 GKW-AX 10 1800 V BK (3EHW470015P0100)	3x19.3	-
64.	MOD-2	HB-1	CABLE LUG 10.0/M8 3EHP470026P0208 (03 Nos)	Open	HB-2	CABLE LUG 10.0/M8 3EHP470026P0208 (03 Nos)	Open	CAB 4 GKW-AX 10 1800 V BK (3EHW470015P0100)	3x19.3	-
65.	MOD-3	HB-1	CABLE LUG 10.0/M8 3EHP470026P0208 (03 Nos)	Open	HB-2	CABLE LUG 10.0/M8 3EHP470026P0208 (03 Nos)	Open	CAB 4 GKW-AX 10 1800 V BK (3EHW470015P0100)	3x19.3	-
66.	MOD-4	NOT IN USE								
67.	AC-1	HB-2	PLUG 4 P BU "N" IR CA / CONNECTOR 3EHW470084R0001 (01 No) CONTACT SOCKET SIZE 8 / 2.5 MM2 3EHW470321P2025 (04 Nos)	Close	AC-1	-	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	3x22.1	-
68.	AC-2	HB-2	PLUG 4 P BU "N" IR CA / CONNECTOR 3EHW470084R0001 (01 No) CONTACT SOCKET SIZE 8 / 2.5 MM2 3EHW470321P2025 (04 Nos)	Close	AC-1	-	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	3x11.1	-
69.	1103	Baby TFP in HB-1		Open	HB-2 High Lamp Sheet		Open	CAB 4 GKW-AX 6 1800 V BK 3EHW470015P0060	1x17.5	
70.	1117	Baby TFP in HB-1		Open	HB-2 High Lamp Sheet		Open	CAB 4 GKW-AX 6 1800 V BK 3EHW470015P0060	1x17.5	
CONTROL CABLES										
SN	Loom Number	From			To			Cable Size (Sq.mm)	No of Cable x Cable Length (Meter)	ABB Identification
		Location	Connector Type & Lug Type	End (Open/ Close)	Location	Connector Type & Lug Type	End (Open/ Close)			
1.	311	UIC Socket	-	Open	SB-1	SET OF COMPLETE PLUG / PLUG 13P/32 SKT 'N' INDOOR	Close	CAB 3 x 4 x 1.0 SCR(3EHP470001P1012)	1x10.45	3EHP431543
SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES							Specification No. CLW/ES/03/0646			
SSE/D/Elect.		AEE/ D-I		Dy.CEE/D-I		ALT	D			

						HBTB315111R0011 (01No) CONTACT SOCKET 12/1.0 HBT415298P0004 (13Nos)				
2.	312	Panel A1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120 (02Nos)	Close	SB-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120 (02Nos)	Close	CAB 2 x 0.5 SCR 3EHP470000P0502	1x13	3EHP431544
3.	313	Panel A1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120 (02Nos)	Close	SB-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120 (02Nos)	Close	CAB 2 x 0.5 SCR 3EHP470000P0502	1x13	3EHP431544
4.	314	Cubicle Driver Cab-1	SET OF COMPLETE PLUG / PLUG ASSEMBLY (KIT.) HBT315076R0011 (01No) CONTACT SOCKET 12/1.0 HBT415298P0004 (05Nos)	Close	SB-1	SET OF COMPLETE PLUG / PLUG ASSEMBLY (KIT.) HBT315076R0011 (01No) CONTACT SOCKET 12/1.0 HBT415298P0004 (05Nos)	Close	CAB 2 x 1.0 SCR 3EHP470001P1002	1x11	3EHP431539
5.	315	Cubicle Driver Cab-1	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (35Nos)	Close	SB-1	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (35Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	35x11	3EHP431538
6.	316	Cubicle Driver Cab-1	ST.61P/40 BU"N"IR KABELH./ PLUG 61P/40 SKT 'N' INDOOR	Close	SB-1	ST.61P/40 BU"N"IR KABELH./ PLUG 61P/40 SKT 'N' INDOOR	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	50x11 1x11.4	3EHP431538

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			HBTB315157R0011 (01No) CONTACT SOCKET 16/2/AWG14 HBT415299P0010 (56Nos) CONTACT SOCKET 16/1.0 HBT415299P0006 (05Nos)			HBTB315157R0011 (01No) CONTACT SOCKET 16/2/AWG14 HBT415299P0010 (56Nos) CONTACT SOCKET 16/1.0 HBT415299P0006 (05Nos)		CAB 2 x 2 x 1.0 SCR 3EHP470001P1004		
7.	318	Panel A/1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 (04Nos)	Close	SB-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONT. PIN 0.24- 0.62/24-20 *1.8076.005/01 (05Nos)	Close	CAB 2 x 2 x 0.5 SCR 3EHP470000P0504 CAB - 3GKW- 0.5 FLEX RED HZN452926P0201	1x13.15 1X0.1 (loom No. 318 is only for CGL Propulsion System)	3EHP431544
8.	320	SB-1	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (35Nos)	Close	HB-1	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (35Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	35x4.3	3EHP431538
9.	321	SB-1	SET OF COMPLETE PLUG / PLUG 13P/32 SKT 'N' INDOOR HBTB315111R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (13Nos)	Close	Roof-1	SET OF COMPLETE PLUG / PLUG 13P/32 SKT 'N' INDOOR HBTB315111R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (13Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	13x6.2	3EHP431538
10.	322	SB-1	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No)	Close	FB	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	23x12.5	3EHP431538

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			CONTACT SOCKET 12/2.5 HBT415298P0008 (35Nos)			CONTACT SOCKET 12/2.5 HBT415298P0008 (35Nos)				
11.	323	SB-1	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (35Nos)	Close	SR-1	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (35Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	35x8.2	3EHP431538
12.	324	SB-1	SET OF COMPLETE PLUG / PLUG ASSEMBLY (KIT.) HBT315076R0011 (01No) CONTACT SOCKET 12/1.0 HBT415298P0004 (05Nos)	Close	SR-1	SET OF COMPLETE PLUG / PLUG ASSEMBLY (KIT.) HBT315076R0011 (01No) CONTACT SOCKET 12/1.0 HBT415298P0004 (05Nos)	Close	CAB 2 x 1.0 SCR 3EHP470001P1002	1x7.3	3EHP431539
13.	325	SB-1	SET OF COMPLETE PLUG / PLUG ASSEMBLY (KIT.) HBT315076R0011 (01No) CONTACT SOCKET 12/1.0 HBT415298P0004 (05Nos)	Close	Roof-2	SET OF COMPLETE PLUG / PLUG ASSEMBLY (KIT.) HBT315076R0011 (01No) CONTACT SOCKET 12/1.0 HBT415298P0004 (05Nos)	Close	CAB 2 x 1.0 SCR 3EHP470001P1002	1x6.5	3EHP431539
14.	327	SB-1	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (35Nos)	Close	Roof-2	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (35Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	25x6.9 (30x6.9 for Siemens Propulsion)	3EHP431538
15.	328	SB-1	SET OF COMPLETE PLUG / PLUG ASSEMBLY (KIT.)	Close	SR-2	SET OF COMPLETE PLUG / PLUG ASSEMBLY (KIT.)	Close	CAB 2 x 1.0 SCR 3EHP470001P1002	1x16.5	3EHP431539

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			HBT315076R0011 (01No) CONTACT SOCKET 12/1.0 HBT415298P0004 (05Nos)			HBT315076R0011 (01No) CONTACT SOCKET 12/1.0 HBT415298P0004 (05Nos)				
16.	329	SB-1	SET OF COMPLETE PLUG / PLUG 13P/32 SKT 'N' INDOOR HBTB315111R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (13Nos)	Close	Roof-3	SET OF COMPLETE PLUG / PLUG 13P/32 SKT 'N' INDOOR HBTB315111R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (13Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	13x10.7	3EHP431538
17.	330	SB-1	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (35Nos)	Close	SB-2	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (35Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	35x20.5	3EHP431538
18.	331	SB-1	ST.61P/40 BU"N"IR KABELH./ PLUG 61P/40 SKT 'N' INDOOR HBTB315157R0011 (01No) CONTACT SOCKET 16/2/AWG14 HBT415299P0010 (61Nos)	Close	SB-2	ST.61P/40 BU"N"IR KABELH./ PLUG 61P/40 SKT 'N' INDOOR HBTB315157R0011 (01No) CONTACT SOCKET 16/2/AWG14 HBT415299P0010 (61Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	53x20.5	3EHP431538
19.	332	SB-1	SET OF COMPLETE PLUG / PLUG ASSEMBLY (KIT.) HBT315076R0011 (01No) CONTACT SOCKET 12/1.0 HBT415298P0004 (05Nos)	Close	Cubicle Driver Cab-2	SET OF COMPLETE PLUG / PLUG ASSEMBLY (KIT.) HBT315076R0011 (01No) CONTACT SOCKET 12/1.0 HBT415298P0004 (05Nos)	Close	CAB 2 x 1.0 SCR 3EHP470001P1002	1x20	3EHP431539

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

20.	333	SB-1	SET OF COMPLETE PLUG / PLUG 13P/32 SKT 'N' INDOOR HBTB315111R0011 (01No) CONTACT SOCKET 12/1.0 HBT415298P0004 (13Nos)	Close	UIC Socket	-	Open	CAB 3 x 4 x 1.0 SCR 3EHP470001P1012	1x19.8	3EHP431543
21.	334	HB-1	SET OF COMPLETE PLUG / PLUG 13P/32 SKT 'N' INDOOR HBTB315111R0011 (01No) CONTACT SOCKET 12/2.5 (13Nos)	Close	BUR-1	SET OF COMPLETE PLUG / PLUG 13P/32 SKT 'N' INDOOR HBTB315111R0011 (01No) CONTACT SOCKET 12/2.5 (13Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	13x5	3EHP431538
22.	335	FB	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120 (09Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Close	SR-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120(09Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Close	CAB 9 x 0.5 SCR 3EHP470000P0509 CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x16.6 2x0.25	3EHP431540
23.	337	FB	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120 (09Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Close	SR-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120(09Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Close	CAB 9 x 0.5 SCR 3EHP470000P0509 CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x17.1 2x0.5	3EHP431540
24.	338	FB	ST. 9P D-SUB GR1 / CONNECTOR	Close	SR-2	ST. 9P D-SUB GR1 / CONNECTOR	Close	CAB 9 x 0.5 SCR 3EHP470000P0509	1x6.6	3EHP431540

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120 (09Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)			HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120((09Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)		CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	2x0.5	
25.	340	FB	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120 (09Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Close	SR-2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120((09Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Close	CAB 9 x 0.5 SCR 3EHP470000P0509 CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x7.1 2x0.5	3EHP431540
26.	341	SR-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120 (04Nos)	Close	SR-2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120((04Nos)	Close	CAB 2 x 2 x 0.5 SCR 3EHP470000P0504	1x21.2	3EHP431541
27.	342	SR-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120 (05Nos)	Close	HB-2	PLUG 9 POLES HETT401293P0001 (01No) PROTECTIVE CAP / CABLE CLIP HETT401293P0032 (01No) CONNECTOR SKT 0.23, 0.5 SE408197P0013 (06Nos)	Close	CAB 5 x 0.5 SCR 3EHP470000P0505	1x18.5	3EHP431541
28.	343	SR-2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009	Close	HB-2	PLUG 9 POLES HETT401293P0001 (01No)	Close	CAB 5 x 0.5 SCR 3EHP470000P0505	1x11.5	3EHP431541

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			(01No) CONTACT SOCKET AWG24-20 HESG455638P0120 (05Nos)			PROTECTIVE CAP / CABLE CLIP HETT401293P0032 (01No) CONNECTOR SKT 0.23, 0.5 SE408197P0013 (06Nos)				
29.	344	SR-2	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/2.5 (35Nos)	Close	SB-2	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/2.5 (35Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	35x8.5	3EHP431538
30.	345	Pneumatic Panel	PLUG, SIZE 22/19POLE 3EHP431609R0001 (01No) CONTACT SOCKET 16/0.5 HBT415299P0002 (7Nos) CONTACT SOCKET 16/1.0 HBT415299P0006 (12Nos)	Close	SB-2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120 (5Nos)	Close	CAB 2 x 2 x 0.5 SCR 3EHP470000P0504	1x13.5	3EHP431538
				Close	CONNECTOR Brake Handle Out	-	Open	CAB 2 x 2 x 1.0 SCR 3EHP470001P1004	1x20	
				Close	CONNECTOR Brake Handle Out	-	Open	CAB 2 x 2 x 1.0 SCR 3EHP470001P1004	1x11.5	
31.	346	Pneumatic Panel	PLUG, SIZE 28/37POLE 3EHP431609R0002 (01No) CONTACT SOCKET 16/2/AWG14 HBT415299P0010 (37Nos)	Close	SB-2	ST.61P/40 BU"N"IR KABELH./ PLUG 61P/40 SKT 'N' INDOOR HBTB315157R0011 (01No) CONTACT SOCKET 16/2/AWG14 HBT415299P0010 (61Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	37x11.4	3EHP431538
32.	347	Pneumatic Panel	PLUG, SIZE 22/19POLE 3EHP431609R0001 (01No)	Close	SB-2	SET OF COMPLETE PLUG / PLUG 22P / 36 SKT ' N' INDOOR HBTB315112R0011	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	19x11.8	3EHP431538

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			CONTACT SOCKET 16/2/AWG14 HBT415299P0010 (19 Nos)			(01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (22Nos)				
33.	351	Panel C/1	PLUG 9P D- SUB,SIZE-1	Close	SB-1	PLUG 9P D- SUB,SIZE-1	Close	CAB 9 x 0.5 SCR 3EHP470000P0509	1x13	3EHP431544
This Loom is supplied with Set of Connectors (CABLE CONNECTION / HP-9P-SG-SG-17S-21-13.0 M,ABB ID-HBTB315385R0172										
34.	348	BUR-2	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/1.0 HBT415298P0004 (10Nos) CONTACT SOCKET 12/2.5 HBT415298P0008 (25Nos)	Close	SB-2	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/1.0 HBT415298P0004 (10Nos) CONTACT SOCKET 12/2.5 HBT415298P0008 (25Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025) CAB 2 x 1.0 SCR 3EHP470001P1002 CAB - 3GKW- 0.5 FLEX RED HZN452926P0201	20x5.1 2x5.1 2x5.1	3EHP431538
		BUR-2		Close	Insulator Battery Box-1	0.5 –1.0/M4 (02 Nos)	Open	CAB 2 x 1.0 SCR 3EHP470001P1002	2x16.5	
		BUR-2		Close	Insulator Battery Box-2	0.5 –1.0/M4 (02 Nos)	Open	CAB 2 x 1.0 SCR 3EHP470001P1002	2x10.5	
35.	349	HB-2	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (35Nos)	Close	SB-2	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (35Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	27x4	3EHP431538
36.	352	SB-2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120	Close	Panel C/2	PLUG , 9P D-SUB , S1 . PINS HBTB316240R0091 (01No) CONT. PIN 0.24- 0.62/24-20 *1.8076.005/01	Close	CAB 2 x 2 x 0.5 SCR 3EHP470000P0504 CAB - 3GKW- 0.5 FLEX RED HZN452926P0201	1x13.15 1X0.1 (Loom No. 352 is only for CGL	3EHP431544

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			(04Nos)			(05Nos)			Propulsion System)	
37.	353	SB-2	ST.61P/40 BU"N"IR KABELH./ PLUG 61P/40 SKT 'N' INDOOR HBTB315157R0011 (01No) CONTACT SOCKET 16/0.5 HBT415299P0002 (61Nos)	Close	*Connector Speedometer	*In the scope of propulsion system	Open	CAB 25 x 0.5 TWIST 3EHP470002P0525	1x9.2	3EHP431542
		SB-2		Close	*Connector Speedometer		Open	CAB 9 x 0.5 TWIST 3EHP470002P0509	1x19.25	
		*Connector Speedometer	-	Open	*Connector Speedometer		Open	CAB 2 x 0.5 SCR 3EHP470000P0502	1x25.1	
38.	354	SB-2	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (35Nos)	Close	Cubicle Driver Cab-2	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (35Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	35x10.5	3EHP431538
39.	355	SB-2	ST.61P/40 BU"N"IR KABELH./ PLUG 61P/40 SKT 'N' INDOOR HBTB315157R0011 (01No) CONTACT SOCKET 16/2/AWG14 HBT415299P0010 (56Nos) CONTACT SOCKET 16/1.0 HBT415299P0006 (05Nos)	Close	Cubicle Driver Cab-2	ST.61P/40 BU"N"IR KABELH./ PLUG 61P/40 SKT 'N' INDOOR HBTB315157R0011 (01No) CONTACT SOCKET 16/2/AWG14 HBT415299P0010 (56Nos) CONTACT SOCKET 16/1.0 HBT415299P0006 (05Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025) CAB 2 x 2 x 1.0 SCR 3EHP470001P1004	50x11.4 1x11.4	3EHP431538
40.	356	SB-2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120	Close	Panel A/2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120	Close	CAB 2 x 0.5 SCR(3EHP470000P0502)	1x13	3EHP431544

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			(02Nos)			(02Nos)				
41.	357	SB-2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120 (02Nos)	Close	Panel A/2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (01No) CONTACT SOCKET AWG24-20 HESG455638P0120 (02Nos)	Close	CAB 2 x 0.5 SCR(3EHP470000P0502)	1x13	3EHP431544
42.	358	Connector Air Dryer	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (02Nos)	Open	SB-2	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (35 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	3x23.5 2x15.9 11x11.25	3EHP431538
		Pneumatic Panel								
		Pressure Switch Main Compressor								
		Pressure Switch Reservoir								
		Pressure Switch Main Compressor								
		Pressure Switch Brake Cylinder								
		Pressure Switch Brake Cylinder								
43.	359	SB-1	SET OF COMPLETE PLUG / PLUG 22P / 36 SKT 'N' INDOOR HBTB315112R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (22 Nos)	Close	SB-2	SET OF COMPLETE PLUG / PLUG 22P / 36 SKT 'N' INDOOR HBTB315112R0011 (01No) CONTACT SOCKET 12/2.5 HBT415298P0008 (22 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025) CAB 2 x 2 x 1.0 SCR 3EHP470001P1004	17x20.5 1x21	3EHP431538
44.	371	Master Controller-1	CABLE LUG 8-2.5 KN6762210P0208 (01No)	Close	Conn. To Earth to Loco	CABLE LUG 8-2.5 KN6762210P0208 (01No)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x1.6	3EHP431545
45.	372	Connector Speedometer	CABLE LUG 1.5- 2.57 /M5 3EHP470026P0015 (01No)	Close	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x1.3	3EHP431545

SPECIFICATION FOR SET OF HARNESSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

46.	373	Not in use								3EHP431545
47.	374	SB-1	CABLE LUG 16.0/M10 CU VZN 3EHP470026P0510 (01No)	Close	Conn. To Earth to Loco	CABLE LUG 16.0/M10 CU VZN 3EHP470026P0510 (01No)	Close	CAB 4 GKW-AX 16 1800 V BK(3EHW470015P0160)	1x0.6	3EHP431545
48.	375	Pneumatic Panel	CA-LUG 4.0-6.0/M6 CU VZN 3EHP470026P0106 (01No)	Close	Conn. To Earth to Loco	CA-LUG 4.0-6.0/M6 CU VZN 3EHP470026P0106 (01No)	Close	CAB 4 GKW-AX 6 1800 V BK (3EHW470015P0060)	1x3	3EHP431545
49.	376	SB-2	CABLE LUG 16.0/M10 CU VZN 3EHP470026P0510 (01No)	Close	Conn. To Earth to Loco	CABLE LUG 16.0/M10 CU VZN 3EHP470026P0510 (01No)	Close	CAB 4 GKW-AX 16 1800 V BK (3EHW470015P0160)	1x0.6	3EHP431545
50.	377	Master Controller-2	CABLE LUG 8-2.5 KN6762210P0208 (01No)	Close	Conn. To Earth to Loco	CABLE LUG 8-2.5 KN6762210P0208 (01No)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x1.62	3EHP431545
51.	378	Connector Speedometer	CABLE LUG 1.5- 2.57/M5 3EHP470026P0015 (01No)	Close	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x1.3	3EHP431545
52.	379	Not in use								3EHP431545
53.	380	Connector Brake Handle out	CABLE LUG 1.5- 2.57 M5 3EHP470026P0015 (01No)	Close	Conn. To Earth to Loco	CABLE LUG 8-2.5 KN6762210P0208 (01No)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x2.3	3EHP431545
54.	381	Connector Brake Handle out	CABLE LUG 1.5- 2.57 M5 3EHP470026P0015 (01No)	Close	Conn. To Earth to Loco	CABLE LUG 8-2.5 KN6762210P0208 (01No)	Close	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x2.3	3EHP431545
55.	350	Bogie-2	PLUG 9P D- SUB,SIZE-1	Close	Connector Speedometer	PLUG 9P D- SUB,SIZE-1	Close	CAB 9 x 0.5 SCR(3EHP470000P0509)	1x13.5	3EHP330342
This Loom is supplied with Speedometer. 02 Nos ADAPTOR NW17/SIZE18 (ABB IDHBT415393P0437										
56.	317	SB-2	PLUG 9P D- SUB,SIZE-1	Close	Panel C/2	PLUG 9P D- SUB,SIZE-1	Close	CAB 9 x 0.5 SCR(3EHP470000P0509)	1x13	3EHP431544
This Loom is supplied with Set of Connectors (CABLE CONNECTION / HP-9P-SG-SG-17S-21-13.0 M,ABB ID-HBTB315385R0172										
57.	Flasher Unit (Cab1) 3551-1A, 2050-A1	-	CA-LUG 1.5-2.5/M4 CU VZN 3EHP470026P0014 (04Nos)	Close	-	-	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	4X7.45	-

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

	3551-3A, 2050-A2									
58.	Flasher Unit (Cab2) 3551-1B, 2050-B1 3551-3B, - 2050-B2	-	-	Close	-	-	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	4X7.3	-
59.	3533	-	CONTACT PIN 12/1.5 HBT415298P0005 (01/No)	Close	-	-	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	1X2.5	-
60.	2050	-	CONTACT PIN 12/1.5 HBT415298P0005 (01/No)	Close	-	-	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	1X2.5	-

SENSOR CABLES

SN	Loom Number	From			To			Cable Size (Sq.mm)	No. of Cables x Cable Length (Meter)	ABB Identification
		Location	Connector Type & Lug Type	End (Open/ Close)	Location	Connector Type & Lug Type	End (Open/ Close)			
1.	411	Bogie-1	3 Pin Connector (Supplied with propulsion System) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	SR-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (2 Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	CAB 2 x 0.5 SCR (3EHP470000P0502) CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x14 2x0.25	3EHP431537
2.	412	Bogie-1	5 Pin Connector (Supplied with propulsion System) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016	Close	SR-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20	Close	CAB 2 x2x 0.5 SCR (3EHP470000P0504) CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x14 2x0.5	3EHP431537

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			(1 No)			HESG455638P0120 (4 Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)				
3.	413	Bogie-1	PLUG DO 5P/ 14 HBTB415399P0022 (1 No) CONTACT PIN MALE GR16 0,5-1,0 mm2 HBTB415399P0001 (5 Nos)	Close	SR-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (9 Nos)	Close	CAB 9 x 0.5 SCR (3EHP470000P0509)	1x14	3EHP431537
4.	414	Bogie-1	3 Pin Connector (Supplied with propulsion System) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	SR-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (2 Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	CAB 2 x 0.5 SCR (3EHP470000P0502) CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x12.5 2x0.5	3EHP431537
5.	415	Bogie-1	5 Pin Connector (Supplied with propulsion System) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	SR-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (4 Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	CAB 2 x 2 x 0.5 SCR (3EHP470000P0504) CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x12.5 2x0.5	3EHP431537
6.	416	Bogie-1	PLUG DO 5P/ 14 HBTB415399P0022 (1 No) CONTACT PIN MALE GR16 0,5-1,0 mm2 HBTB415399P0001	Close	SR-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120	Close	CAB 9 x 0.5 SCR (3EHP470000P0509)	1x12.5	3EHP431537

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			(5 Nos)			(9 Nos)				
7.	417	Bogie-1	3 Pin Connector (Supplied with propulsion System) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	SR-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (2 Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	CAB 2 x 0.5 SCR (3EHP470000P0502) CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x11.5 2x0.5	3EHP431537
8.	418	Bogie-1	5 Pin Connector (Supplied with propulsion System) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	SR-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (4 Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	CAB 2 x2x 0.5 SCR (3EHP470000P0504) CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x11.5 2x0.5	3EHP431537
9.	419	Bogie-1	PLUG DO 5P/ 14 HBTB415399P0022 (1 No) CONTACT PIN MALE GR16 0,5-1,0 mm2 HBTB415399P0001 (5 Nos)	Close	SR-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (9 Nos)	Close	CAB 9 x 0.5 SCR (3EHP470000P0509)	1x11.5	3EHP431537
10.	420	SR-2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (2 Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	Bogie-1	3 Pin Connector (Supplied with propulsion System) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Open	CAB 2 x 0.5 SCR (3EHP470000P0502) CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x11.5 2x0.5	3EHP431537

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

11.	421	SR-2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (4 Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	Bogie-1	5 Pin Connector (Supplied with propulsion System) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	CAB 2 x 2 x 0.5 SCR (3EHP470000P0504) CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x11.5 2x0.5	3EHP431537
12.	422	SR-2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (9 Nos)	Close	Bogie-1	PLUG DO 5P/ 14 HBTB415399P0022 (1 No) CONTACT PIN MALE GR16 0,5-1,0 mm2 HBTB415399P0001 (5 Nos)	Close	CAB 9 x 0.5 SCR (3EHP470000P0509)	1x11.5	3EHP431537
13.	450	SR-2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (2 Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	Bogie-1	3 Pin Connector (Supplied with propulsion System) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	CAB 2 x 0.5 SCR (3EHP470000P0502) CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x12.5 2x0.5	3EHP431537
14.	451	SR-2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (4 Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	Bogie-1	5Pin Connector (Supplied with propulsion System) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	CAB 2 x2x 0.5 SCR(3EHP470000P0504) CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x12.5 2x0.5	3EHP431537
15.	452	SR-2	ST. 9P D-SUB GR1 /	Close	Bogie-1	PLUG DO 5P/ 14	Close	CAB 9 x 0.5 SCR	1x12.5	3EHP431537

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (9 Nos)			HBTB415399P0022 (1 No) MALE GR16 0,5-1,0 mm2 HBTB415399P0001 (5 Nos)		(3EHP470000P0509)		
16.	453	SR-2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (2 Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	Bogie-1	3Pin Connector (Supplied with propulsion System) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	CAB 2 x 0.5 SCR (3EHP470000P0502) CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x14 2x0.5	3EHP431537
17.	454	SR-2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (4 Nos) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	Bogie-1	5Pin Connector (Supplied with propulsion System) CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (1 No)	Close	CAB 2 x 2 x 0.5 SCR (3EHP470000P0504) CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1x14 2x0.5	3EHP431537
18.	455	SR-2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (9 Nos)	Close	Bogie-1	PLUG DO 5P/ 14 HBTB415399P0022 (1 No) CONTACT PIN MALE GR16 0,5-1,0 mm2 HBTB415399P0001 (5 Nos)	Close	CAB 9 x 0.5 SCR (3EHP470000P0509)	1x14	3EHP431537
19.	425	SR-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20	Close	Amplifier Sensor Oil Transformer	SOCKET / PLUG , 5 CRIMP SOCKET S16 HBTB415399P0012 (1 No) CONTACT FEMALE GR16 / CONTACT	Close	CAB 3 x 0.5 SCR(3EHP470000P0503)	1x9	3EHP431548

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			HESG455638P0120 (5Nos)			SOCKET SIZE 16 HBTB415399P0002 (5Nos)					
20.	426	SR-1	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (5Nos)	Close	Connector Temperature Sensor Oil	PLUG DO 5P/ 14 HBTB415399P0022 (1 No) CONTACT PIN MALE GR16 0,5-1,0 mm2 HBTB415399P0001 (5Nos)	Close	CAB 2 x 2x0.5 SCR(3EHP470000P0504)	1x 9	3EHP431548	
21.	427	Connector Temperature Sensor Oil	PLUG DO 5P/ 14 HBTB415399P0022 (1 No) CONTACT PIN MALE GR16 0,5-1,0 mm2 HBTB415399P0001 (5Nos)	Close	SR-2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (5Nos)	Close	CAB 2 x2x 0.5 SCR(3EHP470000P0504)	1x 9	3EHP431548	
22.	428	Amplifier Sensor Oil Transformer	SOCKET / PLUG , 5 CRIMP SOCKET S16 HBTB415399P0012 (1 No) CONTACT FEMALE GR16 / CONTACT SOCKET SIZE 16 HBTB415399P0002 (5 Nos)	Close	SR-2	ST. 9P D-SUB GR1 / CONNECTOR HBTB316240R0009 (1 No) CONTACT SOCKET AWG24-20 HESG455638P0120 (3Nos)	Close	CAB 3 x 0.5 SCR (3EHP470000P0503)	1x 9	3EHP431548	
23.	441	NOT IN USE								3EHP431549	
24.	442	NOT IN USE								3EHP431549	
DRIVER CABLES											
SN	Loom Number	Location	From	End (Open/ Close)	Location	To	End (Open/ Close)	Cable Size (Sq.mm)	No. of Cables x Cable Length (Meter)	ABB Identification	
			Connector Type & Lug Type			Connector Type & Lug Type					
1.	511	Front Marker Light	CA-LUG 1.5- 2.5/M4 CU VZN 3EHP470026P0014 (02 Nos)	Close	Cubicle Driver's Cab-1	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	2x5	3EHP431546	
2.	512	Tail Marker Light	CA-LUG 1.5- 2.5/M4 CU VZN 3EHP470026P0014 (02 Nos)	Close	Cubicle Driver's Cab-1	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	2x5	3EHP431546	
3.	513	Head Light	CABLE LUG	Close	Cubicle Driver's Cab-1	WAGO	Open	CAB 4 GKW-AX 2.5	2x4	3EHP431546	
SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646					
SSE/D/Elect.		AEE/ D-I		Dy.CEE/D-I		ALT	D				

			INSUL.4-2.5 HCSN400689P0023 (02 Nos)					1800 V BK(3EHW470015P0025)		
4.	514	Head Light	CABLE LUG INSUL.4-2.5 HCSN400689P0023 (02 Nos)	Close	Cubicle Driver's Cab-1	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x4	3EHP431546
5.	515	Front Marker Light	CA-LUG 1.5- 2.5/M4 CU VZN 3EHP470026P0014 (02 Nos)	Close	Cubicle Driver's Cab-1	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x5	3EHP431546
6.	516	Tail Marker Light	CA-LUG 1.5- 2.5/M4 CU VZN 3EHP470026P0014 (02 Nos)	Close	Cubicle Driver's Cab-1	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x5	3EHP431546
7.	517	Foot Switch Release of Ind	CA-LUG 1.5- 2.5/M4 CU VZN 3EHP470026P0014 (02 Nos)	Close	Cubicle Driver's Cab-1	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x5	3EHP431546
8.	518	Panel-B1	CABLE SLEEVE 1.5 - 8.0 NB485270P0067 (02 Nos) CABLE LUG INSUL 3-1.5 HCSN400689P0012 (01No)	Close	Cubicle Driver's Cab-1	WAGO	Open	CAB 4 GKW-AX 1.5 1800 V BK(3EHW470015P0015)	3x6	3EHP431546
9.	519	Spring Loaded Switch Pneumatic	CA-LUG 1.5- 2.5/M4 CU VZN 3EHP470026P0014 (02 Nos)	Close	Cubicle Driver's Cab-1	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x5	3EHP431546
10.	520	Lamp Driver Desk Illumination	CABLE SLEEVE 2.5- 10 NB485270P0029 (02 Nos)	Close	Cubicle Driver's Cab-1	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x5.5	3EHP431546
11.	521	Spring Loaded Foot Switch	CA-LUG 1.5- 2.5/M4 CU VZN 3EHP470026P0014 (02 Nos)	Close	Cubicle Driver's Cab-1	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x5	3EHP431546
	522			Open		LUG 6, 3 X 0.8 CUSN NBT200235P0511 (02 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x6	
12.	522/1	Cubicle Driver's Cab-1	WAGO	Open	Lamp Driver's Cab Lighting	LUG 6, 3 X 0.8 CUSN	Close	CAB 4 GKW-AX 2.5 1800 V	2x8.5	3EHP431546

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

						NBT200235P0511 (02 Nos)		BK(3EHW470015P0025)		
13.	523	Cubicle Driver's Cab-1	WAGO	Open	Emergency Flash Light	CA-LUG 1.5-2.5/M4 CU VZN 3EHP470026P0014 (02 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x6	3EHP431546
14.	524	Cubicle Driver's Cab-1	WAGO	Open	Lamp assistant desk illumination	CABLE SLEEVE 2.5- 10 NB485270P0029 (02 Nos)	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x 5.5	3EHP431546
15.	551	Lamp Driver Desk illumination	CABLE LUG 1.5- 2.57 M5 3EHP470026P0015 (01 No)	Close	Conn. To Earth to Loco	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	1x1.5	3EHP431546
16.	552	Lamp Driver's Cab Lighting	LUG 6, 3 X 0.8 CUSN NBT200235P0511 (01 No)	Close	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01 No)	Close	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	1x2.5	3EHP431546
	552/1		LUG 6, 3 X 0.8 CUSN NBT200235P0511 (01 No)	Close		CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01 No)	Close	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	1x3	
17.	553	Emergency Flash Light	CA-LUG 1.5- 2.5/M6 CU VZN 3EHP470026P0016 (01 No)	Close	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01 No)	Close	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	1x1.8	3EHP431546
18.	554	Lamp assistant desk illumination	CABLE LUG 1.5- 2.57 M5 3EHP470026P0015 (01 No)	Close	Conn. To Earth to Loco	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	1x1.5	3EHP431546
19.	531	Lamp assistant desk illumination	CABLE SLEEVE 2.5- 10 NB485270P0029 (02 Nos)	Close	Cubicle Driver Cab-2	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x5.5	3EHP431546
20.	532/2	Lamp Driver's Cab Lighting	LUG 6, 3 X 0.8 CUSN NBT200235P0511 (02 Nos)	Close Close	Cubicle Driver Cab-2	WAGO	Open Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x8.5	3EHP431546
	532		LUG 6, 3 X 0.8 CUSN NBT200235P0511 (02 Nos)	Close			Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x6	
21.	533	Emergency Flash Light	CA-LUG 1.5- 2.5/M4 CU VZN 3EHP470026P0014	Close	Cubicle Driver Cab-2	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x6	3EHP431546

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I		Dy.CEE/D-I			ALT	D			

			(02 Nos)							
22.	534	Spring Loaded Foot Switch	CA-LUG 1.5-2.5/M4 CU VZN 3EHP470026P0014 (02 Nos)	Close	Cubicle Driver Cab-2	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x5	3EHP431546
23.	535	Cubicle Driver Cab-2	WAGO	Open	Spring Loaded Switch Pneumatic	CA-LUG 1.5-2.5/M4 CU VZN 3EHP470026P0014 (02 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x5	3EHP431546
24.	536	Cubicle Driver Cab-2	WAGO	Open	Lamp Driver Desk Illumination	CABLE SLEEVE 2.5-10 NB485270P0029 (02 Nos)	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x5.5	3EHP431546
25.	537	Cubicle Driver Cab-2	WAGO	Open	Foot Switch Release of Ind	CA-LUG 1.5-2.5/M4 CU VZN 3EHP470026P0014 (02 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x5	3EHP431546
26.	538	Cubicle Driver Cab-2	WAGO	Open	Panel B/2	CABLE SLEEVE 1.5 - 8.0 NB485270P0067 (02 Nos) CABLE LUG INSUL 3-1.5 HCSN400689P0012 (01No)	Close	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	3x6	3EHP431546
27.	539	Cubicle Driver Cab-2	WAGO	Open	Front Marker Light	CA-LUG 1.5-2.5/M4 CU VZN 3EHP470026P0014 (02 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x5	3EHP431546
28.	540	Cubicle Driver Cab-2	WAGO	Open	Tail Marker Light	CA-LUG 1.5-2.5/M4 CU VZN 3EHP470026P0014 (02 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x5	3EHP431546
29.	541	Cubicle Driver Cab-2	WAGO	Open	Head Light	CABLE LUG INSUL.4-2.5 HCSN400689P0023 (02 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x4	3EHP431546
30.	542	Cubicle Driver Cab-2	WAGO	Open	Head Light	CABLE LUG INSUL.4-2.5 HCSN400689P0023 (02 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x4	3EHP431546
31.	543	Cubicle Driver Cab-2	WAGO	Open	Front Marker Light	CA-LUG 1.5-2.5/M4 CU VZN 3EHP470026P0014 (02 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x5	3EHP431546

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I		Dy.CEE/D-I			ALT	D			

32.	544	Cubicle Driver Cab-2	WAGO	Open	Tail Marker Light	CA-LUG 1.5-2.5/M4 CU VZN 3EHP470026P0014 (02 Nos)	Close	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	2x5	3EHP431546
33.	561	Lamp assistant desk illumination	CABLE LUG 1.5- 2.57 M5 3EHP470026P0015 (01No)	Close	Conn. To Earth to Loco	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	1x1.5	3EHP431546
34.	562		CA-LUG 1.5- 2.5/M6 CU VZN 3EHP470026P0016 (01No)	Close		LUG 6, 3 X 0.8 CUSN NBT200235P0511 (01No)	Close	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	1x2.5	
35.	562/2	Lamp Driver's Cab Lighting	LUG 6.3 X 0.8 CUSN NBT200235P0511 (01No)	Close	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Close	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	1x3	3EHP431546
36.	563	Emergency Flash Light	CA-LUG 1.5- 2.5/M6 CU VZN 3EHP470026P0016 (01No)	Close	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Close	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	1x1.8	3EHP431546
37.	564	Lamp Driver Desk Illumination	CABLE LUG 1.5- 2.57 M5 3EHP470026P0015 (01No)	Close	Conn. To Earth to Loco	WAGO	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	1x1.5	3EHP431546

BATTERY CABLES

SN	Loom Number	From			To			Cable Size (Sq.mm)	No. of Cables x Cable Length (Meter)	ABB Identification
		Location	Connector Type & Lug Type	End (Open/ Close)	Location	Connector Type & Lug Type	End (Open/ Close)			
1.	611	BUR-2	SET OF COMPLETE PLUG / PLUG 4P/40 SOCKET 'N' INDOOR HBTB315176R0113 (01No)	Open	HB-2	SET OF COMPLETE PLUG /L- PLUG 4P/40 SOCKET 'N' INDOOR HBTB315176R0213 (01No)	Close	CAB 4 GKW-A X 35 1800 V BK (3EHW470015P0350)	3x5	3EHP431547
2.	612	Power Connection to Battery-1	ANDERSON PLUG PP 120A *1321G3ROT (01No)	Close	Battery-1	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (01No)	Close	CAB 4 GKW-A X 35 1800 V BK (3EHW470015P0350)	1x1.3	3EHP431547
3.	613	Power Connection to Battery-1	ANDERSON PLUG PP 120A *1321BLAU (01No)	Close	Battery-1	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010\	Close	CAB 4 GKW-A X 35 1800 V BK (3EHW470015P0350)	1x1.3	3EHP431547

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE
ELECTRIC LOCOMOTIVES

Specification No.
CLW/ES/03/0646

SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D					
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4.	614	Insulator Battery Box-1	CABLE LUG 16.0/M8 3EHP470026P0508 (01No)	Close	Circuit Breaker Battery	CABLE LUG 16.0/M8 3EHP470026P0508 (01No)	Close	CAB 4 GKW-AX 16 1800 V BK (3EHW470015P0160)	1x0.4	3EHP431547
5.	615	Insulator Battery Box-1	CABLE LUG 16.0/M8 3EHP470026P0508 (01No)	Close	Insulator Battery Box-2	CABLE LUG 16.0/M8 3EHP470026P0508 (01No)	Close	CAB 4 GKW-AX 16 1800 V BK (3EHW470015P0160)	1x11	3EHP431547
6.	616	Circuit Breaker Battery	CABLE LUG 16.0/M8 3EHP470026P0508 (01No)	Open	SB-2	SET OF COMPLETE PLUG / L-PLUG 4P/40 SOCKET 'N' INDOOR HBTB315176R0211 (01No)	Close	CAB 4 GKW-AX 16 1800 V BK (3EHW470015P0160)	1x16.5	3EHP431547
		Insulator Battery Box-2	CABLE LUG 16.0/M8 3EHP470026P0508 (01No)	Open	SB-2		Close	CAB 4 GKW-AX 16 1800 V BK (3EHW470015P0160)	1x9	3EHP431547
7.	617	Power Connection to Battery-2	ANDERSON PLUG PP 120A *1321BLAU (01No)	Close	Battery-2	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (01No)	Close	CAB 4 GKW-A X 35 1800 V BK (3EHW470015P0350)	1x1.3	3EHP431547
8.	618	Power Connection to Battery-2	ANDERSON PLUG PP 120A *1321G3ROT (01No)	Close	Battery-2	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (01No)	Close	CAB 4 GKW-A X 35 1800 V BK (3EHW470015P0350)	1x1.3	3EHP431547
9.	621	Power Connection to Battery-1	ANDERSON PLUG PP 120A *1321G3ROT (01No)	Close	Insulator Battery Box-1	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (01No)	Close	CAB 4 GKW-A X 35 1800 V BK (3EHW470015P0350)	1x1	3EHP431547
10.	622	Power Connection to Battery-1	ANDERSON PLUG PP 120A *1321BLAU (01No)	Close	Insulator Battery Box-1	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (01No)	Close	CAB 4 GKW-A X 35 1800 V BK (3EHW470015P0350)	1x1	3EHP431547
11.	623	Power Connection to Battery-2	ANDERSON PLUG PP 120A *1321BLAU (01No)	Close	Insulator Battery Box-2	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (01No)	Close	CAB 4 GKW-A X 35 1800 V BK (3EHW470015P0350)	1x1	3EHP431547
12.	624	Power Connection to Battery-2	ANDERSON PLUG PP 120A *1321G3ROT (01No)	Close	Insulator Battery Box-2	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (01No)	Close	CAB 4 GKW-A X 35 1800 V BK (3EHW470015P0350)	1x1	3EHP431547
ROOF CABLES										
SN	Loom	From			To			Cable Size	No. of	ABB

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

	Number	Location	Connector Type & Lug Type	End (Open/Close)	Location	Connector Type & Lug Type	End (Open/Close)	(Sq.mm)	Cables x Cable Length (Meter)	Identification
1.	5A	Roof-1	SET OF COMPLETE SOCKET / SOCKET 13P/32 PIN 'N' INDOOR	Close	Roof-1	FASTON LUG 6.3 X 0.8 CU/SN GMN485104P0155 (03Nos)	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	3X6.1	3EHP431341
		Roof-1	HBTB315159R0011 (01No) CONTACT PIN 12/1.5	Close	Roof-1	FASTON LUG 6.3 X 0.8 CU/SN GMN485104P0155 (04Nos)	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	3X6.2	3EHP431341
		Roof-1	HBT415298P0005 (11Nos) CONTACT PIN 12/6.0 HBT415298P0011 (02Nos)	Close	Roof-1	JOINTING SLEEVE 6.3X0.8 HZN452972P0002 (02Nos)	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	3X6.2	3EHP431341
2.	5B	Roof-1	SET OF COMPLETE SOCKET / SOCKET 13P/32 PIN 'N' INDOOR	Close	Roof-1	FASTON LUG 6.3 X 0.8 CU/SN GMN485104P0155 (03Nos)	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	3X5.9	3EHP431341
		Roof-1	HBTB315159R0011 (01No) CONTACT PIN 12/1.5	Close	Roof-1	FASTON LUG 6.3 X 0.8 CU/SN GMN485104P0155 (04Nos)	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	3X6.3	3EHP431341
		Roof-1	HBT415298P0005 (11Nos) CONTACT PIN 12/6.0 HBT415298P0011 (02Nos)	Close	Roof-1	JOINTING SLEEVE 6.3X0.8 HZN452972P0002 (02Nos)	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	3X6.3	3EHP431341
3.	6	Roof-1	FASTON LUG 6.3 X 0.8 CU/SN GMN485104P0155 (02Nos)	Open	Roof-1	FASTON LUG 6.3 X 0.8 CU/SN GMN485104P0155 (02Nos)	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	4X3.5	3EHP431341
4.	7	Roof-1	CA-LUG 1.5-2.5/M4 CU VZN 3EHP470026P0014 (01No)	Open	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M4 CU VZN 3EHP470026P0014 (01No)	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	2X0.5	3EHP431341
5.	8	Roof-2	SOCKET 35P/40 PIN 'N' IND. HBTB315162R0011 (01No)	Close	Roof-2	FASTON LUG 6.3 X 0.8 CU/SN GMN485104P0155 (02Nos)	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	2X2.5	3EHP431341

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

		Roof-2	CONTACT PIN 12/1.5 HBT415298P0005 (31Nos) CONTACT PIN 12/4.0 HBT415298P0009 (2Nos) CONTACT PIN 12/2.5 HBT415298P0007 (2Nos)	Close	Roof-2	ST.35P/40 BU"N"IR KABELH./ PLUG 25P/40 SKT 'N' INDOOR HBTB315113R0011 (01No) CONTACT SOCKET 12/1.5 HBT415298P0006 (35Nos)	Close	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	12X3.6	3EHP431341
		Roof-2		Close	Roof-2	CABLE LUG 1.5-2.57 M5 3EHP470026P0015 (02Nos)	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	4x3.6 (Extra cables for Siemens make Propulsion)	
6.	9	Roof-2	SET OF COMPLETE SOCKET / SOCKET 5P / S18 PIN 'N' STR HBT315075R0031 (01No) CONTACT PIN 12/1.0 HBT415298P0003 (05Nos)	Close	Conn. To Earth to Loco	CABLE LUG 1.5-2.57 M5 3EHP470026P0015 (02Nos)	Open	CAB 2 x 1.0 SCR (3EHP470001P1002) CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1X2.5 1x0.5	3EHP431341
						CA-LUG 1.5-2.5/M4 CU VZN 3EHP470026P0014 (01No)	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	1X0.5	
7.	10	Roof-2	FASTON LUG 6.3 X 0.8 CU/SN GMN485104P0155 (01No)	Open	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M4 CU VZN 3EHP470026P0014 (01No)	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1X0.5	3EHP431341
8.	11	Roof-2	CABLE LUG 1.5-2.57 M5 3EHP470026P0015 (02Nos)	Open	Roof-2	0.5-1.0/M5 (02Nos)	Open	CAB 2 x 1.0 SCR (3EHP470001P1002)	1X1.2	3EHP431341
			CA-LUG 1.5-2.5/M4 CU VZN 3EHP470026P0014 (01No)	Open		-	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015) CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1X0.5 1x0.5	
9.	12	Roof-1	FASTON LUG 6.3 X 0.8 CU/SN GMN485104P0155 (02Nos)	Open	Conn. To Earth to Loco	CABLE LUG 1.5-2.57 M5 3EHP470026P0015 (02Nos)	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	4X2	3EHP431341
10.	13	Roof-1	FASTON LUG 6.3 X 0.8 CU/SN GMN485104P0155	Open	Conn. To Earth to Loco	CABLE LUG 1.5-2.57 M5 3EHP470026P0015	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	4X2	3EHP431341

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

			(02Nos)			(02Nos)				
11.	14	Roof-1	CABLE LUG PIN TYPE 2.5 GMN945210P0002 (02Nos)	Open	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M4 CU VZN 3EHP470026P0014 (02Nos)	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	2X0.5	3EHP431341
12.	15	Roof-2	CA-LUG 1.5-2.5/M4 CU VZN 3EHP470026P0014 (01No)	Open	Conn. To Earth to Loco	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (01No)	Open	CAB 4 GKW-AX 2.5 1800 V BK (3EHW470015P0025)	1X0.7	3EHP431341
13.	16	Roof-2	CA-LUG 1.5-2.5/M4 CU VZN 3EHP470026P0014 (02Nos)	Open	Roof-2	CA-LUG 1.5-2.5/M6 CU VZN 3EHP470026P0016 (02Nos)	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	2X0.5	3EHP431341
14.	17	Roof-2	8-2.5	Open	Conn. To Earth to Loco	CABLE LUG 1.5-2.57 M5 3EHP470026P0015 (01No)	Open	CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025)	1X1	3EHP431341
15.	18	Roof-2	FASTON LUG 6.3 X 0.8 CU/SN GMN485104P0155 (01No)	Open	Conn. To Earth to Loco	CABLE LUG 1.5-2.57 M5 3EHP470026P0015 (01No)	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	1X1.25	3EHP431341

EARTHING CABLES

SN	Loom Number	From			To			Cable Size (Sq.mm)	No of Cable x Cable Length (Meter)	ABB Identification
		Location	Connector Type & Lug Type	End (Open/ Close)	Location	Connector Type & Lug Type	End (Open/ Close)			
1.	BERT-1	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	CAB 9 GKW-AX 120 4000 V BK(3EHW470016P1200)	1X0.8	-
2.	BERT-2	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	CAB 9 GKW-AX 120 4000 V BK(3EHW470016P1200)	1X 0.8	-
3.	BERT-3	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	CAB 9 GKW-AX 120 4000 V BK(3EHW470016P1200)	1X 0.8	-
4.	BERT-4	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	CAB 9 GKW-AX 120 4000 V BK(3EHW470016P1200)	1X 0.8	-
5.	BERT-5	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012	Close	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012	Close	CAB 9 GKW-AX 120 4000 V BK(3EHW470016P1200)	1X 0.65	-

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES

Specification No. CLW/ES/03/0646

			ALT	D					
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I							

			(1No)			(1No)				
6.	BERT-6	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	CAB 9 GKW-AX 120 4000 V BK(3EHW470016P1200)	1X 0.65	-
7.	BERT-7	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	CAB 9 GKW-AX 120 4000 V BK(3EHW470016P1200)	1X 0.65	-
8.	BERT-8	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	CAB 9 GKW-AX 120 4000 V BK(3EHW470016P1200)	1X 0.65	-
9.	BERT-9	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	CAB 9 GKW-AX 120 4000 V BK(3EHW470016P1200)	1X 0.65	-
10.	BERT-10	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	CAB 9 GKW-AX 120 4000 V BK(3EHW470016P1200)	1X 0.65	-
11.	BERT-11	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	CAB 9 GKW-AX 120 4000 V BK(3EHW470016P1200)	1X 0.65	-
12.	BERT-12	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	-	CABLE LUG 120.0 / M12 CU VZN 3EHP470026P3012 (1No)	Close	CAB 9 GKW-AX 120 4000 V BK(3EHW470016P1200)	1X 0.65	-
13.	BERT-13	-	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (1No)	Close	-	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (1No)	Close	CAB 4 GKW-A X 35 1800 V BK(3EHW470015P0350)	1X0.95	-
14.	BERT-14	-	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (1No)	Close	-	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (1No)	Close	CAB 4 GKW-A X 35 1800 V BK(3EHW470015P0350)	1X 0.95	-
15.	BERT-15	-	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (1No)	Close	-	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (1No)	Close	CAB 4 GKW-A X 35 1800 V BK(3EHW470015P0350)	1X 0.4	-
16.	BERT-16	-	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (1No)	Close	-	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (1No)	Close	CAB 4 GKW-A X 35 1800 V BK(3EHW470015P0350)	1X 0.4	-

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES						Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D						

17.	BERT-17	-	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (1No)	Close	-	CABLE LUG 35.0/M10 CU VZN 3EHP470026P1010 (1No)	Close	CAB 4 GKW-A X 35 1800 V BK(3EHW470015P0350)	1X 0.4	-
18.	MRERT-1	NOT IN USE								-
19.	MRERT-2									-
20.	MRERT-3									-
21.	MRERT-4									-
22.	MRERT-5									-
23.	MRERT-6									-
24.	MRERT-7									-
25.	MRERT-8									-
26.	MRERT-9									-
27.	MRERT-10									-
28.	MRERT-11									-
29.	HRERT-1	-	CABLE LUG 120.0 / M10 CU VZN 3EHP470026P301 0 (1No) Cable Gland PG 29 (1No)	Close	-	CABLE LUG 120.0 / M10 CU VZN 3EHP470026P30 10 (1No)	Close	CAB 9 GKW-AX 120 4000 V BK 3EHW470016P1200	1X 0.56	-
30.	HRERT-2	-	CABLE LUG 120.0 / M10 CU VZN 3EHP470026P301 0 (1No) Cable Gland PG 29 (1No)	Close	-	CABLE LUG 120.0 / M10 CU VZN 3EHP470026P30 10 (1No)	Close	CAB 9 GKW-AX 120 4000 V BK 3EHW470016P1200	1X 0.56	-
31.	HRERT-3	-	CABLE LUG 120.0 / M10 CU VZN 3EHP470026P301 0 (1Nos) Cable Gland PG 29 (1No)	Close	-	CABLE LUG 120.0 / M10 CU VZN 3EHP470026P30 10 (1No)	Close	CAB 9 GKW-AX 120 4000 V BK 3EHW470016P1200	1X 0.48	-
SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES							Specification No. CLW/ES/03/0646			
SSE/D/Elect.	AEE/ D-I			Dy.CEE/D-I			ALT	D		

KAVACH CABLES										
SN	Loom Number	From			To			Cable Size (Sq.mm)	No of Cable x Cable Length (Meter)	Remarks
		Location	Connector Type & Lug Type	End (Open/ Close)	Location	Connector Type & Lug Type	End (Open/ Close)			
1.	K1	SB-2	-	Open	Kavach SB	-	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015) CAB 4 GKW-AX 2.5 1800 V BK(3EHW470015P0025	4x21.5 1x21.5	
2.	K2E70	Kavach SB	-	Open	E70 Brake System	-	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	4x12.5	Loom required for E-70 Brake System
3.	K2CCB	Kavach SB	-	Open	CCB Brake System	-	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	8x12.5	Loom required for CCB Brake System
4.	K3	Kavach SB	-	Open	CAB-1	-	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	16X15	
5.	K4	Kavach SB	-	Open	CAB-2	-	Open	CAB 4 GKW-AX 1.5 1800 V BK (3EHW470015P0015)	16X28	-

SPECIFICATION FOR SET OF HARNESSSED CABLES FOR WAG-9H & WAP-7 THREE PHASE ELECTRIC LOCOMOTIVES					Specification No. CLW/ES/03/0646				
SSE/D/Elect.	AEE/ D-I	Dy.CEE/D-I	ALT	D					