

RAIL COACH FACTORY, KAPURTHALA

Office of the
Principal Chief Electrical Engineer
Date:- 03.04.2024

No. : RCF/HSQ/ED/LHB/2008


Chief Electrical Service Engineer

1. Central Railway, CST, Mumbai-400 001
2. Eastern Railway, Fairlie Place , Kolkata-700 001
3. East Central Railway, Dighi, Distt.- Vaishali, Hajipur-844 101
4. East Coast Railway, Chandra Shekharpur, Bhubneshwer-751 016
5. Northern Railway, Baroda House, New Delhi-110 001
6. North Central Railway, Hastings Road, Prayagraj — 211 001
7. North Eastern-Railway, Gorakhpur-273 001
8. North East Frontier Railway., Maligaon, Guwahati-781 001
9. North Western Railway, Jaipur-302 006
10. Southern Railway, Park Town, Chennai-800 003
11. South Central Railway, Rail Nilayam Secundrabad-500 371
12. South Eastern Railway, Garden Reach, Kolkata-700 043
13. South East Central Railway, Bilaspur-495 004
14. South Western Railway, 4th Floor, DRM Office, Sh. Laxmi Narayan Complex, Station Road Hubli-580 020
15. Western Railway Church Gate, Mumbai-400 02
16. West Central Railway, Jabalpur-482 001
17. Chief Elect. Design Engineer, Integral Coach Factory, Chennai
18. Chief Elect. Design Engineer, Modern Coach Factory, Raebareli

Sub: Coach Alteration Instructions for modifications to be carried out in LHB EOG AC 2T and 3T Coaches for segregation of 110V DC +VE and –VE at all levels and provision of Cage Clamp Terminals with Glass Fuses for enhanced Fire Safety.

As per the feedback received from Zonal Railways, modification in LHB EOG AC 2T and 3T Coaches for segregation of 110V DC +VE and –VE at all levels and provision of Cage Clamp Terminals with Glass Fuses for enhanced Fire Safety, a CAI no. **ED/CAI/033** Dated 03.04.2024 is being issued for implementation by all Zonal Railways. Production Units may also take necessary action for implementation in new coaches, wherever applicable.

DA: As above


Dy.CEE/DP
For Principal Chief Elect. Engineer

Copy to :-

CEDE :- For kind information

RAIL COACH FACTORY, KAPURTHALA

CAI N O.: ED/CAI/033 Dated: 02.04.2024



**COACH ALTERATION INSTRUCTION SHEET
FOR SEGREGATION OF 110V DC (+VE & -VE)
AT ALL LEVELS, AND PROVISION OF CAGE
CLAMP TERMINALS WITH GLASS FUSES FOR
ENHANCED FIRE SAFETY IN LHB EOG AC 2T
& 3T COACHES**

RAIL COACH FACTORY, KAPURTHALA

CAI No. :- ED/CAI/033, Dated :- 02.04.2024


This Coach Alteration Instruction Sheet has been issued for segregation of 110V DC +VE & -VE cables at all levels and provision of Cage Clamp Terminals with Glass Fuses for enhanced fire safety in LHB EOG AC Coaches wherein following steps are to be taken for modifications in the coach:

Step-1: Removal/Dismantle of Electrical Accessories from Coach:**1. Roof /Sidewall Arrangement :****a) Disconnections/Removal of WAGO type Connectors :**

- i. Disconnect all the wiring circuits i.e. circuits for Light's, Night Light's, AEL's, BRL's (2T Coaches) from WAGO terminals provided in Switch Board Cabinet.
- ii. Disconnect all the wiring circuits i.e. circuits for Light's, Night light's, AEL's, BRL's (2T Coaches) from the WAGO type connectors provided in each Cabin/Doorway/Corridor Area of the Coach .
- iii. Dismantle the WAGO type strips provided for interconnections of wiring in each Cabin as well as in Door-way Area.
- iv. Removal of 110V AC & DC wiring from the PVC conduits installed in the sidewall (Cabin Side) & the tray arrangement provided in the roof (Corridor Side) of the coach.
- v. Removal of 2 Nos. Dia. 20 mm PVC Rigid conduits from Side wall by removing the conduit clamps from side-wall.
- vi. Disconnect all the Accident Emergency Light's (AEL) provided in Corridor & Doorway Area on both ends and Berth Reading Lights (2T Coaches).
- vii. Dismantling of all the Berth Reading Lights provided in LHB AC 2T Coaches by removing the hardware.
- viii. Removal of AC/DC wiring for Pantry and Lavatories Lights from the 40 mm PVC Rigid conduits provided on Cabin side.
- ix. Removal of Cable Tray Arrangement including AC/DC wiring from the tray provided in Corridor Area.

Step-2 Modifications required in Under-frame/Roof /Sidewall Arrangement of LHB EOG AC 3-Tier Coaches:**a) Modifications in Under frame Area:-**

1. Segregation of 110V DC +VE & -VE Cables is already being done in existing LHB Coaches as the output cables from 4.5 KW RBC i.e. 110V DC +VE, +VE & -VE are routed to SBC, Battery Fuse Box (+VE) and Battery Fuse Box (-VE) respectively via. different polyamide conduits, hence no change is required in under-frame wiring.

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| ED/CAI/033 | 0 | 02.04.2024 |  |  |  | 1 of 6 |
| Doc. No. | Rev. | Date | *SSE/CAD | SEE/D&D | Dy. CEE/DP | Page Nos. |

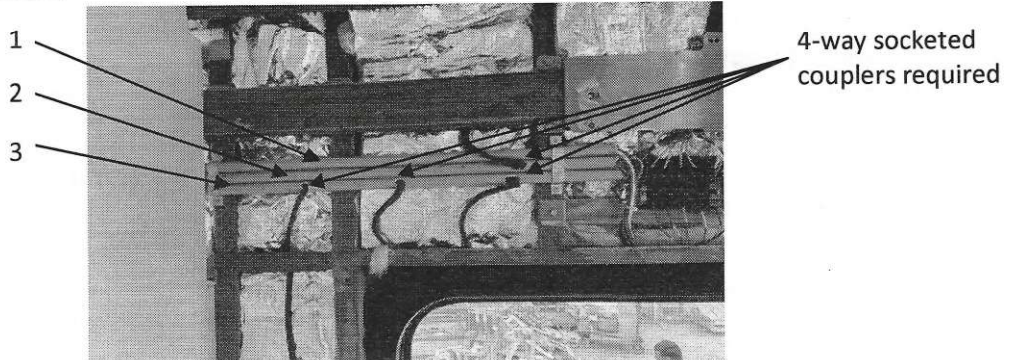
RAIL COACH FACTORY, KAPURTHALA

CAI No. :- ED/CAI/033, Dated :- 02.04.2024

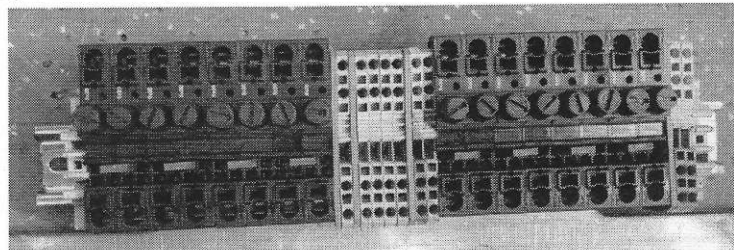
b) Modification in Side Wall Area :-

1. 01 no. additional hole of dia. 04 mm shall be made from the existing bottom side hole at C-C 88 mm for provision of the triple conduit clamp to Drawing No. **LP76001, Alt-'c', Item-16.**
2. 01 no. additional PVC Rigid Conduit shall be laid above the existing 02 nos. PVC Rigid Conduits on the sidewall for Jumper wiring and clamping of the same shall be done with the help of triple conduit clamp as shown below. Wiring shall be routed from SBC to Cage clamp terminals via. these 03 nos. PVC Rigid Conduits as per following details:-

- Conduit -1:** All DC -VE & Earthing Cables (i.e. 110V DC FLD-, FLS-, NL-, ALARM-, PE (Light))
- Conduit -2:** All DC +VE Cables (i.e. 110V DC FLD+, FLS+, NL+, ALARM-I+, ALARM-II+ (Loop))
- Conduit-3:** All MCS Cables (i.e. 110V AC Ph., Ph., Neutral, Earth).



3. Due to increase in size of Cage Clamp Terminals provided, the length of PVC Conduit for Jumper wiring shall be reduced by 250 mm (approx). i.e. from 1700 mm to 1450 mm (08 Nos.) & 1000 mm to 800 mm (02 Nos.).
4. 4-Way socketed couplers on the PVC conduits as per Drawing no. **SKED-947** shall be provided in each cabin area for passing of MCS and DC +VE wiring at locations for cables exit to switches.
5. Provision of Cage Clamp Terminals with Glass Fuses similar to LHB Non AC Coaches as per **EDML-230, Table-1** in place of 4-conductor Terminal Blocks shall be as follows :-



| | | | | | | |
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| ED/CAI/033 | 0 | 02.04.2024 | | | | 2 of 6 |
| Doc. No. | Rev. | Date | SSE/CAD | SEE/D&D | Dy. CEE/DP | Page Nos. |

RAIL COACH FACTORY, KAPURTHALA

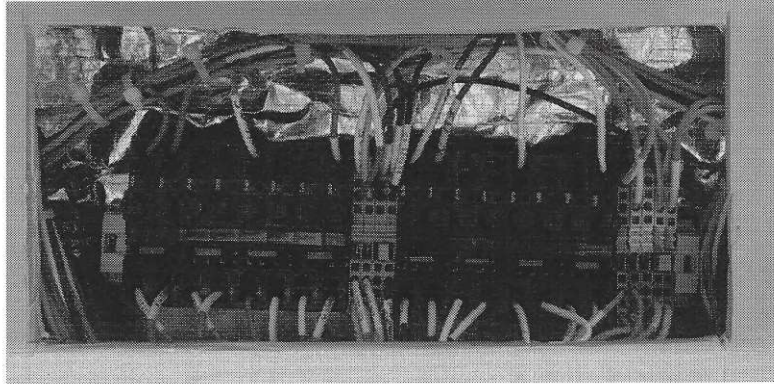
CAI No. :- ED/CAI/033, Dated :- 02.04.2024

6. Din Rail of length 300 mm shall be mounted at 15 mm below the existing terminal strip mounting location for accessibility on the same WAGO Bracket. Accordingly, connections shall be done.

Cage Clamp Terminals with
connections (Cabin-5)

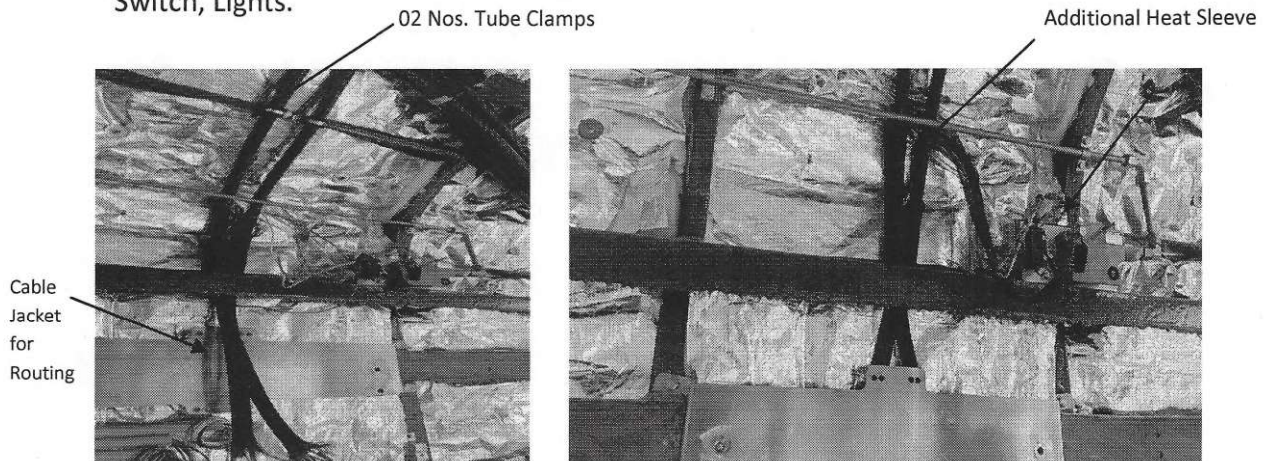
Length of Din Rail = 300 mm

Length of WAGO = 270 mm



c) Modifications in Roof Area:

1. Segregation of 110V DC +VE & -VE shall be done in Branch Wiring by providing extra NW-12 flexible conduit, however due to only 01 No. Cable drop hole in Cant-rail for passing of NW-12 Conduit, branch wiring shall be done with Cable Jackets from the hole to Terminal Strip for easy routing of cables through 01 no. hole. These two Conduits shall be clamped with 02 nos. Tube clamps at the roof. Additional sleeve shall be used for routing of cables separately from conduit to equipment i.e. Limit Switch, Lights.



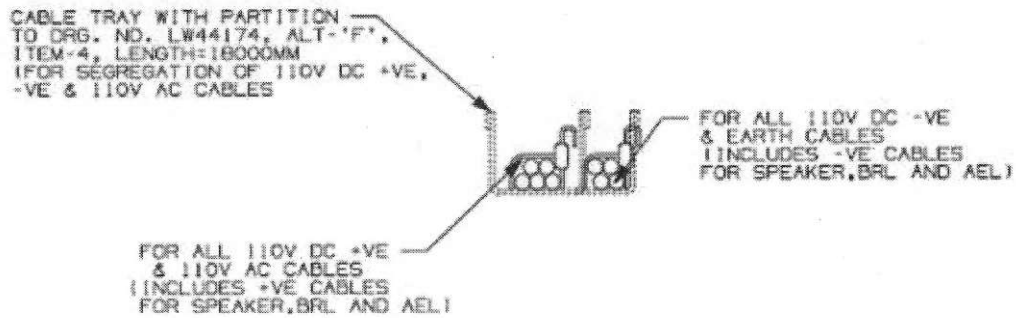
2. The existing cable tray arrangement to Drawing No. LW44174, Item-6, Length = 18000 mm shall be replaced with Drawing No. LW44174, **Item-4**, Length = 18000mm with provision of partition between Cable tray for segregation of DC +VE & -VE, AC cables in Roof.

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| ED/CAI/033 | 0 | 02.04.2024 | | | | 3 of 6 |
| Doc. No. | Rev. | Date | SSE/CAD | SEE/D&D | Dy. CEE/DP | Page Nos. |

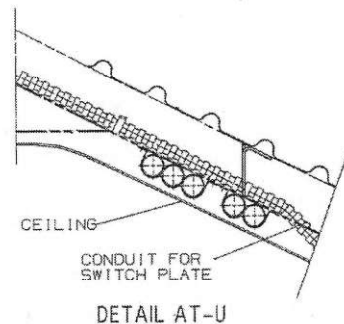
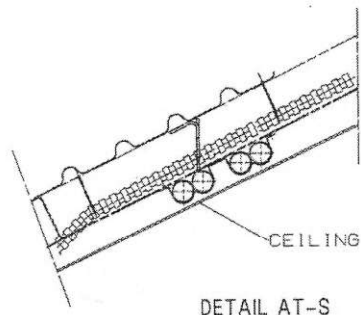
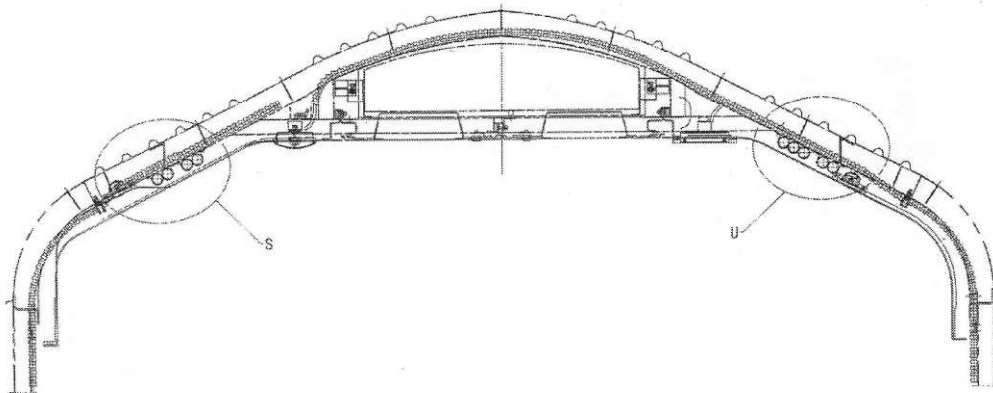
RAIL COACH FACTORY, KAPURTHALA

CAI No. :- ED/CAI/033, Dated :- 02.04.2024

3. The segregation of 110V DC +VE & -VE wiring shall be done for Speaker Circuit, AEL Circuit with AC Circuit Cables and 110V DC +VE Cables on one side and 110V DC -VE and Earth Cables on other side with the help of partition in Cable Tray being provided in the Corridor Area.



4. Lavatory wiring from PP end to NPP end shall also be contemplated in dia. 40 mm PVC Rigid Conduits. The cables as provided in conduits dia. 40 mm in Roof is as under:
- 02 conduits for RMPU wiring
 - One no. conduits with all DC +VE cables
 - One no. conduits with all DC -VE cables
 - One no. conduit with AC cables (including pantry wiring)



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| Doc. No. | Rev. | Date | SSE/CAD | SEE/D&D | Dy. CEE/DP | Page Nos. |

RAIL COACH FACTORY, KAPURTHALA

CAI No. :- ED/CAI/033, Dated :- 02.04.2024

Details for 04 Nos. Conduits:-

02 Nos. for RMPU Cables

01 No. for UIC Cable

01 No. for Temperature Sensor Cables

Details for 05 Nos. Conduits:-

02 Nos. for RMPU Cables

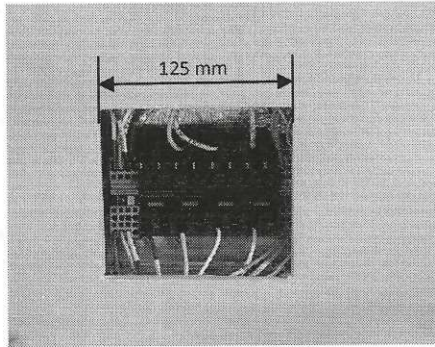
01 No. for Pantry Equipments Cable (3- ϕ , 415V AC + 3 ϕ , 110V AC (if req.))

01 No. for Lav. Wiring (110V DC +VE)

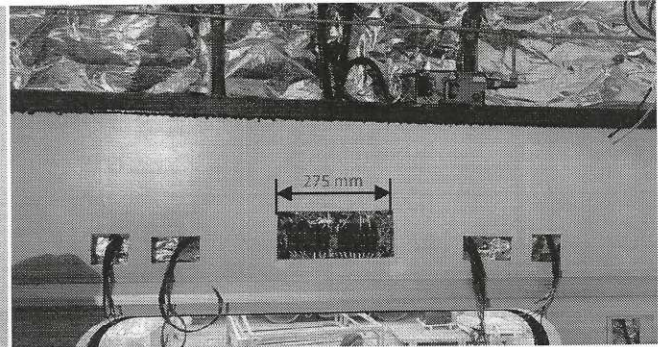
01 No. for Lav. Wiring (110V DC -VE)

d) Modifications in FRP Panels :

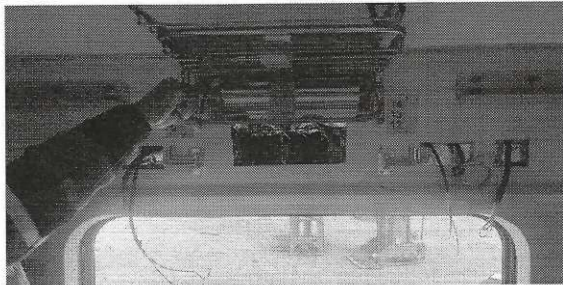
- As the length of the Cage Clamp Terminals is 270 mm approximately, the cut-out on the FRP panel behind mirror shall be modified to 275 mm (lengthwise) in-place of existing 125 mm to accommodate the Cage Clamp Terminals keeping the center at the same of the cutout at the same location. The FRP Panel shall be fixed on the sidewall and Mirror along with Luggage rake with no infringement shall occur.



Existing Cut out



Extended cutout



Behind Mirror View

e) Modifications in Lav. Wiring :

110V DC +VE & -VE branch cables in Lavatory Area shall also be segregated with the provision of cable jackets wherever required.

| | | | | | | |
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| ED/CAI/033 | 0 | 02.04.2024 | | | | 5 of 6 |
| Doc. No. | Rev. | Date | SSE/CAD | SEE/D&D | Dy. CEE/DP | Page Nos. |

RAIL COACH FACTORY, KAPURTHALA

CAI No. :- ED/CAI/033, Dated :- 02.04.2024

f) For further reference, sketch no. SKED-938 & SKED-942 has been prepared and is enclosed.

g) **Additional Modifications required in LHB EOG AC 2T Coaches :**



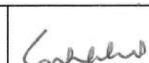
For Segregation of 110V DC +VE and -VE Cables in LHB EOG AC 2T Coaches, same modifications as advised above are to be followed and in addition to above, following are also required:-

1. For BRL Lights, Jumper wiring is done through Cable tray in the Roof Area of the Corridor Side which will be replaced by cable tray arrangement with partition to drawing no. LW44174, Item-4 for segregation of DC +VE & -VE Cables. Jumper wiring shall be terminated at the same terminals used in existing coaches.
2. Branch wiring for the BRL shall be segregated in the different conduits with the provision of Glass fuse integrated in the Berth Reading Light itself. The Drawings for Berth Reading Lights are as per following details :-

| SN | Item description | Drawing no. |
|----|--|------------------|
| 1 | Berth Reading Light with USB Charging Socket Type A & C with inbuilt 1.0 Amp Glass Fuse (For Longitudinal) | LW76419, Alt-'a' |
| 2 | Berth Reading Light with USB Charging Socket Type A & C with inbuilt 1.0 Amp Glass Fuse (For Upper Berth) | LW76420, Alt-'a' |
| 3 | Berth Reading Light with USB Charging Socket Type A & C with inbuilt 1.0 Amp Glass Fuse (For Transverse LHS Berth) | LW76421, Alt-'a' |
| 4 | Berth Reading Light with USB Charging Socket Type A & C with inbuilt 1.0 Amp Glass Fuse (For Transverse RHS Berth) | LW76422, Alt-'a' |

Step-3: For other wiring details, Please refer schematic details for the coach as follows:-

| SN | Drawing description | Drawing no. |
|----|--|------------------|
| 1 | Schematic Diagram of Roof for AC 3-Tier EOG LHB type Coaches | LE70202, Alt-'c' |
| 2 | Schematic Diagram of Roof for AC 2-Tier EOG LHB type Coaches | LW70212, Alt-'c' |

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| ED/CAI/033 | 0 | 02.04.2024 |  |  |  | 6 of 6 |
| Doc. No. | Rev. | Date | SSE/CAD | SEE/D&D | Dy. CEE/DP | Page Nos. |

SET OF CAGE CLAMP TERMINALS WITH GLASS FUSES FOR LHB EOG AC 2T & 3T COACHES

Table-1 :- For LHB EOG AC 3-Tier Coaches

| SN | ITEM DESCRIPTION | DRG./SPEC NO. | UNIT | QTY. | REMARKS |
|----|--|--|------|------|---|
| 1. | Set of Cage Clamp Terminals with Glass fuses (Layout as per SKED-938) | Steel Rail: Length=300mm Cat. No. 210-112 (01 No.) Screw less End Stop: Cat. No. 249-117 (02 Nos.) Cage Clamp Terminals : Cat. No. 282-122 (16 Nos.) Glass Fuse : 5x20 mm, 1A IEC127-74 (16 Nos.) Adjacent Jumper Insulated: Cat. No. 282-402 (08 Nos.) Cat. No. 280-402 (01 No.) Cat. No. 280-422 (02 Nos.) End & Intermediate Plate : Cat. No. 282-311 (02 Nos.) Cat. No. 280-334 (02 Nos.) Cat. No. 280-315 (02 Nos.) 4-conductor through terminal block: Cat. No. 280-833 (05 Nos.) 4-conductor Ground terminal block: Cat. No. 280-837 (04 Nos.) of M/s WAGO/Phoenix/Weidmuller or equivalent approved make | 1 | 9 | For compartment lighting/mobile charging points in transverse berths/chain pull alarm circuit |
| 2. | 4-Conductor terminal strip 2.5 sq.mm. (3-pole) | Cat. No. 261-203 of M/s WAGO/Phoenix/Weidmuller or equivalent approved make | 1 | 9 | For Mobile Charging Points in Longitudinal Berths |
| 3. | Flat Connecting Complete (with bracket to Drg. No. CC72431) | CC72428 | 1 | 2 | For PA System (Vestibule Area) |



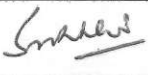

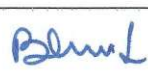
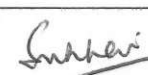
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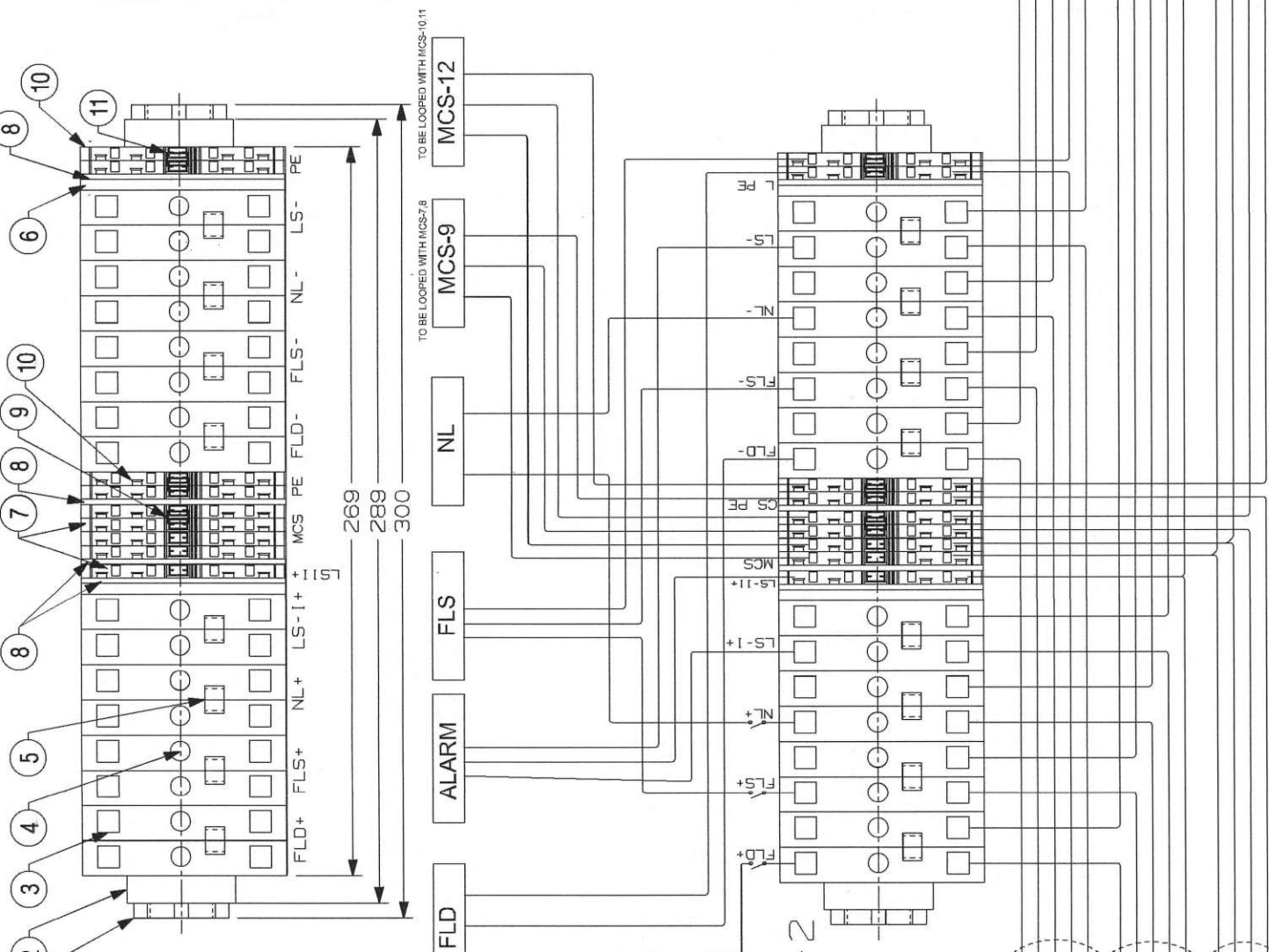
Table-2 :- For LHB EOG AC 2-Tier Coaches

| SN | ITEM DESCRIPTION | DRG./SPEC NO. | UNIT | QTY. | REMARKS |
|----|--|--|------|------|---|
| 1. | Set of Cage Clamp Terminals with Glass fuses (Layout as per SKED-938) | Steel Rail: Length=300mm Cat. No. 210-112 (01 No.) Screw less End Stop: Cat. No. 249-117 (02 Nos.) Cage Clamp Terminals : Cat. No. 282-122 (16 Nos.) Glass Fuse : 5x20 mm, 1A IEC127-74 (16 Nos.) Adjacent Jumper Insulated: Cat. No. 282-402 (08 Nos.) Cat. No. 280-402 (01 No.) Cat. No. 280-422 (02 Nos.) End & Intermediate Plate : Cat. No. 282-311 (02 Nos.) Cat. No. 280-334 (02 Nos.) Cat. No. 280-315 (02 Nos.) 4-conductor through terminal block: Cat. No. 280-833 (05 Nos.) 4-conductor Ground terminal block: Cat. No. 280-837 (04 Nos.) of M/s WAGO/Phoenix/Weidmuller or equivalent approved make | 1 | 9 | For compartment lighting/mobile charging points in transverse berths/chain pull alarm circuit |
| 2. | 4-Conductor terminal strip 2.5 sq.mm (10-pole) | Cat. No. 261-210 of M/s WAGO/Phoenix/Weidmuller or equivalent approved make | 1 | 9 | For Berth Reading Lights |
| 3. | 4-Conductor terminal strip 2.5 sq.mm (3-pole) | Cat. No. 261-203 of M/s WAGO/Phoenix/Weidmuller or equivalent approved make | 1 | 9 | For Mobile Charging Points in Longitudinal Berths |
| 4. | Flat Connecting Complete (with bracket to Drg. No. CC72431) | CC72428 | 1 | 2 | For PA System (Vestibule Area) |

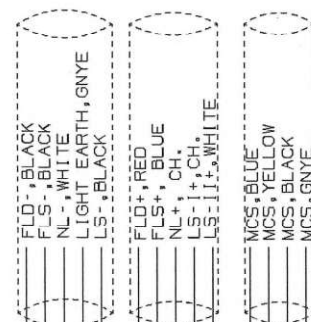
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| EDML-230 | Nil | 28.03.2024 |  |  |  | 2 of 2 |
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BILL OF MATERIAL

| SN | ITEM | PART NO./STANDARD | QTY./CABIN |
|----|------------------------------------|-------------------------------|------------|
| 1 | STEEL RAIL, L-300MM | 210-112 OF M/S WAGO OR EQUIV. | 01 NOS. |
| 2 | SCREWLESS END STOP | 249-117 OF M/S WAGO OR EQUIV. | 02 NOS. |
| 3 | CAGE CLAMP TERMINAL | 282-122 OF M/S WAGO OR EQUIV. | 16 NOS. |
| 4 | GLASS FUSE, 5X20MM, 1A | 1EC127-74 | 16 NOS. |
| 5 | ADJACENT JUMPER INSULATED | 282-402 OF M/S WAGO OR EQUIV. | 08 NOS. |
| 6 | END & INTERMEDIATE PLATE | 282-311 OF M/S WAGO OR EQUIV. | 02 NOS. |
| 7 | 4-CONDUCTOR THROUGH TERMINAL BLOCK | 280-833 OF M/S WAGO OR EQUIV. | 05 NOS. |
| 8 | END & INTERMEDIATE PLATE, ORANGE | 280-315 OF M/S WAGO OR EQUIV. | 04 NOS. |
| 9 | ADJACENT JUMPER INSULATED | 280-402 OF M/S WAGO OR EQUIV. | 01 NOS. |
| 10 | 4-CONDUCTOR GROUND TERMINAL BLOCK | 280-837 OF M/S WAGO OR EQUIV. | 04 NOS. |
| 11 | ADJACENT JUMPER INSULATED | 280-422 OF M/S WAGO OR EQUIV. | 02 NOS. |

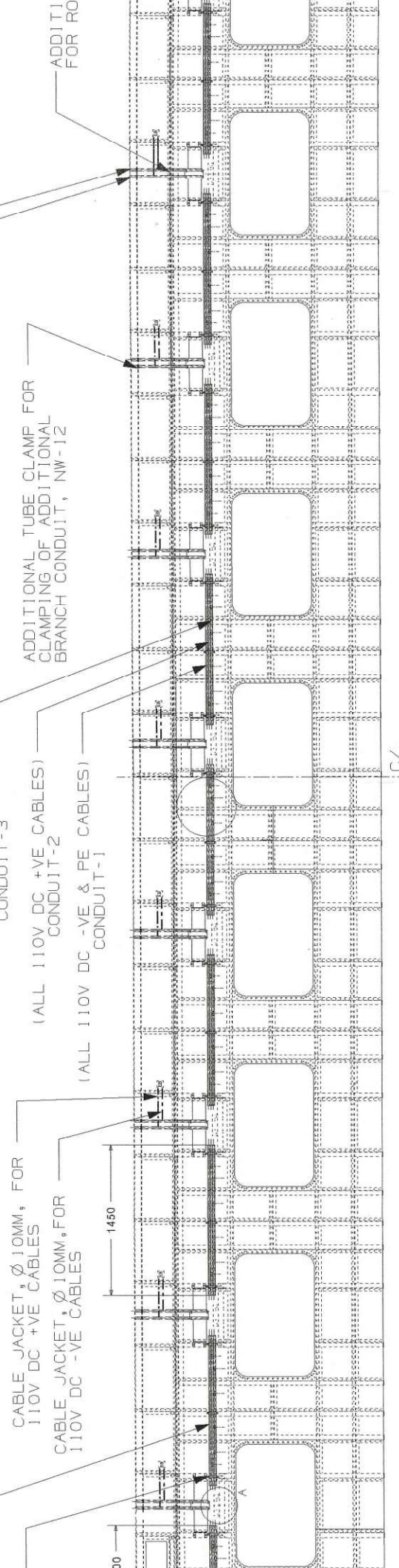


TO CABIN-3

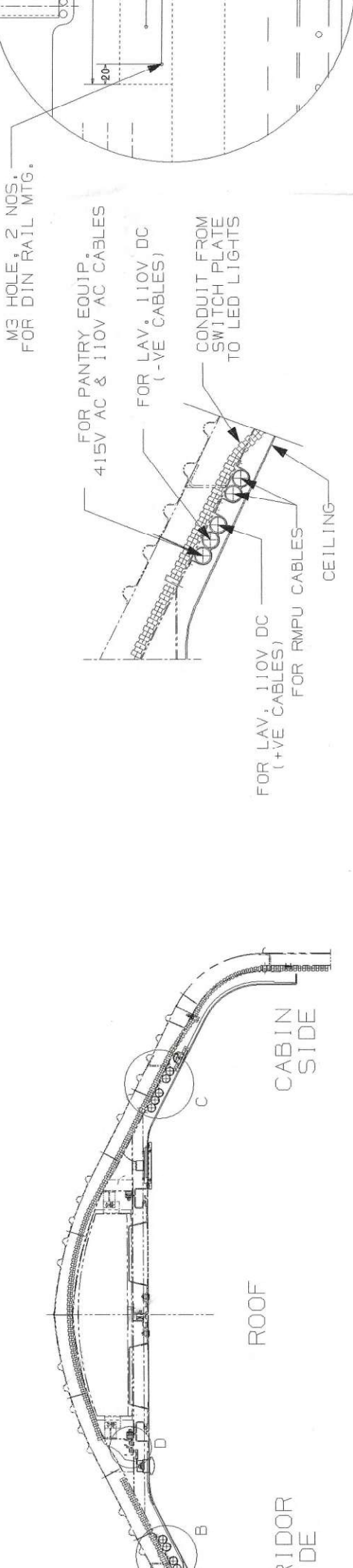


| ITEM | DESCRIPTION & DIMENSIONS | QPASSLY | DETAIL DRG |
|-------------|---------------------------------------|-------------|------------|
| GROUP | ELECTRICAL | | |
| FILE | D:\JASWINDER\AC COACHES WAGO\SKED-938 | SUPERSEDES: | NIL |
| WELD LENGTH | | | |
| NIL | M | | |
| WEIGHT | | | |
| NIL | KG | | |
| S.AREA | | | |

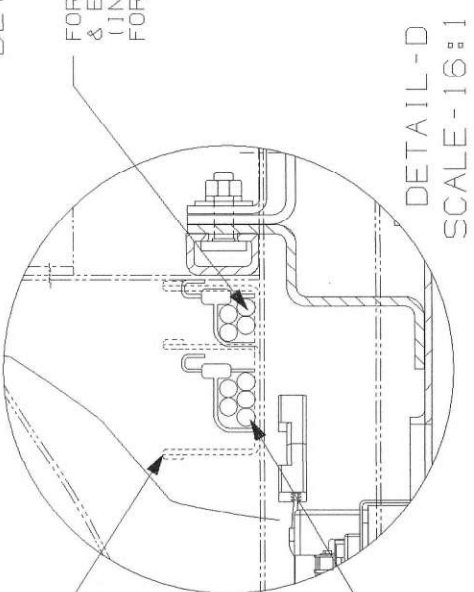
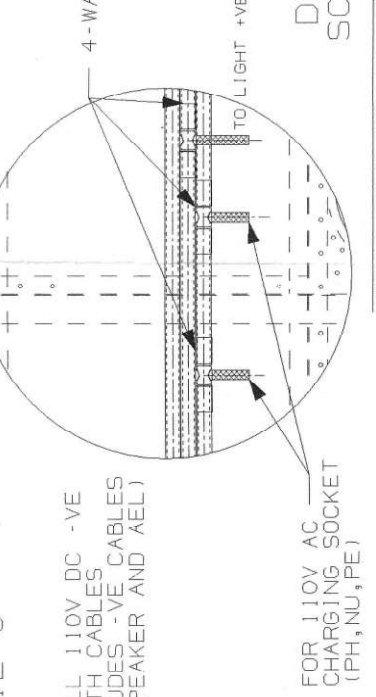
CAGE CLAMP TERMINALS
WITH CLAMP FUSES FOR CABIN AREA



SIDE-WALL (CABIN SIDE)



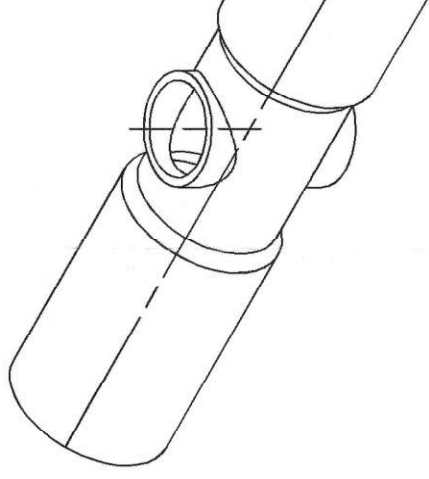
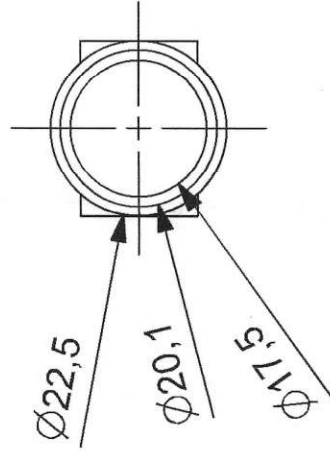
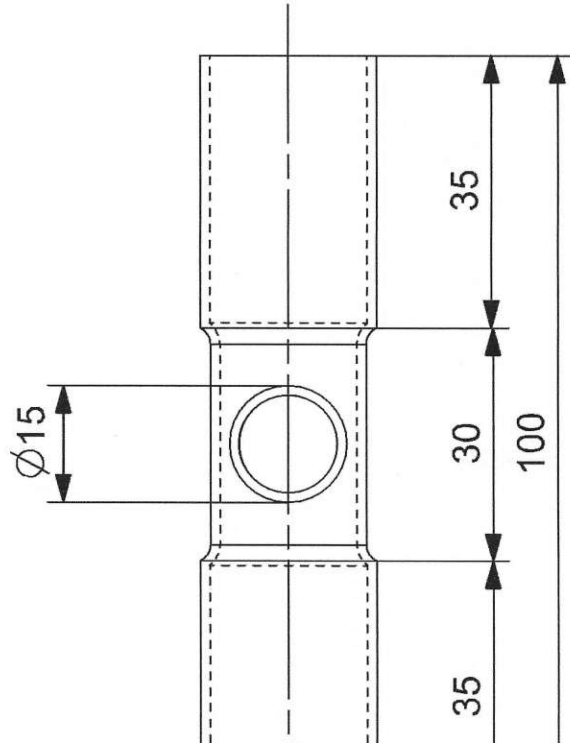
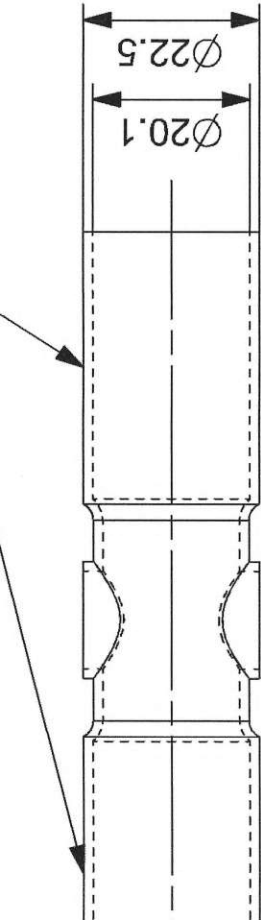
DETAIL-C



DETAIL-D
SCALE-16:1

| WELD LENGTH | | DESCRIPTION & DIMENSIONS | | ITEM | | GROUP | | ELECTRICAL | | FILE | | JASW IN DERVAC COACHES | | MOD. REQ. IN SIDEWALL | | ARRGT. OF LHB EOG AC 3T | | FOR THE PROVISION OF CAGE CLAMP TERMINALS & D | |
|-------------|---|--------------------------|---|------|---|-------|---|------------|---|------|---|------------------------|---|-----------------------|---|-------------------------|---|---|---|
| NIL | M | NIL | M | NIL | M | NIL | M | NIL | M | NIL | M | NIL | M | NIL | M | NIL | M | NIL | M |
| | | | | | | | | | | | | | | | | | | | |

PANEL BEHIND MIRROR TO DRG. NO. LE44215, ALT.-J* SHALL BE INCREASED (FROM 275MM (11") TO 275MM (11") X 125MM (5") FOR ACCOMMODATING CAGE CLAMP TERMINALS.

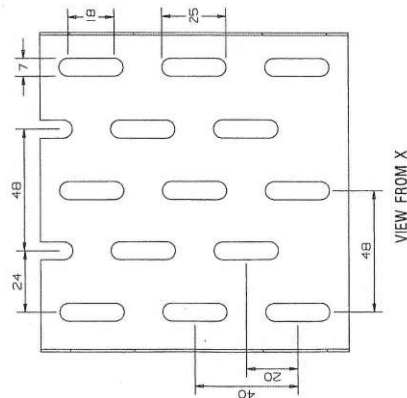
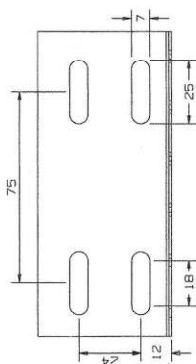
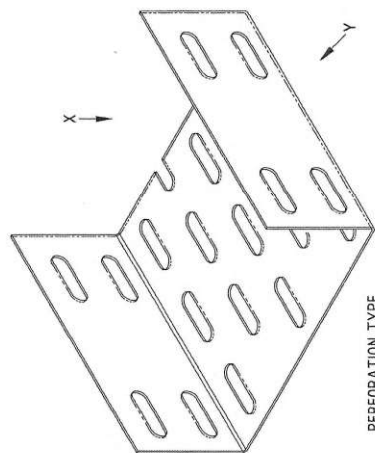


ISOMETRIC VIEW

| NIL | | NIL | | NIL | |
|---------------|------|-----------------------------|------------|-------------|----------|
| WELD LENGTH | ITEM | DESCRIPTION & DIMENSIONS | | QPASSLY | DETAIL D |
| NIL | M | GROUP | ELECTRICAL | SUPERSEDES: | NIL |
| WEIGHT | FILE | Z:\SKED-947.prt | | | |
| NIL | KG | 4-WAY SOCKETED TYPE COUPLER | | | |
| S-AREA | M2 | FOR 20 MM DIA RIGID CONDUIT | | | |
| NIL | M2 | FOR LHBE0G AC COACHES | | | |
| LENGTH / -B1A | | | | | |

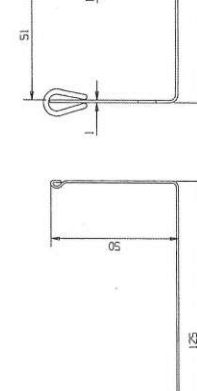
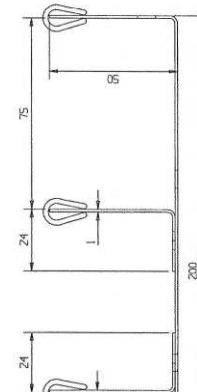
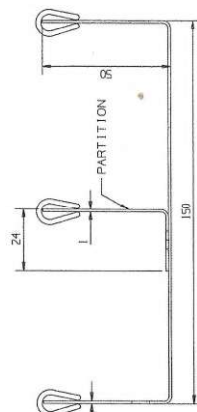
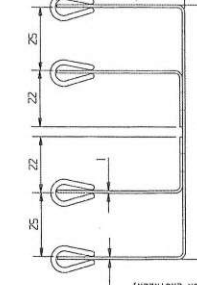
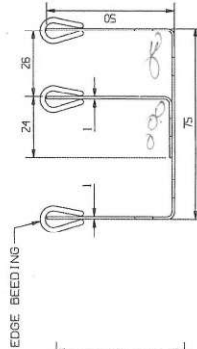
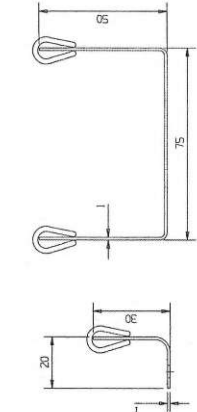
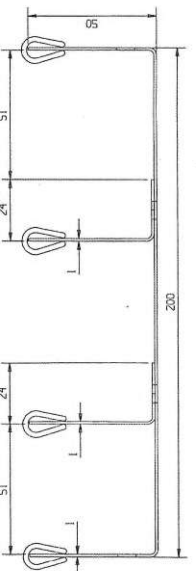
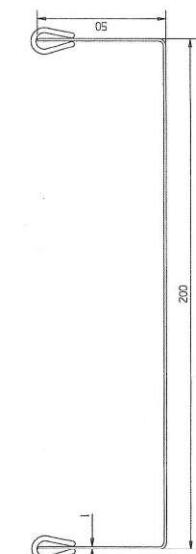
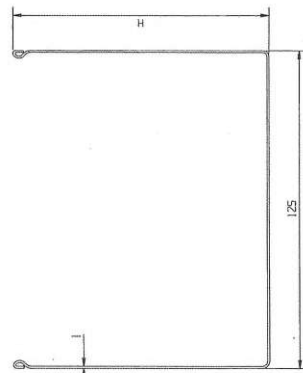
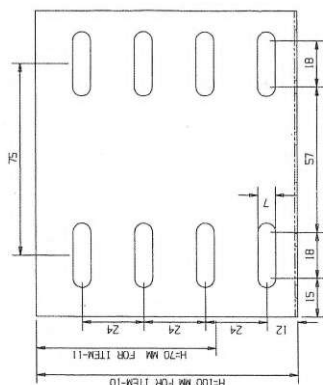
ED COUPLER SHALL GENERALLY CONFORMS TO IS:9537, PART-III
ENSIONS ARE IN MM.

| 15 | 16 | 17 | 18 | 19 |
|------------|------|--|------------------|----|
| ALT DATE | ZONE | ACTION LOG | AUTHORITY | |
| 02/08/2023 | ALL | TITLE OF THE DRAWING WAS CABLE DUCTS WHICH HAS BEEN MODIFIED TO CABLE TRAYS. | DIC NO. MO230062 | |
| 19/01/2024 | ALL | ITEM-11 ADDED, DRG & BOM UPDATED ACCORDINGLY. | MO230084 | |



NOTE:-

1. For ease of mounting and cable ventilation, cable trays will be perforated as shown in details at "X" and "Y".
2. preferable length of cable tray will 3000 mm
3. All aluminum parts will be anodized or powder coated.
4. Edge bumpers are required to protect the damage of electrical cables and shall be of hard PVC.
5. All part it ions should be properly fastened.

[illegible]

24 JAN 2024

ENTERED
NTO
DATA BASE

CABLE TRAYS

FOR IHB TYPE COACHES

RAIL COACH FACTORY, KAPURTHALA

12/21/2012

[illegible]

DETAIL DRGS STARTING WITH "LI" ARE INTERNAL REFERENCE LISTS ONLY AND ARE NOT FOR ISSUE.

ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID.

FOR UNTOLERANCED DIMENSIONS REFER MDG0008

| | |
|---------------------|------------|
| DATE OF FIRST ISSUE | 26/09/2001 |
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CGM BY

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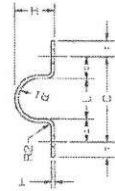
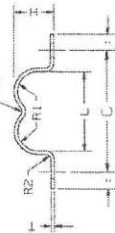
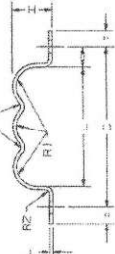
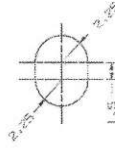
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34.CME

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| 300 | |
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| | SIZE A |
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HEET 1/1

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---------------|---------------------------|------------|---------------------|-----|----|-----|-----|----|----|----|----|----------|-------------|---------------------------|--|---------------------|--|--|--|--|--|--|--|--------------|------------|----|---|---|---|---|---|----|---|----|---------------|----|----|------|-----|----|----|-----|----|---|----|----|---------------|----|----|------|-----|----|----|-----|----|---|----|----|---------------|----|----|------|-----|----|----|-----|----|---|----|----|---------------|----|----|------|-----|----|-----|-----|----|---|----|----|---------------|----|----|------|-----|----|-----|-----|----|---|----|----|---------------|----|----|------|-----|----|-----|-----|----|---|----|----|---------------|----|----|------|-----|----|-----|-----|----|---|----|
| <div style="display: flex; justify-content: space-between;"> <div> <p>ALT. NO. ALT. DATE ZONE</p> <p>C 31/08/22 ALL</p> </div> <div> <p>NOTE-2 UPDATED</p> </div> <div> <p>AUTHORITY</p> <p>DIC NO. 230022CB229</p> </div> </div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>CLAMP FOR SINGLE CONDUIT</p> </div> <div style="text-align: center;">  <p>CLAMP FOR DOUBLE CONDUITS</p> </div> <div style="text-align: center;">  <p>CLAMP FOR TRIPPLE CONDUITS</p> </div> </div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>DETAIL AT 'N'</p> </div> </div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p style="text-align: center;">TABLE-1 FOR SINGLE CONDUIT</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">ITEM NO.</th> <th rowspan="2">DESCRIPTION</th> <th colspan="2">CONDUIT SIZE AS PER SPEC.</th> <th colspan="8">DIMENSIONS OF CLAMP</th> </tr> <tr> <th>NOMINAL SIZE</th> <th>GUTTER DIA</th> <th>R1</th> <th>T</th> <th>B</th> <th>C</th> <th>E</th> <th>H</th> <th>R2</th> <th>L</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CLAMP Ø 16</td> <td>16</td> <td>18</td> <td>19.5</td> <td>1.5</td> <td>14</td> <td>36</td> <td>50</td> <td>17</td> <td>2</td> <td>17</td> </tr> <tr> <td>2</td> <td>CLAMP Ø 20</td> <td>20</td> <td>20</td> <td>19.5</td> <td>1.5</td> <td>14</td> <td>43</td> <td>57</td> <td>21</td> <td>2</td> <td>21</td> </tr> <tr> <td>3</td> <td>CLAMP Ø 25</td> <td>25</td> <td>25</td> <td>19.5</td> <td>1.5</td> <td>14</td> <td>43</td> <td>57</td> <td>20</td> <td>2</td> <td>20</td> </tr> <tr> <td>4</td> <td>CLAMP Ø 32</td> <td>32</td> <td>32</td> <td>19.5</td> <td>1.5</td> <td>14</td> <td>49</td> <td>63</td> <td>23</td> <td>2</td> <td>23</td> </tr> <tr> <td>5</td> <td>CLAMP Ø 40</td> <td>40</td> <td>40</td> <td>19.5</td> <td>1.5</td> <td>14</td> <td>57</td> <td>71</td> <td>21</td> <td>2</td> <td>21</td> </tr> <tr> <td>6</td> <td>CLAMP Ø 50</td> <td>50</td> <td>50</td> <td>19.5</td> <td>1.5</td> <td>14</td> <td>67</td> <td>81</td> <td>21</td> <td>2</td> <td>21</td> </tr> <tr> <td>7</td> <td>CLAMP Ø 63</td> <td>63</td> <td>63</td> <td>19.5</td> <td>1.5</td> <td>14</td> <td>80</td> <td>84</td> <td>24</td> <td>2</td> <td>24</td> </tr> </tbody> </table> | | | | | | | | | | | | | ITEM NO. | DESCRIPTION | CONDUIT SIZE AS PER SPEC. | | DIMENSIONS OF CLAMP | | | | | | | | NOMINAL SIZE | GUTTER DIA | R1 | T | B | C | E | H | R2 | L | 1 | CLAMP Ø 16 | 16 | 18 | 19.5 | 1.5 | 14 | 36 | 50 | 17 | 2 | 17 | 2 | CLAMP Ø 20 | 20 | 20 | 19.5 | 1.5 | 14 | 43 | 57 | 21 | 2 | 21 | 3 | CLAMP Ø 25 | 25 | 25 | 19.5 | 1.5 | 14 | 43 | 57 | 20 | 2 | 20 | 4 | CLAMP Ø 32 | 32 | 32 | 19.5 | 1.5 | 14 | 49 | 63 | 23 | 2 | 23 | 5 | CLAMP Ø 40 | 40 | 40 | 19.5 | 1.5 | 14 | 57 | 71 | 21 | 2 | 21 | 6 | CLAMP Ø 50 | 50 | 50 | 19.5 | 1.5 | 14 | 67 | 81 | 21 | 2 | 21 | 7 | CLAMP Ø 63 | 63 | 63 | 19.5 | 1.5 | 14 | 80 | 84 | 24 | 2 | 24 |
| ITEM NO. | DESCRIPTION | CONDUIT SIZE AS PER SPEC. | | DIMENSIONS OF CLAMP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | NOMINAL SIZE | GUTTER DIA | R1 | T | B | C | E | H | R2 | L | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | CLAMP Ø 16 | 16 | 18 | 19.5 | 1.5 | 14 | 36 | 50 | 17 | 2 | 17 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | CLAMP Ø 20 | 20 | 20 | 19.5 | 1.5 | 14 | 43 | 57 | 21 | 2 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | CLAMP Ø 25 | 25 | 25 | 19.5 | 1.5 | 14 | 43 | 57 | 20 | 2 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | CLAMP Ø 32 | 32 | 32 | 19.5 | 1.5 | 14 | 49 | 63 | 23 | 2 | 23 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | CLAMP Ø 40 | 40 | 40 | 19.5 | 1.5 | 14 | 57 | 71 | 21 | 2 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | CLAMP Ø 50 | 50 | 50 | 19.5 | 1.5 | 14 | 67 | 81 | 21 | 2 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | CLAMP Ø 63 | 63 | 63 | 19.5 | 1.5 | 14 | 80 | 84 | 24 | 2 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p style="text-align: center;">TABLE-2 FOR DOUBLE CONDUITS</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">ITEM NO.</th> <th rowspan="2">DESCRIPTION</th> <th colspan="2">CONDUIT SIZE AS PER SPEC.</th> <th colspan="8">DIMENSIONS OF CLAMP</th> </tr> <tr> <th>NOMINAL SIZE</th> <th>GUTTER DIA</th> <th>R1</th> <th>T</th> <th>B</th> <th>C</th> <th>E</th> <th>H</th> <th>R2</th> <th>L</th> </tr> </thead> <tbody> <tr> <td>8</td> <td>CLAMP 2X Ø 16</td> <td>16</td> <td>16</td> <td>19.5</td> <td>1.5</td> <td>14</td> <td>52</td> <td>66</td> <td>17</td> <td>2</td> <td>17</td> </tr> <tr> <td>9</td> <td>CLAMP 2X Ø 20</td> <td>20</td> <td>20</td> <td>19.5</td> <td>1.5</td> <td>14</td> <td>60</td> <td>60</td> <td>21</td> <td>2</td> <td>21</td> </tr> <tr> <td>10</td> <td>CLAMP 2X Ø 25</td> <td>25</td> <td>25</td> <td>19.5</td> <td>1.5</td> <td>14</td> <td>70</td> <td>69</td> <td>25</td> <td>2</td> <td>25</td> </tr> <tr> <td>11</td> <td>CLAMP 2X Ø 32</td> <td>32</td> <td>32</td> <td>19.5</td> <td>1.5</td> <td>14</td> <td>82</td> <td>65</td> <td>29</td> <td>2</td> <td>29</td> </tr> <tr> <td>12</td> <td>CLAMP 2X Ø 40</td> <td>40</td> <td>40</td> <td>19.5</td> <td>1.5</td> <td>14</td> <td>100</td> <td>116</td> <td>41</td> <td>2</td> <td>41</td> </tr> <tr> <td>13</td> <td>CLAMP 2X Ø 50</td> <td>50</td> <td>50</td> <td>19.5</td> <td>1.5</td> <td>14</td> <td>120</td> <td>135</td> <td>51</td> <td>2</td> <td>51</td> </tr> <tr> <td>14</td> <td>CLAMP 2X Ø 63</td> <td>63</td> <td>63</td> <td>19.5</td> <td>1.5</td> <td>14</td> <td>148</td> <td>165</td> <td>64</td> <td>2</td> <td>64</td> </tr> </tbody> </table> | | | | | | | | | | | | | ITEM NO. | DESCRIPTION | CONDUIT SIZE AS PER SPEC. | | DIMENSIONS OF CLAMP | | | | | | | | NOMINAL SIZE | GUTTER DIA | R1 | T | B | C | E | H | R2 | L | 8 | CLAMP 2X Ø 16 | 16 | 16 | 19.5 | 1.5 | 14 | 52 | 66 | 17 | 2 | 17 | 9 | CLAMP 2X Ø 20 | 20 | 20 | 19.5 | 1.5 | 14 | 60 | 60 | 21 | 2 | 21 | 10 | CLAMP 2X Ø 25 | 25 | 25 | 19.5 | 1.5 | 14 | 70 | 69 | 25 | 2 | 25 | 11 | CLAMP 2X Ø 32 | 32 | 32 | 19.5 | 1.5 | 14 | 82 | 65 | 29 | 2 | 29 | 12 | CLAMP 2X Ø 40 | 40 | 40 | 19.5 | 1.5 | 14 | 100 | 116 | 41 | 2 | 41 | 13 | CLAMP 2X Ø 50 | 50 | 50 | 19.5 | 1.5 | 14 | 120 | 135 | 51 | 2 | 51 | 14 | CLAMP 2X Ø 63 | 63 | 63 | 19.5 | 1.5 | 14 | 148 | 165 | 64 | 2 | 64 |
| ITEM NO. | DESCRIPTION | CONDUIT SIZE AS PER SPEC. | | DIMENSIONS OF CLAMP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | NOMINAL SIZE | GUTTER DIA | R1 | T | B | C | E | H | R2 | L | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | CLAMP 2X Ø 16 | 16 | 16 | 19.5 | 1.5 | 14 | 52 | 66 | 17 | 2 | 17 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | CLAMP 2X Ø 20 | 20 | 20 | 19.5 | 1.5 | 14 | 60 | 60 | 21 | 2 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | CLAMP 2X Ø 25 | 25 | 25 | 19.5 | 1.5 | 14 | 70 | 69 | 25 | 2 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | CLAMP 2X Ø 32 | 32 | 32 | 19.5 | 1.5 | 14 | 82 | 65 | 29 | 2 | 29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | CLAMP 2X Ø 40 | 40 | 40 | 19.5 | 1.5 | 14 | 100 | 116 | 41 | 2 | 41 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | CLAMP 2X Ø 50 | 50 | 50 | 19.5 | 1.5 | 14 | 120 | 135 | 51 | 2 | 51 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | CLAMP 2X Ø 63 | 63 | 63 | 19.5 | 1.5 | 14 | 148 | 165 | 64 | 2 | 64 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p style="text-align: center;">TABLE-3 FOR TRIPPLE CONDUITS</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">ITEM NO.</th> <th rowspan="2">DESCRIPTION</th> <th colspan="2">CONDUIT SIZE AS PER SPEC.</th> <th colspan="8">DIMENSIONS OF CLAMP</th> </tr> <tr> <th>NOMINAL SIZE</th> <th>GUTTER DIA</th> <th>R1</th> <th>T</th> <th>B</th> <th>C</th> <th>E</th> <th>H</th> <th>R2</th> <th>L</th> </tr> </thead> <tbody> <tr> <td>15</td> <td>CLAMP 3X Ø 16</td> <td>16</td> <td>16</td> <td>19.5</td> <td>1.5</td> <td>20</td> <td>80</td> <td>102</td> <td>17</td> <td>2</td> <td>17</td> </tr> <tr> <td>16</td> <td>CLAMP 3X Ø 20</td> <td>20</td> <td>20</td> <td>19.5</td> <td>1.5</td> <td>20</td> <td>86</td> <td>102</td> <td>21</td> <td>2</td> <td>21</td> </tr> <tr> <td>17</td> <td>CLAMP 3X Ø 25</td> <td>25</td> <td>25</td> <td>19.5</td> <td>1.5</td> <td>20</td> <td>96</td> <td>110</td> <td>20</td> <td>2</td> <td>20</td> </tr> <tr> <td>18</td> <td>CLAMP 3X Ø 32</td> <td>32</td> <td>32</td> <td>19.5</td> <td>1.5</td> <td>20</td> <td>115</td> <td>130</td> <td>23</td> <td>2</td> <td>23</td> </tr> <tr> <td>19</td> <td>CLAMP 3X Ø 40</td> <td>40</td> <td>40</td> <td>19.5</td> <td>1.5</td> <td>20</td> <td>140</td> <td>155</td> <td>41</td> <td>2</td> <td>41</td> </tr> <tr> <td>20</td> <td>CLAMP 3X Ø 50</td> <td>50</td> <td>50</td> <td>19.5</td> <td>1.5</td> <td>20</td> <td>175</td> <td>180</td> <td>51</td> <td>2</td> <td>51</td> </tr> <tr> <td>21</td> <td>CLAMP 3X Ø 63</td> <td>63</td> <td>63</td> <td>19.5</td> <td>1.5</td> <td>20</td> <td>212</td> <td>230</td> <td>64</td> <td>2</td> <td>64</td> </tr> </tbody> </table> | | | | | | | | | | | | | ITEM NO. | DESCRIPTION | CONDUIT SIZE AS PER SPEC. | | DIMENSIONS OF CLAMP | | | | | | | | NOMINAL SIZE | GUTTER DIA | R1 | T | B | C | E | H | R2 | L | 15 | CLAMP 3X Ø 16 | 16 | 16 | 19.5 | 1.5 | 20 | 80 | 102 | 17 | 2 | 17 | 16 | CLAMP 3X Ø 20 | 20 | 20 | 19.5 | 1.5 | 20 | 86 | 102 | 21 | 2 | 21 | 17 | CLAMP 3X Ø 25 | 25 | 25 | 19.5 | 1.5 | 20 | 96 | 110 | 20 | 2 | 20 | 18 | CLAMP 3X Ø 32 | 32 | 32 | 19.5 | 1.5 | 20 | 115 | 130 | 23 | 2 | 23 | 19 | CLAMP 3X Ø 40 | 40 | 40 | 19.5 | 1.5 | 20 | 140 | 155 | 41 | 2 | 41 | 20 | CLAMP 3X Ø 50 | 50 | 50 | 19.5 | 1.5 | 20 | 175 | 180 | 51 | 2 | 51 | 21 | CLAMP 3X Ø 63 | 63 | 63 | 19.5 | 1.5 | 20 | 212 | 230 | 64 | 2 | 64 |
| ITEM NO. | DESCRIPTION | CONDUIT SIZE AS PER SPEC. | | DIMENSIONS OF CLAMP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | NOMINAL SIZE | GUTTER DIA | R1 | T | B | C | E | H | R2 | L | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | CLAMP 3X Ø 16 | 16 | 16 | 19.5 | 1.5 | 20 | 80 | 102 | 17 | 2 | 17 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | CLAMP 3X Ø 20 | 20 | 20 | 19.5 | 1.5 | 20 | 86 | 102 | 21 | 2 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | CLAMP 3X Ø 25 | 25 | 25 | 19.5 | 1.5 | 20 | 96 | 110 | 20 | 2 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | CLAMP 3X Ø 32 | 32 | 32 | 19.5 | 1.5 | 20 | 115 | 130 | 23 | 2 | 23 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | CLAMP 3X Ø 40 | 40 | 40 | 19.5 | 1.5 | 20 | 140 | 155 | 41 | 2 | 41 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | CLAMP 3X Ø 50 | 50 | 50 | 19.5 | 1.5 | 20 | 175 | 180 | 51 | 2 | 51 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | CLAMP 3X Ø 63 | 63 | 63 | 19.5 | 1.5 | 20 | 212 | 230 | 64 | 2 | 64 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div> <p>WELD LENGTH</p> <p>NIL</p> </div> <div> <p>DESCRIPTION & DIMENSIONS</p> <p>ELECTRICAL</p> </div> <div> <p>DETAIL DRG</p> <p>LP76001</p> </div> <div> <p>REMARKS</p> <p>CLAMPS (FOR LHB TYPE COACHES)</p> </div> </div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div> <p>SCALE</p> <p>3/8" = 1"</p> </div> <div> <p>DATE</p> <p>31/08/22</p> </div> <div> <p>BY</p> <p>DRG</p> </div> <div> <p>CHKD</p> <p>YKDS</p> </div> </div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div> <p>PL NO.</p> <p>DRG NO. LP76001</p> </div> <div> <p>REVISED</p> <p>1/1</p> </div> </div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

3- CLAMPS AND THE HOLE ETC SHALL BE SMOOTHEND TO REMOVE ALL SHARP EDGES.
 2- FOR ALL ITEMS MATERIAL SHALL BE CONFORMING TO SPEC. NO. IS:5086-2011, FE-235 AND SHALL BE
 HOT DIP GALVANIZED AS PER IS:277-2018.
 NOTE1- 1- ALL DIMENSIONS ARE IN MM.

DETAIL DRGS STARTING WITH "LI" ARE INTERNAL REFERENCE LISTS ONLY AND ARE NOT FOR ISSUE
 ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID.
 FOR UNTOLERANCED DIMENSIONS REFER MDG0008 DATE OF FIRST ISSUE 31/08/2022