

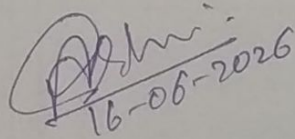
Document No: CEE/01/PQR/140760036

Additional Terms and Conditions for Bidders (including Pre-Qualification requirements)

Supply of "Underframe and Equipment room cable routing and it's metal conduits/duct/tray arrangement and its accessories for KMMC".

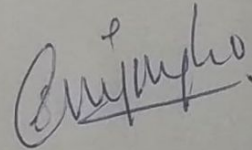
S. No	Description of requirement	Document to be attached
1	Bidder should submit a self-declaration stating that, "Offered item is same as per enquiry and there is no deviation".	Self-declaration on letterhead of firm.
2	Contract shall be awarded to only such bidder who had supplied minimum one no. of same or similar indented item to any Public Sector Undertaking, Central Govt sector/ private sector/ Indian railways working for rolling stock application.	PO and corresponding Invoice copy.

Prepared By



Ashwini Kumar  
Mgr (CEE)

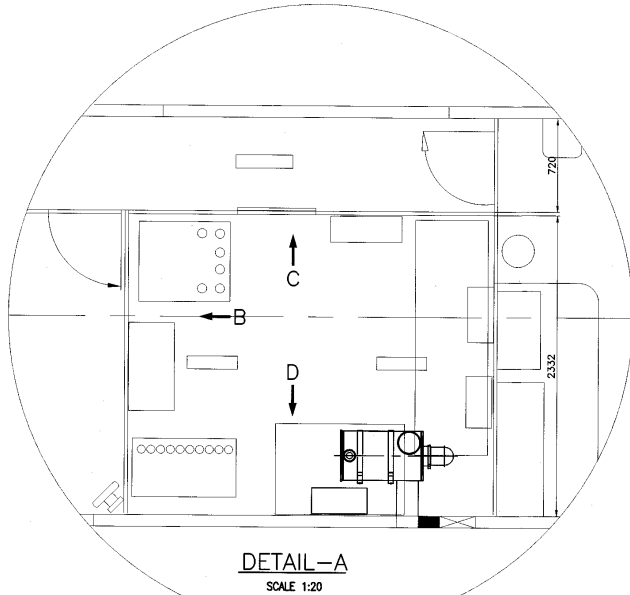
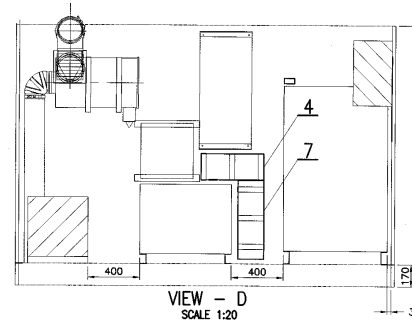
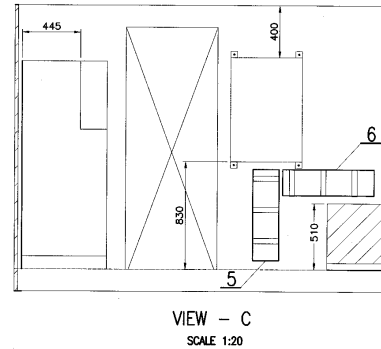
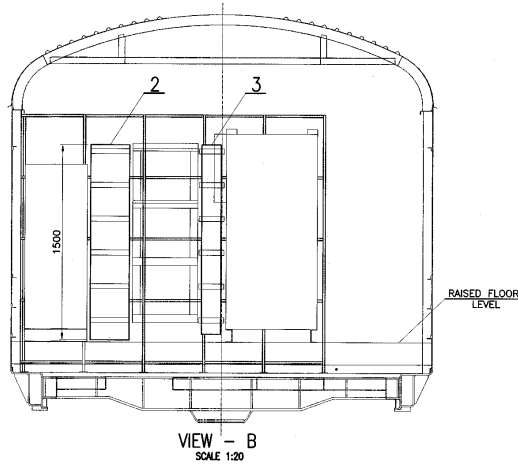
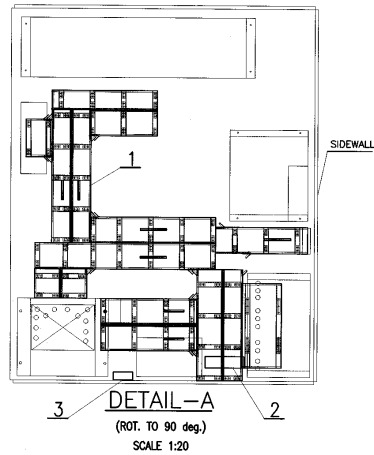
Approved By



(Sanjay K. Rai)  
AGM(CEE)

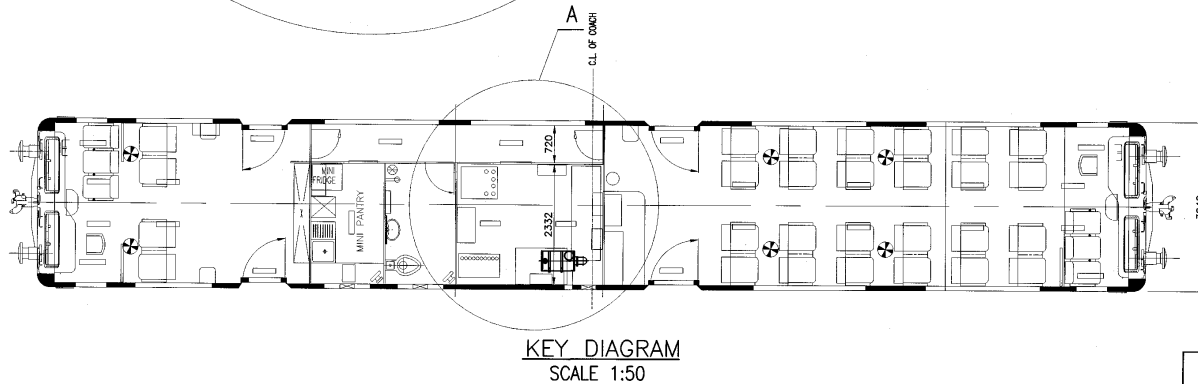
SPICAC-7-2-005

ALTERATIONS



NOTE:-

- ALL TRAY JOINTS SHALL BE DRESSED NEATLY TO AVOID ANY SHARP EDGES. AFTER COMPLETION OF FIRST PROTO TYPE, THE CHANGES SHALL BE DULY INCORPORATED IN THE SERIES PRODUCTION IN CONSULTATION WITH ICF DESIGN.
- EDGE PROTECTION SUITABLE FOR SS TRAY AND TRAY PARTITION (t=1.6 mm) WITH CLIP OR INSERTS, BLACK COLOUR SIMILAR TO SAP REF.NO. 114910 OF M/S.PRICOL LTD.
- THE FIRM, SUPPLY & INSTALLATION OF TRAYS SHALL CARRY OUT THE INSTALLATION OF EDGE PROTECTION (ICF SCOPE) ON ALL EDGES OF TRAYS & PARTITIONS TO AVOID DAMAGE OF CABLES WHILE LAYING/DRAWING/BRANCHING.
- ALL CUTTING EDGES SHALL BE PROVIDED WITH EDGE PROTECTION TO AVOID SHARP EDGES.
- TRAY ARRANGEMENT SHOWN IN THIS DRAWING IS TENTATIVE ANY CHANGES REQUIRED IN THE TRAY ARRANGEMENT BASED ON SITE CONDITION TO BE MODIFIED BY TRAY SUPPLIER WITHOUT ANY FINANCIAL IMPLICATIONS.
- ITEMS-8 & 9 ARE ICF SCOPE, ITEM-9 SUITABLY LOCATED AND WELDED IN COACH & EARTHING OF TRAYS SHALL BE DONE BY TRAY SUPPLIER WITH ALL EARTHING HARDWARES. EARTHING HARDWARES SUITABLE TO ITEM-9 SHALL BE SUPPLIED BY TRAY SUPPLIER.
- ITEMS- 2 TO 7 ARE MOUNTED ON SHELL WELDED BRACKETS BY FIXING HARDWARES SHOWN IN DRG. SPICAC 7-2-003.



COL-I TRAY SUPPLIER'S SCOPE  
COL-II ICF SCOPE

\* SPICAC

ASSEMBLY DRAWINGS

16-08-2018

DATE OF FIRST ISSUE

DY.CEE/D

1	EDGE PROTECTION L=7mts.	10				SEENOTE-2&3
20	EARTHING BLOCK M8	9	ICF/SK 7-2-487			ITEM-4
20	BRAIDED TINED COPPER L=250	8	ICF/SK 7-2-487			ITEM-1
1	CABLE TRAY ASSEMBLY	7				COL-VII
1	CABLE TRAY ASSEMBLY	6				COL-VI
1	CABLE TRAY ASSEMBLY	5				COL-V
1	CABLE TRAY ASSEMBLY	4	SPICAC 7-2-003			COL-IV
1	CABLE TRAY ASSEMBLY	3				COL-III
1	CABLE TRAY ASSEMBLY	2				COL-II
1	CABLE TRAY ASSEMBLY	1				COL-I
NO. OFF	DESCRIPTION & DIMENSIONS	ITEM	REF. DRG.	MAT. & SPECN.	WEIGHT/UNIT	REMARKS
IV III II I	GROUP: 9-0					
						SUPERSEDED BY:
						SCALE SSE/D
						1:10
						CHD. S ARUNKUMAR
						ALT. S ARUNKUMAR
						DRN S ARUNKUMAR
						ALT.
						INTEGRAL COACH FACTORY CHENNAI-600038
						SPICAC-7-2-005

CABLE TRAY ARRANGEMENT  
INSIDE CONTROL EQUIPMENT ROOM  
(SELF PROPELLED INSPECTION CAR)

CAD FILE NO: ED CAD/800 7-2 005---00

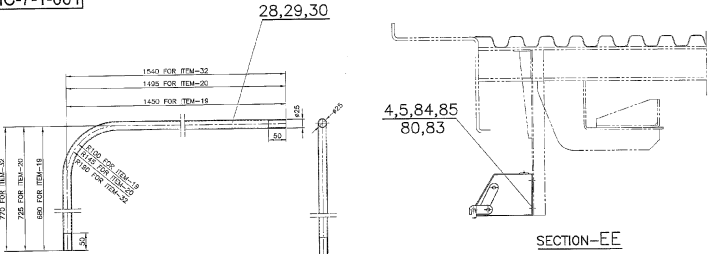
DATA  
CODE  
800

INDIAN RAILWAY  
STANDARDS

SHEET  
1 OF 1

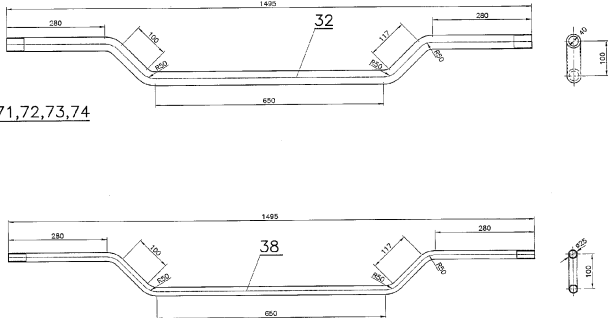
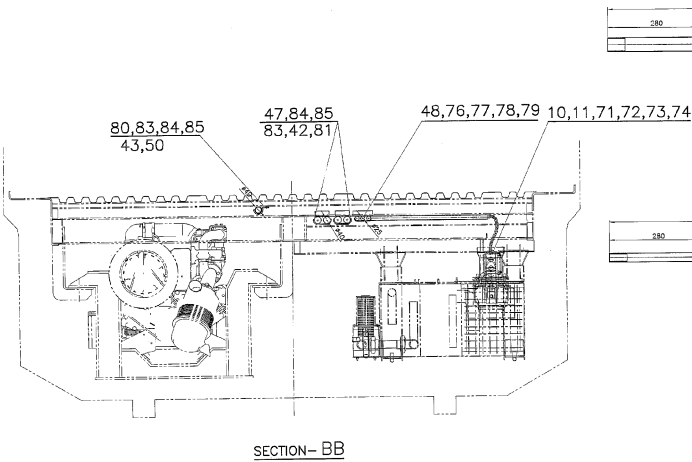


KMMC-7-1-001



NOTE:-

- THE FOLLOWING EQUIPMENTS SHALL BE FATHED USING OF ITEMS-13 TO 16.
  - TRACTION ALTERNATOR 1x2 Nos.
  - TRACTION MOTOR 48 2x2 Nos.
  - BOOSE BODY EARTHING 2x2 Nos.
  - MONO BLOCK PUMP 1x2 Nos.
  - BATTERY CHARGER 1x2 Nos.
  - ON SET 1x2 Nos.
- SUITABLE CABLES SHOULD BE MADE AT SITE IN THE TRAY/TRAY COVER AND CABLE BOXES FOR TAYING CABLES TO EQUIPMENTS.
- (a) CABLE JACKETS SHALL BE USED TO PROTECT THE AREA OF CABLES WHICH ARE NOT PASSING THROUGH FLEXIBLE CONDUIT OR RIGID CONDUIT.  
(b) WHEREVER DIFFERENT POLARITY CABLES ARE PASSING THROUGH JUNCTION BOXES & SHORT DISTANCE IN SAME CONDUITS/FLEXIBLE CONDUITS.  
ALL THE CABLES SHALL BE PROTECTED WITH CABLE JACKETS FOR THE ENTIRE LENGTH.
- STIFFENER ROD SHALL BE SUITABLY CUT, BEND & WELDED AT SITE FOR SUPPORTING FLEXIBLE CONDUITS.
- (a) ALUMINUM ALLOY CONDUITS DIFFERENT DIAMETER SHALL HAVE 2MM WALL THICKNESS OF THECABLE QUALITY TO DESIGNATION 83400 OF TABLE-1 & CONDUIT TRAYING OF THECABLE QUALITY TO DESIGNATION 83400 OF TABLE-1 & CONDUIT TRAYING OF THECABLE QUALITY TO DESIGNATION 83400 OF TABLE-2 TO 13.128(LATEST) SUITABLE FOR ELECTRICAL WIRING GENERALLY CONFORMING TO IS:8537 LATEST PART-1, MARKING SHALL CONFORM TO CLAUSE 6 OF IS: 8537 LATEST PART-1 AND DIMENSIONS SHALL CONFORM TO IS: 2973 LATEST.  
(b) BOTH ENDS OF THE CONDUITS TO BE THREADED 300MM LENGTH.  
(c) ALUMINUM ALLOY THREADED QUALITY HEX. LOCK NUT & COUPLER TO IS:1285(LATEST) WITH DESIGNATION 83400 CONDUIT TRAYING OF TABLE-2 WITH IS:14768 PART-1 CLAUSE 6.3.3 (MEDIUM MECHANICAL STRENGTH), CLAUSE 6 TABLE-1 8 AND 1/8 FOR TEMPERATURE CLASSIFICATION CLAUSE 6.6.1 (PROTECTION AGAINST DUST) & CLAUSE 6.6.3 (WITH OCCASIONAL TENSILE STRENGTH FOR 10 KG LOAD) & DIMENSIONS TO TABLE 6 OF IS:3537-(LATEST) FOR HEX. LOCK NUT, IS:14768 PART-2(LATEST) FOR COUPLER.
- ITEM-48 SHALL BE USED FOR LOWERING BRACKETS OF MC BOXES-1 & 2 TO AVOID CABLE STRAIN.
- ALL WELDED SURFACE SHALL BE PROPERLY DRESSED & PAINTED USING AEROSOL SPRAY PAINT OF MATCHING COLOUR INCLUDING STIFFENERS, CONDUIT CLAMPING ARRANGEMENT, SUPPORTING ANGLE & CLAMPS (EXCLUDING HARDWARE).
- ITEMS-17 TO 22 SHALL BE USED FOR EARTHING OF PRECOOLING SOCKET BOX AND 1/8 CONDUITS.
- ITEM 24 (U) NO.3171/2386 SUPPLY LOCATED AND WELDED AT SITE. ITEM 18/19 NOT BE PLANNED FOR PROCEEDMENT AS EXCESS STOCKS AVAILABLE.
- THE SCOPE OF SUPPLY IS NOT EXHAUSTIVE, ANY OTHER ITEM WHICH ARE NOT MENTIONED IN THE SCOPE OF SUPPLY BUT REQUIRED FOR PROPER FUNCTIONING OF SYSTEM SHALL BE IN THE SCOPE OF SUPPLIER.
- THE SUPPLIER SHALL EXECUTE ANY IMPROVEMENT/ADAPTATION IN DESIGN AS SUGGESTED BY ICF WITHOUT ANY FINANCIAL IMPLICATION.
- IN TRAYS SUFFICIENT PARTITIONS SHALL BE PROVIDED FOR SEGREGATION OF CABLES ACCORDING TO VOLTAGE/CATEGORY, POSITIVE AND NEGATIVE CABLES SHALL BE ROUTED THROUGH SEPARATE CONDUITS.



COL- I ⇒ PROPULSION SUPPLIER'S SCOPE OF SUPPLY.  
COL- II ⇒ ICF SCOPE OF SUPPLY.

NO. OFF	DESCRIPTION & DIMENSIONS	ITEM	REF.	QTY.	MAT. SPEC.	WEIGHT/KG	REMARKS	NO. OFF	DESCRIPTION & DIMENSIONS	ITEM	REF.	QTY.	MAT. SPEC.	WEIGHT/KG	REMARKS
1	BRACKET FOR 48V DC CONDUIT CLAMPING	91			UNCLASSIFIED			1	CLAMP 400	50					
2	PLAIN WASHER 11	90			ASS-304			2	CONDUIT 400 x 400	39					
3	HEX. HEAD SCREW M8 x 100	89			ASS-304			3	CONDUIT 400 x 1000 (BEND)	38					
4	HEX. HEAD SCREW M8 x 75	88			ASS-304			4	CONDUIT 400 x 1000 (BEND)	37					
5	HEX. HEAD SCREW M8 x 35-4.6	87			ASS-304			5	CONDUIT 400 x 1000 (BEND)	36					
6	PLAIN WASHER 6	86			ASS-304			6	CONDUIT 400 x 1000 (BEND)	35					
7	PLAIN WASHER 9	85			ASS-304			7	CONDUIT 400 x 1000 (BEND)	34					
8	HEX. HEAD SCREW M8 x 25	84			ASS-304			8	CONDUIT 400 x 1000 (BEND)	33					
9	HEX. HEAD SCREW M8 x 10	83			ASS-304			9	CONDUIT 400 x 1000 (BEND)	32					
10	HEX. HEAD SCREW M8 x 100	82			ASS-304			10	CONDUIT 400 x 1000 (BEND)	31					
11	HEX. HEAD SCREW M8 x 75	81			ASS-304			11	CONDUIT 400 x 1000 (BEND)	30					
12	HEX. HEAD SCREW M8 x 35-4.6	80			ASS-304			12	CONDUIT 400 x 1000 (BEND)	29					
13	PLAIN WASHER 6.6	79			ASS-304			13	CONDUIT 400 x 1000 (BEND)	28					
14	PLAIN WASHER 9.6	78			ASS-304			14	CONDUIT 400 x 1000 (BEND)	27					
15	HEX. HEAD SCREW M8 x 50	77			ASS-304			15	CONDUIT 400 x 1000 (BEND)	26					
16	HEX. HEAD SCREW M8 x 25	76			ASS-304			16	CONDUIT 400 x 1000 (BEND)	25					
17	PLAIN WASHER 6	75			ASS-304			17	CONDUIT 400 x 1000 (BEND)	24					
18	PLAIN WASHER 9	74			ASS-304			18	CONDUIT 400 x 1000 (BEND)	23					
19	HEX. HEAD SCREW M8 x 10	73			ASS-304			19	CONDUIT 400 x 1000 (BEND)	22					
20	HEX. HEAD SCREW M8 x 100	72			ASS-304			20	CONDUIT 400 x 1000 (BEND)	21					
21	HEX. HEAD SCREW M8 x 75	71			ASS-304			21	CONDUIT 400 x 1000 (BEND)	20					
22	HEX. HEAD SCREW M8 x 35-4.6	70			ASS-304			22	CONDUIT 400 x 1000 (BEND)	19					
23	PLAIN WASHER 6.6	69			ASS-304			23	CONDUIT 400 x 1000 (BEND)	18					
24	PLAIN WASHER 9.6	68			ASS-304			24	CONDUIT 400 x 1000 (BEND)	17					
25	HEX. HEAD SCREW M8 x 50	67			ASS-304			25	CONDUIT 400 x 1000 (BEND)	16					
26	HEX. HEAD SCREW M8 x 25	66			ASS-304			26	CONDUIT 400 x 1000 (BEND)	15					
27	PLAIN WASHER 6	65			ASS-304			27	CONDUIT 400 x 1000 (BEND)	14					
28	PLAIN WASHER 9	64			ASS-304			28	CONDUIT 400 x 1000 (BEND)	13					
29	HEX. HEAD SCREW M8 x 10	63			ASS-304			29	CONDUIT 400 x 1000 (BEND)	12					
30	HEX. HEAD SCREW M8 x 100	62			ASS-304			30	CONDUIT 400 x 1000 (BEND)	11					
31	HEX. HEAD SCREW M8 x 75	61			ASS-304			31	CONDUIT 400 x 1000 (BEND)	10					
32	HEX. HEAD SCREW M8 x 35-4.6	60			ASS-304			32	CONDUIT 400 x 1000 (BEND)	9					
33	PLAIN WASHER 6.6	59			ASS-304			33	CONDUIT 400 x 1000 (BEND)	8					
34	PLAIN WASHER 9.6	58			ASS-304			34	CONDUIT 400 x 1000 (BEND)	7					
35	HEX. HEAD SCREW M8 x 50	57			ASS-304			35	CONDUIT 400 x 1000 (BEND)	6					
36	HEX. HEAD SCREW M8 x 25	56			ASS-304			36	CONDUIT 400 x 1000 (BEND)	5					
37	PLAIN WASHER 6	55			ASS-304			37	CONDUIT 400 x 1000 (BEND)	4					
38	PLAIN WASHER 9	54			ASS-304			38	CONDUIT 400 x 1000 (BEND)	3					
39	HEX. HEAD SCREW M8 x 10	53			ASS-304			39	CONDUIT 400 x 1000 (BEND)	2					
40	HEX. HEAD SCREW M8 x 100	52			ASS-304			40	CONDUIT 400 x 1000 (BEND)	1					
41	HEX. HEAD SCREW M8 x 75	51			ASS-304										

ARRGT. OF UNDERFRAME  
WIRING FOR KMMC COACH

SPECIAL-3-3-002	ASSEMBLY DIMENSIONS	21-C2-2028	INDIAN RAILWAY STANDARDS	SHEET 2 OF 5	KMMC-7-1-001
DATE OF LAST REVISION	DATE OF ISSUE	DATE OF ISSUE	DATE OF ISSUE	DATE OF ISSUE	DATE OF ISSUE