



आर्य रेलवे कारखाना
RAIL COACH FACTORY, KAPURTHALA
ROLLING STOCK CERTIFICATE (NON-LHB)

(FORM NO. QMF 4254 VER.1.00)

1.	SHELL NO 0004	BOGIE NO	224043 / 224044	DISPATCH DATE	06-FEB-23
2.	RAILWAY ECOR	TYPE OF COACH	MEMU3PB	COACH NO	228118
3.	BOOKED TO SSE/C&W/KUR				
4.	Tare Weight of Coach 61				
5.	Carrying Capacity	Seating	65	Sleeping	NIL
				Luggage	NIL
6.	6.1 Leading Dimensions:				
	i)	Maximum height above rail to top of roof ventilator		4100 ± 5 (for NAC) 4250 +0/-5 (for WGACCN)	
	ii)	Maximum length over Body		21337 ± 10	
	iii)	Maximum length over Buffer		22297 ± 15	
	iv)	Maximum width over Body		3245 ± 5	
	v)	Maximum width over Flasher lighth		3402 +0/-5	
	vi)	CBC/Shaku Coupler Height	Specified: 1104 +0/-10 mm (1035 +0/-5 mm for shaku coupler)	1035	1035
	vii)	CBC/Shaku Coupler (Make)		ESCORTS	SANROK
	viii)	Buffer Make			
7.	Air Brake Testing:				
	Description			Specified	
	7.1	Emergency Application	Time for 0 to 36 Kg/cm ² of BC	Less than 05 Sec	
			Brake release time to reach 0.4 Kg/cm ²	Less than 20 Sec	
	7.2	Insensitivity	BP dipped @ 0.30 Kg/cm ² in 60 Sec	No brake application	
	7.3	Sensitivity	BP dipped @ 0.60 Kg/cm ² in 6 Sec	Brakes "ON"	
	7.4	Passenger alarm by pulling chain		BP Blasts out, Brakes "ON"	
	7.5	Piston stroke for BMBC type coach only		19 +10/-0 mm	
8.	Painting Details:				
			Type of Paint	Make	Average Gloss Value
	8.1	Paint	PU PAINT	GS	85 / 85
	8.2	Application of PCN-123	SATISFACTORY		
	8.3	Insulation	SATISFACTORY		
9.	Traceability of Furnishing Items:				
	1	FLOOR BOARD	SRI RAM		
	2	PVC	NOT APPLICABLE		
	3	UIC VESTIBULES	KRP		
	4	ROLLING SHUTTER	DHINJAN		
	5	BODY SIDE WINDOW	AIR FLOW		
	6	ROOF CEILING	OMEGA		
	7	PARTITION FRAME TYPE	SS TUBULAR FRAME		
	8	PARTITION FRAME	NOT TRACEABLE		
	9	PILLAR ASSLY LONGI SIDE	NOT APPLICABLE		
	10	PILLAR ASSLY TRANSVERSE	NOT APPLICABLE		
	11	SEAT & BEARTH	SUKATA		
	12	EP BRAK / BRAKE EQUIPMENT	ESCORTS		
	13	LUGGAGE RACK	RAIL TECH		
	14	BODY SIDE DOOR	KANE		
10.	10.1	Modification/ Trial (If any): NIL			
	10.2	Deviations (If any): NIL			



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RAIL COACH FACTORY, KAPURTHALA
ROLLING STOCK CERTIFICATE (NON-LHB)

QMF 9828, VER:1.00

11.	Bogie Details:	Shell No. 0004	Railway ECOR	Type MEMU3PB	Coach No. 228118	Dispatch Date 06-FEB-23
11.1 BOGIE GENERAL ARRANGEMENT DRAWING NO.: EMU/M/3PH-0-0-001 ALT e						
11.2 Wheel & Axle Details:						
i.	Bogie No.	224043				224044
ii.	Frame No.	KE-22				KE-60
iii.	Bolster No.	AVI-16				AVI-15
iv.	Axle No.	RWF - P8554		RWF - K2085		RWF - L8256 RWF - N9637
v.	Wheel Diameter	952.50	952.00	953.00	953.00	953.00 952.50
vi.	Wheel Disc No.	33265-0513-SAIL	32879-0510-SAIL	33278-0513-SAIL	33280-0513-SAIL	32543-0507-SAIL 33363-0514-SAIL 32501-0507-SAIL 32640-0508-SAIL
vii.	RB Nos	L0220	L0217	L0226	L0230	E0201 L0171 E0182 E0170
viii.	RB Make	NBC		NBC		NBC
ix.	RB Type	Direct Mounted Spherical Roller Bearing				
11.3 Items traceability:						
i.	Brake Cylinder Make & No.	KOLLEY-1258,1300,1296,1302				KOLLEY-1285,1268,1251,1286
ii.	Secondary shock Absorber Make & NO.	IAI-256712,256761				IAI-256823,256795
iii.	Lateral Shock Absorber Make & NO.	GABRIEL-840,690				GABRIEL-796,838
iv.	Air Spring Make & NO.	SI-19-19-3284,3266				SI-19-12-3513,3496
11.4						
i.	Modification/Trail(if any):	NIL				
ii.	Deviations (if any):	NIL				

MEMU3PB - 0004



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ROLLING STOCK CERTIFICATE (NON-LHB)



RAIL COACH FACTORY, KAPURTHALA
 ROLLING STOCK CERTIFICATE (NON-LHB)

FOR			ELECTRICAL		ITEMS		QEF 0650 VER 1.0	
ROLLING STOCK CERTIFICATE OF THREE PHASE ELECTRICS NON-AC MEMU COACH								
TYPE OF COACH : MEMU3PB RAILWAY : ECOR			Shell No : 0004 COUPLING TYPE : NONCBC		COACH_NO : 228118 DATE OF FITMENT: 31-JAN-23			
S.No PL No & Item Description			Drawing No		Make		Item Sr.No.(if any)	
Group Name			NO GROUP DEFINED					
1 45985017-17, IVC COUPLER AND JUMPER CABLE			RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.		HARTING INDIA	
Group Name			ABOVE ROOF					
2 45985017-2, GAPLESS TESTING ARRESTORS FOR 25KVAC TYPE-1			RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.		ELASTIMOLD 18-HZ-261	
3 45985017-3, GAPLESS TETSING ARRESTORS FOR 25KVAC TYPE-2			RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.		ELASTIMOLD 18-HZ-196	
4 45985017-5, GPS ANTENNA			RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.		I C ELECTRICALS-2204001	
5 45985017-22, PANTOGRAPH			RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.		SHUNK-J/12154/058	
6 45985017-36, 25 KV ROOF INSULATOR			RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.		BHEL	
Group Name			H.T.CABIN					
7 33635146-1, SMOKE SENSOR UNIT			EDTS087, Rev-B,Corr-1&2.		INTEG ELECTRONICS		0191000222	
8 33635146-2, SMOKE SENSOR			EDTS087, Rev-B,Corr-1&2.		INTEG ELECTRONICS		E-CAB	
Group Name			DRIVING SECTION					
9 45985017-4, PAPIS			RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.		I C ELECTRICALS	



RAIL COACH FACTORY, KAPURTHALA
 ROLLING STOCK CERTIFICATE (NON-LHB)

		FOR	ELECTRICAL	ITEMS		
ROLLING STOCK CERTIFICATE OF				QEF 0650 VER 1.0		
THREE PHASE ELECTRICS NON-AC MEMU COACH						
TYPE OF COACH : MEMU3PB		COUPLING TYPE : NONCBC		COACH_NO : 228118		
RAILWAY : ECOR				DATE OF FITMENT: 31-JAN-23		
S.No PL No & Item Description		Drawing No		Make		Item Sr.No.(if any)
Group Name DRIVING SECTION						
10	45985017-6, DRIVER DESK CONTROLLER	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	IC/DDU/TCU-2204010	
11	45985017-7, AUDIO ANNOUNCEMENT SYSTEM	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	I C ELECTRICALS	
12	45985017-11, MICROPHONE	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	I C ELECTRICALS	
13	45985017-14, DC-DC CONVERTER	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	SIGNOTRON-22100057	
14	45985017-18, SPEED INDICATOR AND RECORDING SYSYTM	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	AAL/MTDM-1911094	
15	45985017-25, DC EARTHING SWITCH	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	P&C-82/11/2020	
16	45985017-28, DRIVER DISPLAY UNIT	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	ENSPROS ENGG.	
17	45985017-29, E-CAB	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	025/2020	
18	45985017-35, PRESSURE GUAGE LED GLASS TUBE	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	MIDLAND	
Group Name DRIVING END						



RAIL COACH FACTORY, KAPURTHALA
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FOR ELECTRICAL ITEMS				QEF 0650 VER 1.0
ROLLING STOCK CERTIFICATE OF THREE PHASE ELECTRICS NON-AC MEMU COACH				
TYPE OF COACH : MEMU3PB		COUPLING TYPE : NONCBC		COACH_NO : 228118
RAILWAY : ECOR				DATE OF FITMENT: 31-JAN-23
S.No	PL No & Item Description	Drawing No	Make	Item Sr.No.(if any)
Group Name DRIVING END				
19	42980914-0, CCTV SURVEILLANCE SYSTEM WITH NETWORKING SYSTEM FOR 3-PHASE MEMU COACHES .(01 UNIT SET CONSISTS OF 1	EDTS403,REV-0,CORR-1 (1UNIT SET=1DMC+3TC)	PROZONE	NIL
20	42985043-0, CAB AIR CONDITIONING UNIT(2.0 TR MIN. IN EACH DMC)WITH CONTROL PANEL ALONG WITH MOUNTING FRAME ANC	ICF/ELEC/110,CS-1&2 WITH RCF ANNEX.A.	SUBROS LTD.	PULL/10082020/G/RCF/0010
21	45985017-1, TRACTION TRANSFORMER COMPLETE WITH COOLING SYSTEM	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	2046616
22	45985017-12, TWIN BEAM HEADLIGHT	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	SIGNOTRON-22100041
23	45985017-13, FLASHER LIGHT	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	2210-E/221402
24	45985017-15, SPOT LIGHT	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	ALTOS ELECTRIC
Group Name NON-DRIVING END				
25	42027380-0, LIMIT SWITCH 10A,500V,1NO+1NCAS PER DRAWING/SPEC. 3SE3-100-OE OF M/S SIEMENS OR EQUIVALANT RCF APPRO	3SE3-100-OE OF M/S SIEMENS OR EQUIVALANT RCF APPROVED MAKE .	BOHMEN	NIL
Group Name UNDER FRAME				
26	31710025-0, BATTERY BOX ARRANGMENT FOR EMU COACHES COMPLETE WITH ITEM-67 & PACKING ARRANGEMENT AS PER DRG. NO EM	EMU/M-7-1-001,ALT-j.	K.R. ENGG. CORP.	20/08/2019



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FOR ELECTRICAL ITEMS				QEF 0650 VER 1.0
ROLLING STOCK CERTIFICATE OF THREE PHASE ELECTRICS NON-AC MEMU COACH				
TYPE OF COACH : MEMU3PB		COUPLING TYPE : NONCBC		COACH_NO : 228118
RAILWAY : ECOR		DATE OF FITMENT: 31-JAN-23		
S.No PL No & Item Description		Drawing No	Make	Item Sr.No.(if any)
Group Name UNDER FRAME				
27	45170095-0, 110V, 120AH,VRLA BATTERY SET WITH 19 MONOBLOCK (6V EACH) PRE CHARGED WITH INTERCELL CONNECTORS WITH	RDSO/PE/SPEC/AC/0009-2014(REV-2) W/O MS CASING(CRADLE)	HBL POWER SYSTEMS LTD.	05/2022
28	45985017-16, AUX. COMPRESSOR	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	ELGI EQUIPMENT-BSIS/103173
29	45985017-19, PHONIC WHEEL ASSEMBLY	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	AAL/PGD-2003311/1909154
30	45985017-20, VCB	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	AAL/VCBA-1912281
31	45985017-21, AIR DRIER	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	AAL/AD-1912281
32	45985017-23, TRACTION CONVERTER	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	BHEL-006/2020
33	45985017-24, AUX. CONVERTER	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	BHEL-007/2020
34	45985017-26, TRACTION MOTOR	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	20720007/4620305/224043 & 4620319/4620313/224046
35	45985017-27, TRAIN CONTROL AND MGMT. SYSTEM (TCMS)	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	BHEL



RAIL COACH FACTORY, KAPURTHALA
 ROLLING STOCK CERTIFICATE (NON-LHB)

		FOR	ELECTRICAL	ITEMS		
ROLLING STOCK CERTIFICATE OF					QEF 0650 VER 1.0	
THREE PHASE ELECTRICS NON-AC MEMU COACH						
TYPE OF COACH : MEMU3PB		COUPLING TYPE : NONCBC		COACH_NO : 228118		
RAILWAY : ECOR				DATE OF FITMENT: 31-JAN-23		
S.No PL No & Item Description		Drawing No		Make		Item Sr.No.(if any)
Group Name UNDER FRAME						
36	45985017-31, PNEUMATIC SYSTEM	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	ESCORT	
37	45985017-32, MAIN COMPRESSOR FOR PNEUMATIC SYSYTEM	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	ELGI/ESGS-750451	
38	45985017-33, PRESSURE SWITCH	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	INDFOS & SMC	
39	45985017-34, MASTER CUM BRAKE CONTROLLER	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	ESCORT-0584/11/2019	
40	45985017-37, PARKING BRAKE EQUIPMENT	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	ESCORTS	
41	45985017-38, APC RECEIVER	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	MORS-SMITT	
42	45985017-39, BRAKE RESISTOR WITH MOUNTING AGMT.	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	STESALIT	
43	45985017-40, POWER AUX. AND CONTROL CABLE HARNESS	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	THERMO-CABLES	
Group Name COMPARTMENT						
44	33642606-0, SWITCH PLATE ASSEMBLY ALONG WITH MOBILE CHARGING SOCKET FOR LHB EOG NON AC COACHES as per Drg.No. ED	EDML086,REV-8, TABLE-3		SALZER	NIL	



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FOR ELECTRICAL ITEMS		QEF 0650 VER 1.0	
ROLLING STOCK CERTIFICATE OF THREE PHASE ELECTRICS NON-AC MEMU COACH			
TYPE OF COACH : MEMU3PB		COUPLING TYPE : NONCBC	
RAILWAY : ECOR		COACH_NO : 228118	
S.No PL No & Item Description		DATE OF FITMENT: 31-JAN-23 Item Sr.No.(if any)	
Drawing No		Make	
Group Name COMPARTMENT			
45	45985017-8, AMPLIFIER	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD. IC/AMP- 2204091/2204082
46	45985017-9, LOUD SPEAKER	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD. I C ELECTRICALS
47	45985017-10, DISPLAY LIDS	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD. I C ELECTRICALS
48	45985017-30, END-WALL PANNEL-1 AND 2	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD. 025/2020 & 026/2020
SSE/EL/QC		AME/WM QC/DY CQM I	



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RAIL COACH FACTORY, KAPURTHALA
ROLLING STOCK CERTIFICATE (NON-LHB)

(FORM NO. QMF 4254 VER.1.00)

1.	SHELL NO	2005	BOGIE NO	224045 / 224046	DISPATCH DATE	06-FEB-23
2.	RAILWAY	ECOR	TYPE OF COACH	MEMU3PB	COACH NO	228117
3.	BOOKED TO	SSE/C&W/KUR				
4.	Tare Weight of Coach	61				
5.	Carrying Capacity	Seating	65	Sleeping	NIL	Luggage
6.	6.1	Leading Dimensions:				
	i)	Maximum height above rail to top of roof ventilator			4100 ± 5 (for NAC) 4250 +0/-5 (for WGACCN)	
	ii)	Maximum length over Body			21337 ± 10	
	iii)	Maximum length over Buffer			22297 ± 15	
	iv)	Maximum width over Body			3245 ± 5	
	v)	Maximum width over Flasher lighth			3402 +0/-5	
	vi)	CBC/Shaku Coupler Height	Specified: 1104 +0/-10 mm (1035 +0/-5 mm for shaku coupler)		1034	1034
	vii)	CBC/Shaku Coupler (Make)			ESCORTS	SANROK
	viii)	Buffer Make				
7.	Air Brake Testing:					
	Description				Specified	
	7.1	Emergency Application	Time for 0 to 36 Kg/cm ² of BC		Less than 05 Sec	
			Brake release time to reach 0.4 Kg/cm ²		Less than 20 Sec	
	7.2	Insensitivity	BP dipped @ 0.30 Kg/cm ² in 60 Sec		No brake application	
	7.3	Sensitivity	BP dipped @ 0.60 Kg/cm ² in 6 Sec		Brakes "ON"	
	7.4	Passenger alarm by pulling chain			BP Blasts out, Brakes "ON"	
	7.5	Piston stroke for BMBC type coach only			19 +10/-0 mm	
8.	Painting Details:					
			Type of Paint		Make	Average Gloss Value
	8.1	Paint	PU PAINT		GS	87 / 87
	8.2	Application of PCN-123	SATISFACTORY			
	8.3	Insulation	SATISFACTORY			
9.	Traceability of Furnishing Items:					
	1	FLOOR BOARD	SRI RAM			
	2	PVC	NOT APPLICABLE			
	3	UIC VESTIBULES	KRP			
	4	ROLLING SHUTTER	DHINJAN			
	5	BODY SIDE WINDOW	DYNAMIC			
	6	ROOF CEILING	OMEGA			
	7	PARTITION FRAME TYPE	SS TUBULAR FRAME			
	8	PARTITION FRAME	NOT TRACEABLE			
	9	PILLAR ASSLY LONGI SIDE	NOT APPLICABLE			
	10	PILLAR ASSLY TRANSVERSE	NOT APPLICABLE			
	11	SEAT & BEARTH	SUKATA			
	12	EP BRAK / BRAKE EQUIPMENT	ESCORTS			
	13	LUGGAGE RACK	RAIL TECH			
	14	BODY SIDE DOOR	KANE			
10.	10.1	Modification/ Trial (If any): NIL				
	10.2	Deviations (If any): NIL				



भारतीय रेलवे कारखाना
RAIL COACH FACTORY, KAPURTHALA
ROLLING STOCK CERTIFICATE (NON-LHB)

QMF 9828, VER:1.00

11.	Bogie Details:	Shell No.	Railway	Type	Coach No.	Dispatch Date
		2005	ECOR	MEMU3PB	228117	06-FEB-23
11.1	BOGIE GENERAL ARRANGEMENT DRAWING NO.: EMU/M/3PH-0-0-001 ALT b					
11.2	Wheel & Axle Details:					
i.	Bogie No.	224045			224046	
ii.	Frame No.	ECBT-9			ECBT-2	
iii.	Bolster No.	AVI-27			AVI-14	
iv.	Axle No.	RWF - G7000	RWF - K6522	RWF - P8446	RWF - P8265	
v.	Wheel Diameter	953.00	953.00	953.00	953.00	952.00
vi.	Wheel Disc No.	13253-15888-SAIL	14360-15918-SAIL	32571-0307-SAIL	32539-0507-SAIL	33235-0513-SAIL
vii.	RB Nos	L0165	L0221	L0228	L0206	L0229
viii.	RB Make	NBC	NBC	NBC	NBC	
ix.	RB Type	Direct Mounted Spherical Roller Bearing				
11.3	Items traceability:					
i.	Brake Cylinder Make & No.	KOLLEY-1542, 1234, 1253, 1324			KOLLEY+REC-2377, 3194, 426, 2124	
ii.	Secondary shock Absorber Make & NO.	IAI-256684, 256697			IAI-256808, 256781	
iii.	Lateral Shock Absorber Make & NO.	GABRIEL-843, 882			GABRIEL-556, 694	
iv.	Air Spring Make & NO.	SI-19-12-3460, 3489			SI-19-12-3541, 3529	
11.4	i.	Modification/Trail(if any):				
	ii.	Deviations (if any):				

MEMU3PB - 2005





RAIL COACH FACTORY, KAPURTHALA
 ROLLING STOCK CERTIFICATE (NON-LHB)

FOR			ELECTRICAL		ITEMS		QEF 0650 VER 1.0	
ROLLING STOCK CERTIFICATE OF THREE PHASE ELECTRICS NON-AC MEMU COACH								
TYPE OF COACH : MEMU3PB RAILWAY : ECOR			Shell No : 2005 COUPLING TYPE : NONCBC			COACH_NO : 228117 DATE OF FITMENT: 31-JAN-23		
S.No PL No & Item Description			Drawing No		Make		Item Sr.No.(if any)	
Group Name			NO GROUP DEFINED					
1	45985017-17, IVC COUPLER AND JUMPER CABLE		RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.		HARTING INDIA	
Group Name			ABOVE ROOF					
2	45985017-2, GAPLESS TESTING ARRESTORS FOR 25KVAC TYPE-1		RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.		ELASTIMOLD 18-HZ-313	
3	45985017-3, GAPLESS TETSING ARRESTORS FOR 25KVAC TYPE-2		RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.		ELASTIMOLD 18-HZ-284	
4	45985017-5, GPS ANTENNA		RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.		I C ELECTRICALS-2204002	
5	45985017-22, PANTOGRAPH		RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.		SHUNK-J/12154/073	
6	45985017-36, 25 KV ROOF INSULATOR		RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.		BHEL	
Group Name			H.T.CABIN					
7	33635146-1, SMOKE SENSOR UNIT		EDTS087, Rev-B,Corr-1&2.		INTEG ELECTRONICS		0191000202	
8	33635146-2, SMOKE SENSOR		EDTS087, Rev-B,Corr-1&2.		INTEG ELECTRONICS		E-CAB	
Group Name			DRIVING SECTION					
9	45985017-4, PAPIS		RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.		I C ELECTRICALS	



RAIL COACH FACTORY, KAPURTHALA
 ROLLING STOCK CERTIFICATE (NON-LHB)

		FOR	ELECTRICAL	ITEMS		
ROLLING STOCK CERTIFICATE OF				QEF 0650 VER 1.0		
THREE PHASE ELECTRICS NON-AC MEMU COACH						
TYPE OF COACH : MEMU3PB		COUPLING TYPE : NONCBC		COACH_NO : 228117		
RAILWAY : ECOR				DATE OF FITMENT: 31-JAN-23		
S.No PL No & Item Description		Drawing No		Make		Item Sr.No.(if any)
Group Name DRIVING SECTION						
10	45985017-6, DRIVER DESK CONTROLLER	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	IC/DDU/TCU-2204007	
11	45985017-7, AUDIO ANNOUNCEMENT SYSTEM	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	I C ELECTRICALS	
12	45985017-11, MICROPHONE	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	I C ELECTRICALS	
13	45985017-14, DC-DC CONVERTER	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	SIGNOTRON-221010049	
14	45985017-18, SPEED INDICATOR AND RECORDING SYSYTM	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	AAL/MTDM-2003212	
15	45985017-25, DC EARTHING SWITCH	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	P&C-87/11/2020	
16	45985017-28, DRIVER DISPLAY UNIT	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	GER SYSTEM	
17	45985017-29, E-CAB	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	026/2022	
18	45985017-35, PRESSURE GUAGE LED GLASS TUBE	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	MIDLAND	
Group Name DRIVING END						



RAIL COACH FACTORY, KAPURTHALA
 ROLLING STOCK CERTIFICATE (NON-LHB)

		FOR	ELECTRICAL	ITEMS		
ROLLING STOCK CERTIFICATE OF					QEF 0650 VER 1.0	
THREE PHASE ELECTRICS NON-AC MEMU COACH						
TYPE OF COACH : MEMU3PB		COUPLING TYPE : NONCBC		COACH_NO : 228117		
RAILWAY : ECOR				DATE OF FITMENT: 31-JAN-23		
S.No PL No & Item Description		Drawing No		Make	Item Sr.No.(if any)	
Group Name		DRIVING END				
19	42980914-0, CCTV SURVEILLANCE SYSTEM WITH NETWORKING SYSTEM FOR 3-PHASE MEMU COACHES .(01 UNIT SET CONSISTS OF 1	EDTS403,REV-0,CORR-1 (1UNIT SET=1DMC+3TC)	PROZONE	NIL		
20	42985043-0, CAB AIR CONDITIONING UNIT(2.0 TR MIN. IN EACH DMC)WITH CONTROL PANEL ALONG WITH MOUNTING FRAME ANC	ICF/ELEC/110,CS-1&2 WITH RCF ANNEX.A.	SUBROS LTD.	PULL/10082020/G/RCF/0010		
21	45985017-1, TRACTION TRANSFORMER COMPLETE WITH COOLING SYSTEM	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	2046604		
22	45985017-12, TWIN BEAM HEADLIGHT	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	SIGNOTRON-221010049		
23	45985017-13, FLASHER LIGHT	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	2211-E/21805		
24	45985017-15, SPOT LIGHT	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	ALTOS ELECTRIC		
Group Name		NON-DRIVING END				
25	42027380-0, LIMIT SWITCH 10A,500V,1NO+1NCAS PER DRAWING/SPEC. 3SE3-100-OE OF M/S SIEMENS OR EQUIVALANT RCF APPRO	3SE3-100-OE OF M/S SIEMENS OR EQUIVALANT RCF APPROVED MAKE .	BOHMEN	NIL		
Group Name		UNDER FRAME				
26	31710025-0, BATTERY BOX ARRANGMENT FOR EMU COACHES COMPLETE WITH ITEM-67 & PACKING ARRANGEMENT AS PER DRG. NO EM	EMU/M-7-1-001,ALT-j.	K.R. ENGG. CORP.	18/06/2020		



RAIL COACH FACTORY, KAPURTHALA
 ROLLING STOCK CERTIFICATE (NON-LHB)

FOR ELECTRICAL ITEMS				QEF 0650 VER 1.0
ROLLING STOCK CERTIFICATE OF THREE PHASE ELECTRICS NON-AC MEMU COACH				
TYPE OF COACH : MEMU3PB		COUPLING TYPE : NONCBC		COACH_NO : 228117
RAILWAY : ECR		DATE OF FITMENT: 31-JAN-23		Item Sr.No.(if any)
S.No	PL No & Item Description	Drawing No	Make	
Group Name UNDER FRAME				
27	45170095-0, 110V, 120AH,VRLA BATTERY SET WITH 19 MONOBLOCK (6V EACH) PRE CHARGED WITH INTERCELL CONNECTORS WITH	RDSO/PE/SPEC/AC/0009-2014(REV-2) W/O MS CASING(CRADLE)	HBL POWER SYSTEMS LTD.	05/2022
28	45985017-16, AUX. COMPRESSOR	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	ELGI EQUIPMENT-BSIS/103176
29	45985017-19, PHONIC WHEEL ASSEMBLY	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	AAL/PGD-20030044/ 1910005
30	45985017-20, VCB	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	AAL/VCBA-2003792
31	45985017-21, AIR DRIER	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	AAL/AD-2003439
32	45985017-23, TRACTION CONVERTER	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	BHEL-025/2022
33	45985017-24, AUX. CONVERTER	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	BHEL-028/2022
34	45985017-26, TRACTION MOTOR	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	4620304/207210012/224045 & 207210016/207210002/224044
35	45985017-27, TRAIN CONTROL AND MGMT. SYSTEM (TCMS)	RDSO/PE/SPEC/EMU//0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.	BHEL



RAIL COACH FACTORY, KAPURTHALA
 ROLLING STOCK CERTIFICATE (NON-LHB)

		FOR	ELECTRICAL	ITEMS		
ROLLING STOCK CERTIFICATE OF					QEF 0650 VER 1.0	
THREE PHASE ELECTRICS NON-AC MEMU COACH						
TYPE OF COACH : MEMU3PB		COUPLING TYPE : NONCBC		COACH_NO : 228117		
RAILWAY : ECOR				DATE OF FITMENT: 31-JAN-23		
S.No PL No & Item Description		Drawing No		Make		Item Sr.No.(if any)
Group Name UNDER FRAME						
36	45985017-31, PNEUMATIC SYSTEM	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	ESCORT	
37	45985017-32, MAIN COMPRESSOR FOR PNEUMATIC SYSYTEM	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	ELGI/ESGS-750449	
38	45985017-33, PRESSURE SWITCH	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	INDFOS & SMC	
39	45985017-34, MASTER CUM BRAKE CONTROLLER	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	ESCORT-0587/11/2019	
40	45985017-37, PARKING BRAKE EQUIPMENT	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	ESCORTS	
41	45985017-38, APC RECEIVER	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	MORS-SMITT	
42	45985017-39, BRAKE RESISTOR WITH MOUNTING AGMT.	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	STESALIT	
43	45985017-40, POWER AUX. AND CONTROL CABLE HARNESS	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.		BHARAT HEAVY ELECTRICAL LTD.	THERMO-CABLES	
Group Name COMPARTMENT						
44	33642606-0, SWITCH PLATE ASSEMBLY ALONG WITH MOBILE CHARGING SOCKET FOR LHB EOG NON AC COACHES as per Drg.No. ED	EDML086,REV-8, TABLE-3		SALZER	NIL	



RAIL COACH FACTORY, KAPURTHALA
ROLLING STOCK CERTIFICATE (NON-LHB)

FOR ELECTRICAL ITEMS		QEF 0650 VER 1.0	
ROLLING STOCK CERTIFICATE OF THREE PHASE ELECTRICS NON-AC MEMU COACH			
TYPE OF COACH : MEMU3PB		COUPLING TYPE : NONCBC	
RAILWAY : ECOR		COACH_NO : 228117	
S.No PL No & Item Description		DATE OF FITMENT: 31-JAN-23	
Drawing No		Make	
Item Sr.No.(if any)			
Group Name COMPARTMENT			
45	45985017-8, AMPLIFIER	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	BHARAT HEAVY ELECTRICAL LTD.
46	45985017-9, LOUD SPEAKER	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	IC/AMP- 2104096/2104065
47	45985017-10, DISPLAY LIDS	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	I C ELECTRICALS
48	45985017-30, END-WALL PANNEL-1 AND 2	RDSO/PE/SPEC/EMU //0163(REV-1)-2012 WITH ADDENDUM 1&2,WITH RCF ANNEXURE-1.	I C ELECTRICALS
SSE/EL/QC		AME/WM QC/DY CQM I	