EXIDE

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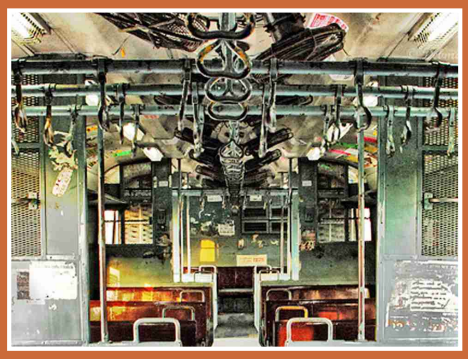

Low Maintenance EMU Batteries

CAPACITIES, WEIGHTS, DIMENSIONS

Type	Capacity at 5-h rate	Dimensions (max.)			Weight with electrolyte (approx.)	Approx. volume filling in acid (1.230)	Charging Currents	
		L	W	H upto take offs			Initial charge	Normal charge
	Ah	mm	mm	mm	kg	litres	A	A
5EMU 90TP-LM	90	353	215	360	40	13.5	5.4 amp for 75 Hrs.	9 amp for 15 Hrs.

Note : 1) The working or fully charged sp. gravity is 1.245±0.005 (27°C). 2) The rated capacity is at the 5 hr. rate/27°C/1.245 (27°C) to 1.75 volts per cell.

Bench Charges

Charge at the normal rate given in the table and continue charging until the voltage and the specific gravity of the electrolyte in each cell have reached a maximum and show no further rise over three successive hourly readings. All cells should be gassing freely and the expected top of Charge Voltage should exceed 2.7v.p.c.

It is possible to start a "bench charge" at a higher current (up to double the value given) in order to reduce the time of bench charging. The current must be reduced to the normal charge current when gassing commences (i.e. at about 2.35 volts per cell).

Temperature

The maximum permissible operating temperature of the battery is 54°C. If this temperature is exceeded frequently, or for any considerable time, the life of the battery will tend to be reduced. **This temperature is the electrolyte temperature and not the ambient tremperature.**

Temperature Correction

All specific gravity readings should be corrected to 27°C. For each 10°C above 27°C add 7 points (.007) to the hydrometer reading. For each 10°C below 27°C subtract 7 points (.007) from the hydrometer reading.

LOW MAINTENANCE ELECTRIC LOCO / E.M.U. COACH BATTERIES

As per RDSO spec. PE-EMU/SPEC/0014-2000 (Rev-0) amendment 1&2/Latest

	Type	90Ah
(a)	Make	EXIDE
(b)	Type of unit	10 V 75 Ah Monobloc
(c)	Manufacturer's nomenclature	5EMU 90TPLM
(d)	Overall dimensions of unit (approx.)	
	L	353±2 mm
	W	215±2 mm
	H (upto terminal top)	360±3 mm
(e)	Weight per unit with electrolyte (approx.)	40±5% Kg.
(f)	Cell container material	PPCP
(g)	Type of positive plates	Tubular Gauntlet
(h)	Type of negative plates	Flat, pasted
(i)	Type of separators	Microporous PE envelope
(j)	Max. electrolyte temperature that the cell/ battery can withstand without any damage	
	(1) Continuously	50°C
	(2) For short periods	55°C
(k)	Electrolyte height above the top of the separators	90 mm
(l)	Clearance between plates and bottom of the container	11 mm
(m)	Quantity of electrolyte per unit	13.5 litres
(n)	Sp. gr. of electrolyte for initial filling at 27°C	1.215 ±0.005
(o)	Details of initial treatment recommended	5.4 amp for 75 hrs
(p)	Material of terminal take-off and intercell connectors	Antimonial lead
(q)	Material of interunit connectors	Flexible copper cable, insulated
(r)	Normal charging rate	9.0 Amps for 15 hrs. upto 2.75 vpc

Schedule of Performance Type Tests

		Type 90Ah
(a)	Ah. capacity at 5 h rate of discharge to 1.75 V per cell at 1.250, 27°C (Ah)	90
(b)	Ah efficiency (%)	97
(c)	Wh efficiency (%)	83
(d)	Retention of charge - Loss over 28 days (%)	4.5 max
(e)	Life test - life units (min)	15
(f)	Max. period of dry storage (months)	24

How to ascertain State of Discharge

The specific gravity of the electrolyte gives a direct indication of the state of discharge of the battery. The table given below shows the specific gravity at various stages of discharge, after correction to 27°C.

Cell condition against specific gravity at various Stages of Discharge

Fully charged	1.245 ± 0.005
50% discharged	1.210 ± 0.005
Fully discharged	1.180 ± 0.005

EXIDE

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