



The **Wise** Choice



Low Cost Of Ownership



Low Water Loss



Easy Recovery After Idle Period



Lowest Electricity Consumption In Recharging



Less Fumes Generation



5% Extra Capacity & Backup WRT Rated Capacity

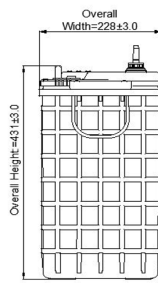
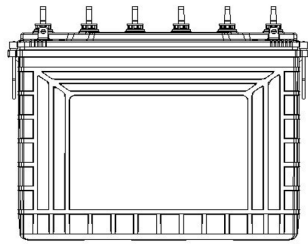
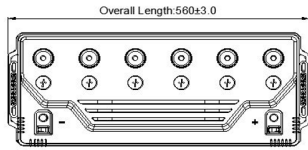
TALL TUBULAR CONVENTIONAL BATTERY 400 Ah @ C20



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TECHNICAL SPECIFICATION - Tall Tubular Conventional Battery



Product Features:

1. Delivers best quality of power equivalent to the grid power.
2. PDC plates: Worry free superior performance with least battery maintenance
3. Tower type TT container, ensuring more than 20% extra electrolyte, ensuring lesser topping up frequency & better thermal management
4. More active surface area for better utilization of material, result in more backup.
5. Excellent behavior in PSOC condition as compare.
6. Ability to withstand long and frequent power outages.
7. Excellent performance on deep cyclic application.
8. Provided with 6 nos. free float indicators for ease of battery maintenance.

Technical Specifications

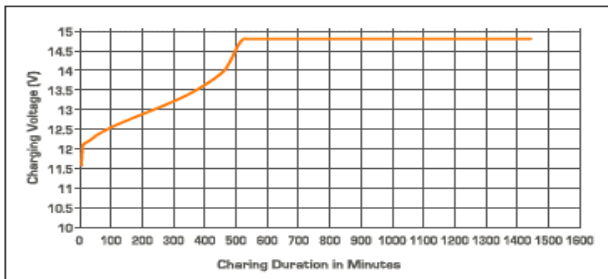
Model	Nominal Voltage	Rated Capacity 20 Hr @ 27°C (Ah)	Dimensions in mm			Gross Battery Weight [Kg] [±3%]	Terminal Type
			Length (±3 mm)	Width (±3 mm)	Height (±3 mm)		
EM400D [12 V 400 AH @ C20]	12	400	560	228	431	107.8	L

Electrical Parameters & Charging Profile

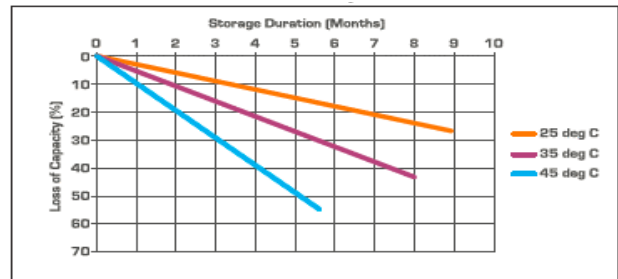
Battery Specified Capacity Test @ 27 °C							
Model	C20 @10.5V	C10 @10.5V	C7 @10.5V	C5 @10.5V	C3 @10.5V	C1 @10.5V	Energy Kwh
EM400 PL [12 V 400 AH @ C20]	400	360	328	300	258	180	4.8
Ah & Wh Efficiency							
Ah Efficiency	>90%		Wh Efficiency		>75%		

- Poly Components Material :- Polypropylene Co Polymer
- Watering System :- Individual to every cell in Monobloc
- Color :- Blue
- Testing Parameters :- IS 1 3369:1992 & IEC 60896-11 & 61407-1

Charging Profile



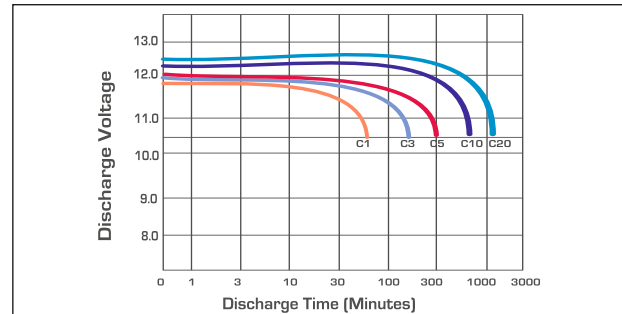
Self Discharge Characteristics @ Different Temperature



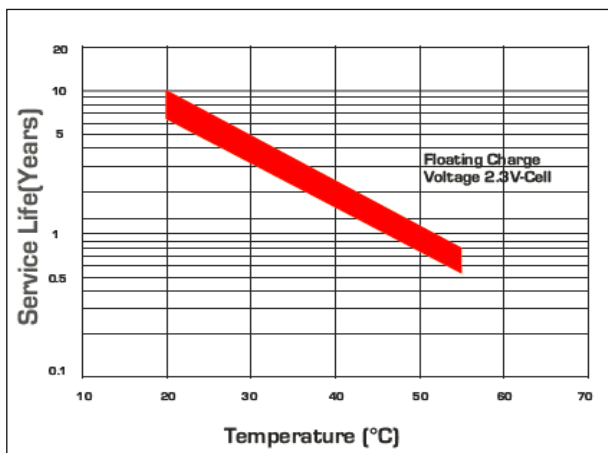
State of Charge Measure of open-circuit voltage @27°C

State of Charge	Specific Gravity	Voltage
100%	1.245-1.275	12.55V-12.70V
75%	≤ 1.225	≤ 12.4V
50%	≤ 1.190	≤ 12.1V
25%	≤ 1.155	≤ 12.0V
0%	1.120	11.8V

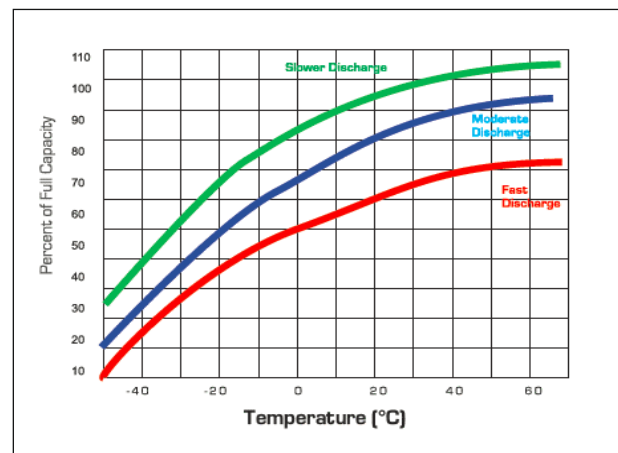
Discharging characteristics at various rates @27°C



Service (Float) Life and Temperature



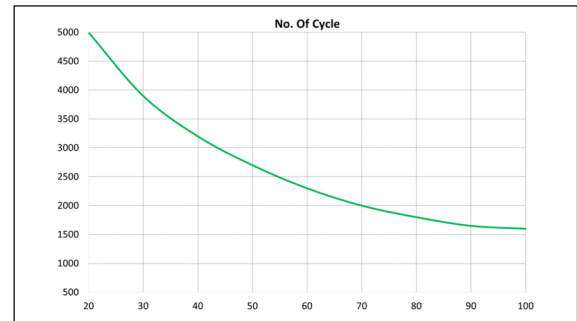
Expected Capacity vs Temperature



Specific Gravity & Self Discharge w.r.t Temperature

CHARGING TEMPERATURE COMPENSATION	Add	Subtract
	0.005 volt per cell for every 1°C below 25°C 0.0028 volt per cell for every 1°F below 77°F	0.005 volt per cell for every 1°C above 25°C or 0.0028 volt per cell for every 1°F above 77°F
OPERATIONAL DATA	Operating Temperature	Self Discharge
	-4°F to 131°F(-20°C to +54°F) At temperatures below 30°F (0°C) maintain a state of charge greater than 60%	As per discharge Graph

Expected Life



Charging Instructions

Charger Voltage Settings (at 77°F/25°C)			
System Voltage	12V	24V	48V
Maximum Charge Current	0.2C10		
Minimum Charge Current	20Amp.		
Maximum Absorption Phase Time (Hours)	4		
Absorption Voltage	14.6	29.2	58.4
Float Voltage	13.8	27.6	55.2
Equalization Voltage	16	32	64

NOTE:
1) Do not install or charge batteries in sealer or non-ventilated compartment, Constant under or overcharge will damage the battery and shorten its life as any battery.
2) Maximum two strings are allowed in parallel connections

Periodic Charge	Provide a periodic fresh charge to maintain a SOC greater than the threshold of 80%
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Comparison in Between Eastman TTC & AGM VRLA

S.No	Parameter	Eastman Tall Tubular Conventional	AGM VRLA
1	Plate technology	Tall Tubular Plate	Flat Pasted Plate
2	Life W.R.T. Application	Excellent performance on cyclic application	Not good for deep cycle application
3	Application	Power Backup solution-solar/Inverter/UPS suitable for float application above 1 Hours discharge rate	Power Backup Inverter/UPS suitable for float application and Stand by application
4	Electrolyte	Free Flow Electrolyte	Electrolyte in Between AGM
5	Water Loss	Low	Negligible
6	Water Top up	Low Water Top	No water Top up required
7	Life Extension	Long life with regular water top up	Not Applicable
8	Self Discharge	Low < 3.0%	Very Low < 2.0%
9	Life Cycle w.r.t. 80% DOD@27°C	1800 cycles	1200 Cycles
10	Recovery in PSOC	Excellent	Low
11	Charger Setting	Generic set point for charger	Required special set point for chargers
12	Operating Temperature Range	- 20 Degrees to + 55 Degree	- 15 Degrees to + 40 Degree
13	Terminal type	L- Type Terminal	Stud Type Terminal

Terminal Configuration:-
Terminal Type:- L
Terminal Height :- 24mm
Torque Value :- 8-10 N.m
Bolt Type:-M8



Vent Plug Type : M55 Coin Type



Vent Plug Type : M30 Dummy Plug



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