










# The **Wise** Choice

-   
EASY RECOVERY  
AFTER IDLE PERIOD
-   
LOWEST ELECTRICITY  
CONSUMPTION IN  
RECHARGING
-   
LESS FUMES  
GENERATION
-   
5% EXTRA CAPACITY  
& BACKUP WRT RATED  
CAPACITY
-   
MAINTENANCE  
FREE BATTERY
-   
CONSISTENT BACKUP  
THROUGHOUT LIFE
-   
LOW SELF  
DISCHARGE

## SEALED MAINTENANCE FREE BATTERY (200Ah)

# POWER ON



## TECHNICAL SPECIFICATION Sealed Maintenance Free Battery

### Product Features :

1. Special alloy with High pressure die-casted spine - resulting in low rate of spine corrosion
2. Special ceramic vent plugs for controlled acid fumes and resistance to thermal runaway.
3. Enhanced plate length for high power density and deep cycle application
4. Extended cycle life
5. Low self Discharge and Excellent charge retention
6. Sealed Maintenance free



### Technical Specifications

Model	Nominal Voltage	Rated Capacity 20 Hr @ 27°C (Ah)	Dimensions in mm			Gross Weight [Kg] [±3%]	Terminal Type
			Length (± 3 mm)	Width (± 3 mm)	Height (± 3 mm)		
EM200SMF [12 V 200 AH @ C20]	12	200	518	273	279	62.3	L

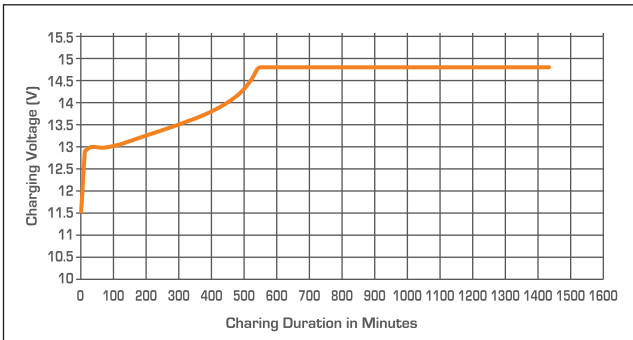
### Electrical Parameters & Charging Profile

Battery Specified Capacity Test @ 27 °C						
	C20 @10.5 V	C10 @10.5 V	C7 @10.8 V	C3 @10.5 V	C1 @10.5 V	Energy Kwh (10Hr)
EM200SMF [12 V 200 AH @ C20]	200	180	165	129.06	90	2.4
Ah & Wh Efficiency						
Ah Efficiency	>90%		Wh Efficiency		>75%	

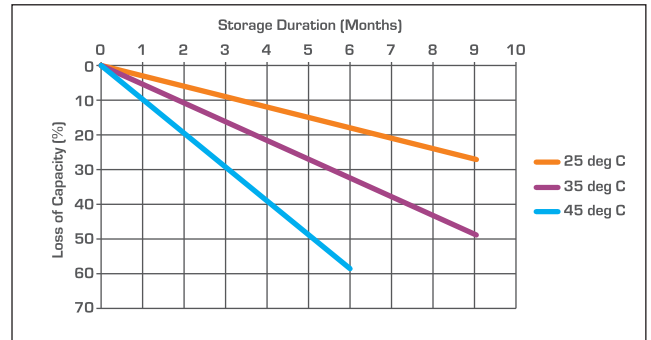
## TECHNICAL SPECIFICATION - Sealed Maintenance Free Battery

- Poly Components Material:- Polypropylene Co polymer.
- **Color :- Black**
- **Testing Parameters :- IS 13369:1992 & IEC 60896:11**

**Charging Profile**



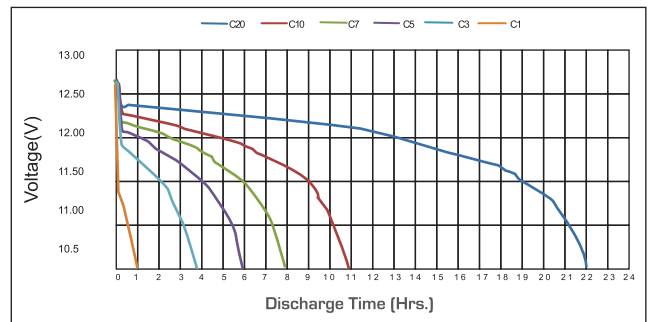
**Self Discharge Characteristics @ Different Temperature**



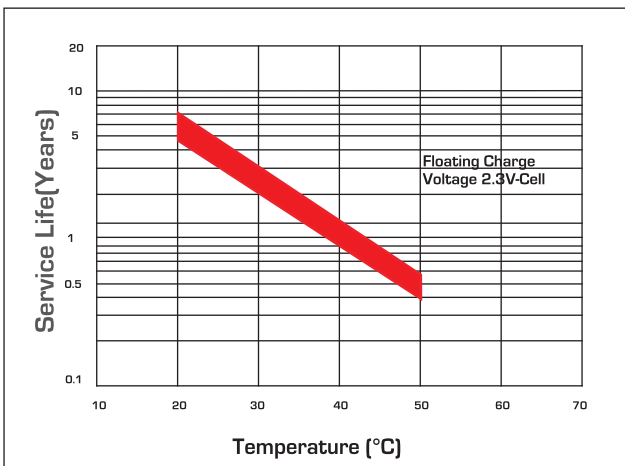
**State of Charge Measure of Open-circuit Voltage @ 27°C**

State of Charge	Specific Gravity	Voltage
100%	1.245-1.270	12.55V-12.75V
75%	≤ 1.225	≤ 12.4V
50%	≤ 1.190	≤ 12.1V
25%	≤ 1.155	≤ 12.0V
0%	1.120	11.8V

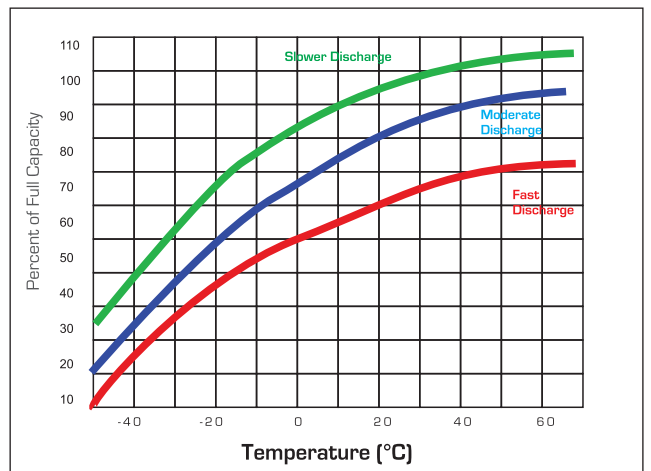
**DISCHARGING CHARACTERISTICS at various rates @ 27°C**



**Service (Float) Life and Temperature**



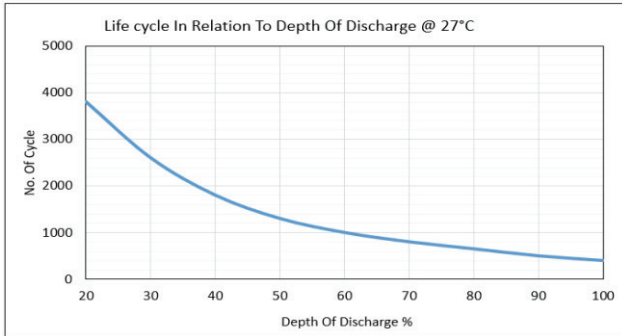
**Expected Capacity vs Temperature**



Eastman Battery Manufacturing Certified by TUV India

## TECHNICAL SPECIFICATION - Sealed Maintenance Free Battery

### Expected Life



### Specific Gravity & Self Discharge w.r.t. Temperature

	Add	Subtract
<b>CHARGING TEMPERATURE COMPENSATION</b>	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
<b>OPERATIONAL DATA</b>	<b>Operating Temperature</b> -4°F to 131°F (-20°C to +55°C). At temperatures below 32°F (0°C) maintain a state of charge greater than 60%.	<b>Self Discharge</b> As per discharge Graph

Mode of operation	Voltage setting per 12V unit for Ambient temperature 20 -30°C	Current setting
Float	13.7V +/- 0.1V	Maximum: 0.3 CA Minimum: 0.1 CA
Cyclic	14.7V +/- 0.1V	

Temperature Compensation : (Reference 25°C)  
 Float : - 18mV / °C / 12V unit  
 Cyclic : - 30mV / °C / 12V unit

#### Caution on Ripple

The maximum limits of the A.C. content of the D.C. shall be 5A A.C. (rms) per 100 Ah C20 capacity during oat charge. The A.C. current induced battery temperature rise should be below 3°C. At all times the average D.C. oat current must be kept positive.

#### Heat Dissipation

A VRLA battery under normal oat condition shall dissipate heat into the atmosphere. For the overall heat load calculation taking into account a worst case operation, the rate of heat dissipation may be taken as 0.45 Watts/100 Ah C20 capacity/Cell.

#### Paralleling of Battery Strings

- (a) Paralleling of a maximum of three strings is allowed provided they are all of the same make and Ah capacity and of same age.
- (b) Adequate care shall be taken in ensuring that all inter-unit connecting cables have equal length and cross-section. All cables to the system, from each of the strings, shall also be of same length and cross-section.
- (c) Total charging current, in the case of parallel strings, to be taken care of so that each of the strings get the recommended level of Amperes – minimum 10% and maximum 30%, of the rated C20 capacity of each of the 12V blocks.

## RECOMMENDED APPLICATIONS

- UPS Systems
- Office Automation Equipment
- Electronic PABX Systems
- Electronic Attendance and Cash Registers
- Railway Signalling
- Cellular Phones and Pagers (Base Stations and Transmitters)
- Telecommunication Systems
- Fire Alarm and Security Systems
- Cable Television Equipment
- Process Instrumentation and Control
- Power Plants and Substations
- Geophysical Equipment
- PCO Monitors (Electronic)

