Dawn SERIES

A GREEN INNOVATION FROM EASTMAN GROUP

Eastman®

ENERGY. UNLIMITED.

The Wise Choice

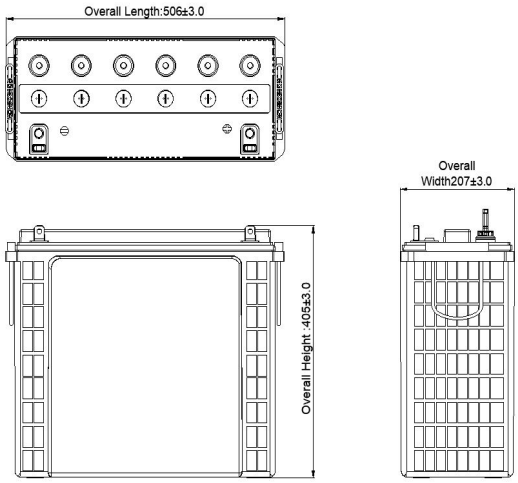
- Low Cost Of Ownership
- Low Water Loss
- Easy Recovery After Idle Period
- Lowest Electricity Consumption In Recharging
- Less Fumes Generation
- 5% Extra Capacity & Backup WRT Rated Capacity

TALL TUBULAR CONVENTIONAL BATTERY 220 Ah @ C20

www.eaplworld.com | customercare@eaplworld.com

Doc. No.	EAPL/TI/71/00
Issue Date	28-11-2023
Rev. No./ Rev. Date	00/28-11-2023
Page No.	1

TECHNICAL SPECIFICATION - Tall Tubular Conventional Battery



Product Features :

1. 5% Extra Capacity & Backup w.r.t. Rated Capacity.
2. Stunning performance, Stunning technology.
3. New Inbuilt terminal PDC for higher current carrying & Low sulfation.
4. Low Water Loss.
5. Long battery service life with High back-up time.
6. Ability to withstand long and frequent power outages.
7. Big Size container design ensuring high acid level, ensuring minimum maintenance cost.
8. Ability to recover from deep discharge.
9. Have better thermal management.
10. Factory charged - Ready to use.

Technical Specifications

Model	Nominal Voltage	Rated Capacity 20 Hr @ 27°C (Ah)	Dimensions in mm			Net Battery Weight [Kg] [±3%]	Terminal Type
			Length (± 3 mm)	Width (± 3 mm)	Height (± 3 mm)		
EMDS220 [12 V 220 AH @ C20]	12	220	506	207	405	66.11	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
EMDS220 [12 V 220 AH @ C20]	220	198	182	165	142	99	2.6
Ah & Wh Efficiency							
Ah Efficiency	>90%		Wh Efficiency	>75%			

IMS Integrated Management System Certified with TUV & APAVE India for Design & Manufacturing of Lead Acid Battery

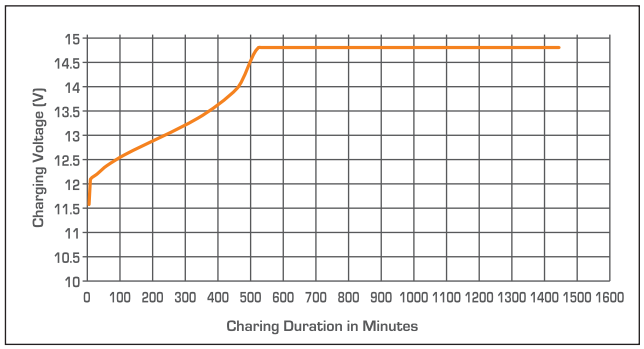
TUV INDIA ISO 9001:2015 Certified

TUV INDIA ISO 14001:2015 Certified

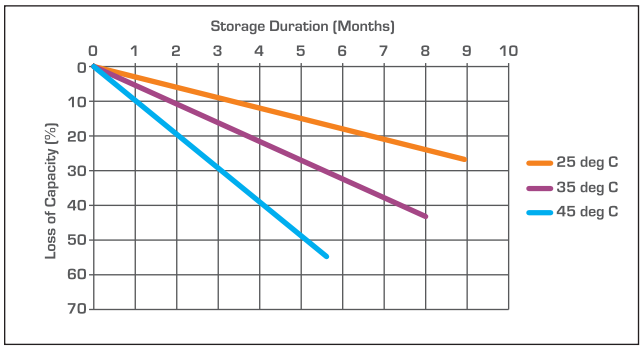
TUV INDIA 45001:2018 Certified

- Poly Components Material :- Polypropylene Co polymer
- Watering system :- Individual to every cell in Monobloc
- Color :- Blue
- Testing Parameters :- IS 13369:1992 & IEC 60896-11 & IEC 61407-1

Charging Profile



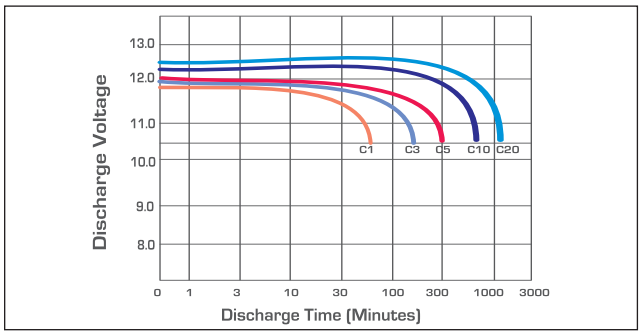
Self Discharge Characteristics @ Different Temperature



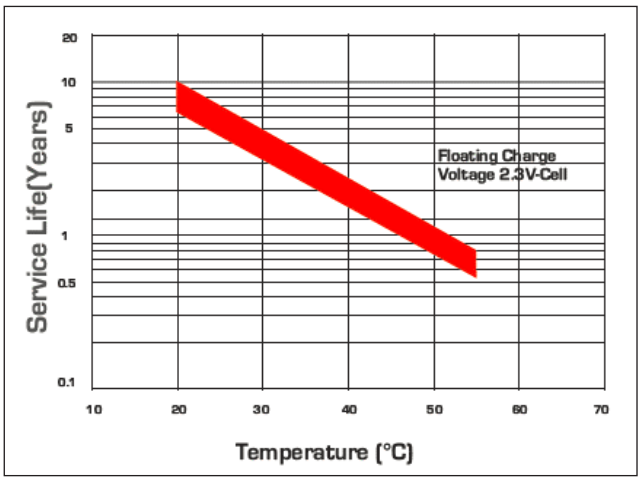
State of Charge Measure of Open-circuit Voltage @ 27°C

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

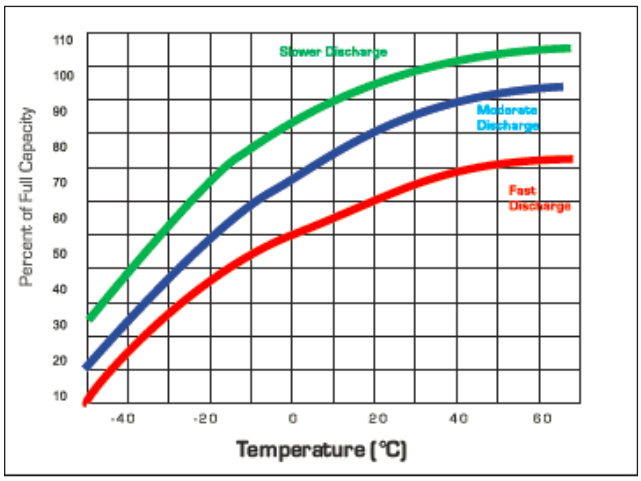
Discharging Characteristics at various rates @ 27°C



Service (Float) Life and Temperature



Expected Capacity vs Temperature



IMS Integrated Management System Certified with TUV & APAVE India for Design & Manufacturing of Lead Acid Battery

TUV INDIA ISO 9001:2015 Certified

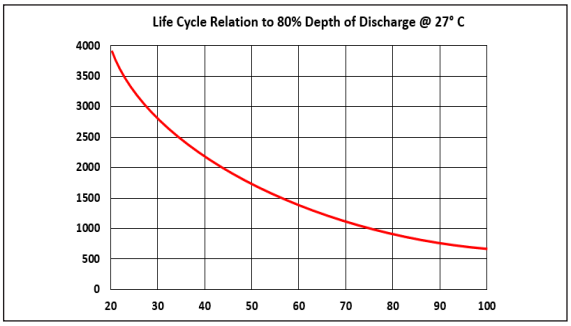
TUV INDIA ISO 14001:2015 Certified

TUV INDIA 45001:2018 Certified

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 +55°C). At temperatures below 32°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 grater than the threshold of 80%		

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 "	950 cycles	450 Cycles
10.	Recovery in PSOC	Excellent	Low
11.	Charger Setting	Generic set point for cahrger	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 :- 24 mm
Torque Value :- 8-10 N.m
Bolt Type :- M8

Vent Plug Type :-
M22 coin type

Vent Plug Type :-
M30 Dummy Plug

EASTMAN AUTO & POWER LTD.

572, Udyog Vihar Phase -5, Gurugram-122016, Haryana, India. | +91 85274 66614 | customercare@eaplworld.com
www.eaplworld.com