



ADVANCED TECHNOLOGY, EXCEPTIONAL VALUE, DEEP CYCLE SOLAR BATTERIES



Combines Advanced Lead Carbon with Deep Cycle Technology for Cycling Applications

IPI is a cost-effective, maintenance-free battery that offers superior performance in off grid or battery backup applications that require larger energy storage.

Most Usable Energy

- Highest Ah and kWh throughput
- Lowest cost of energy over lifetime
- Best overall battery value

Designed for Best Value in Solar + Storage Applications



MAINTENANCE-FREE

Premium absorbed glass mat separator. Low self-discharge rate and no off-gassing allow for safe and worry-free operation.



SUPPER-FAST-CHARGING

Excellent charging acceptance and super fast charge/discharge performance. Also good recovery on deep discharge.

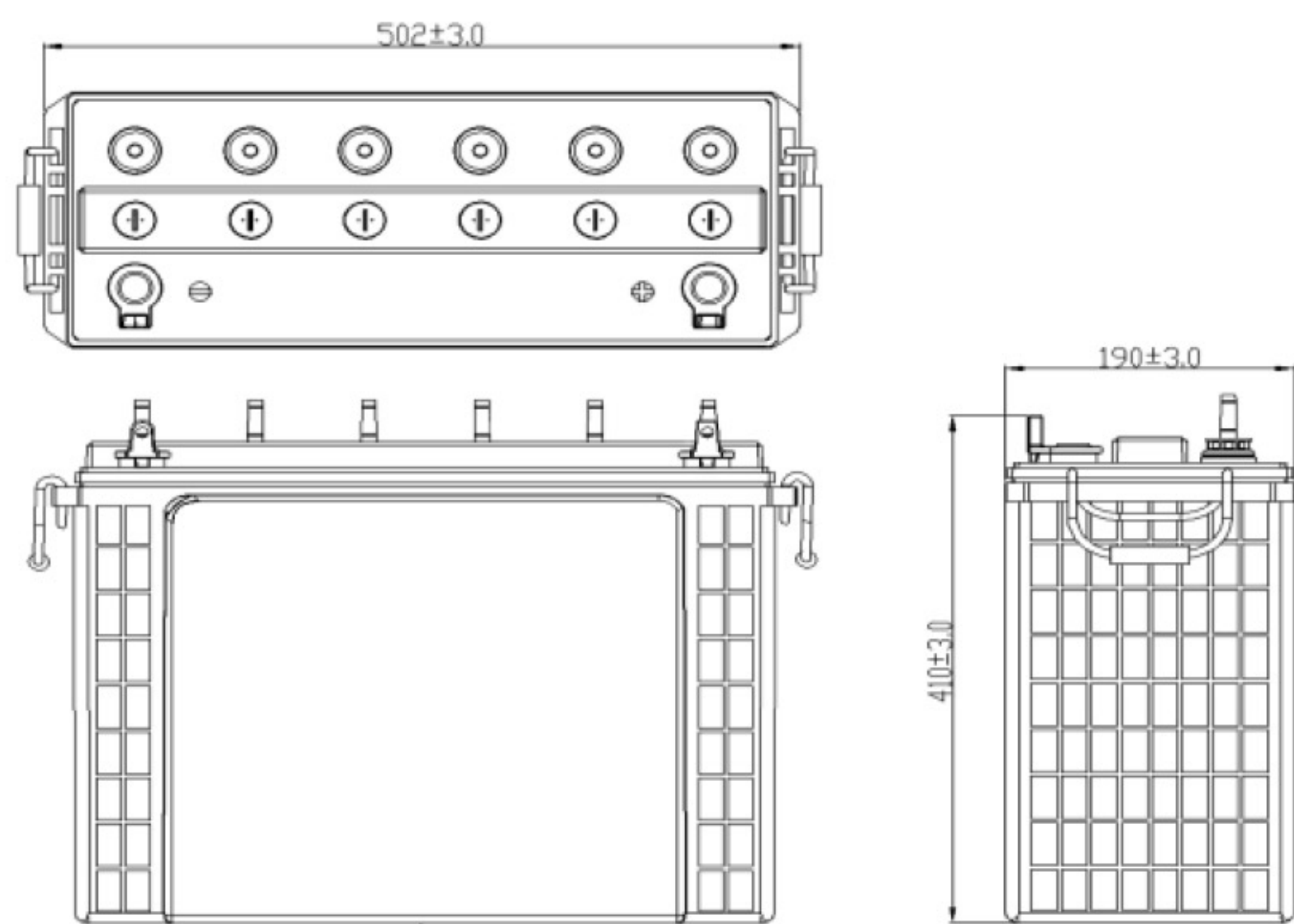


VARIOUS-APPLICATIONS

Ideal in cycling and backup power applications. Versatile operation and set up in Smart Grids, Hybrid Power Supply Systems, Street Lamp Power Systems, and Micro Grids.

MADE IN INDIA

Tall Tubular - Solar Deep Cycle Batteries



Key Features:

1. Robust Tubular with high pressure die-casting spine, resulting in low rate of spine corrosion.
2. Carbon-Graphite technology with supper tuff grid design tubular plates.
3. Optimized negative paste receipt for fast charge acceptance
4. Consistent backup throughout life
5. Exceptional PSOC Performance
6. Low self-discharge
7. Excellent performance on deep cyclic application as compare to AGM VRLA
8. Maximized Cycle life with lower overall cost per kWh cycle over the life of the battery
9. Low water loss

Technical Specifications

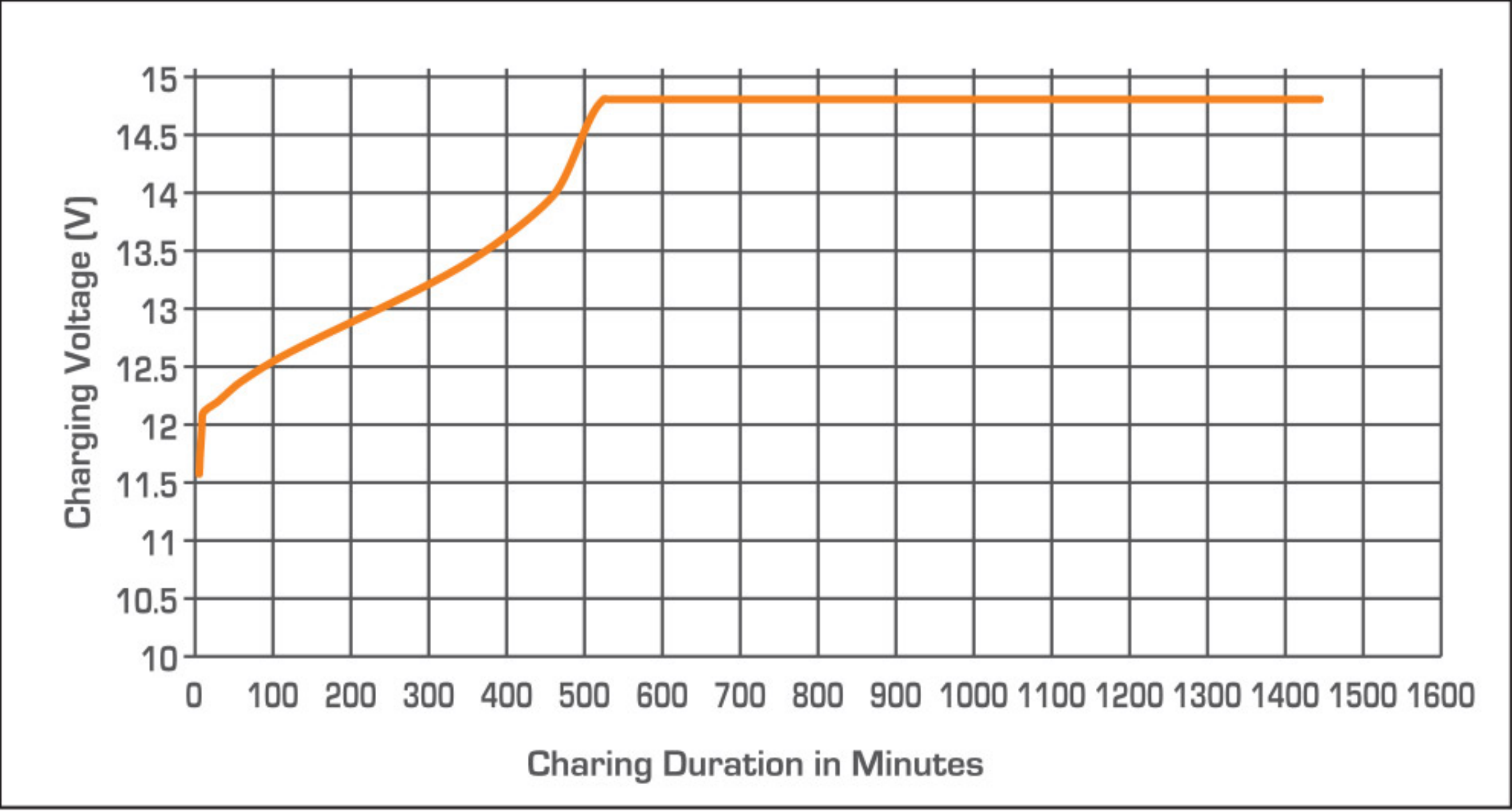
Model	Nominal Voltage	Rate Capacity C10@10.5V @27°C(Ah)	Rate Capacity C20@10.5V @27°C(Ah)	Dimensions in mm			Filled Battery Weight [Kg] [± 3%]	Terminal Type
				Length [± 3mm]	Width [± 3mm]	Height [± 3mm]		
200Ah/12V/C10	12	200	218	502	190	402	66	L
220Ah/12V/C10	12	220	235	502	190	402	69	L
250Ah/12V/C10	12	250	263	502	190	402	72	L

Electrical Parameters & Charging Profile

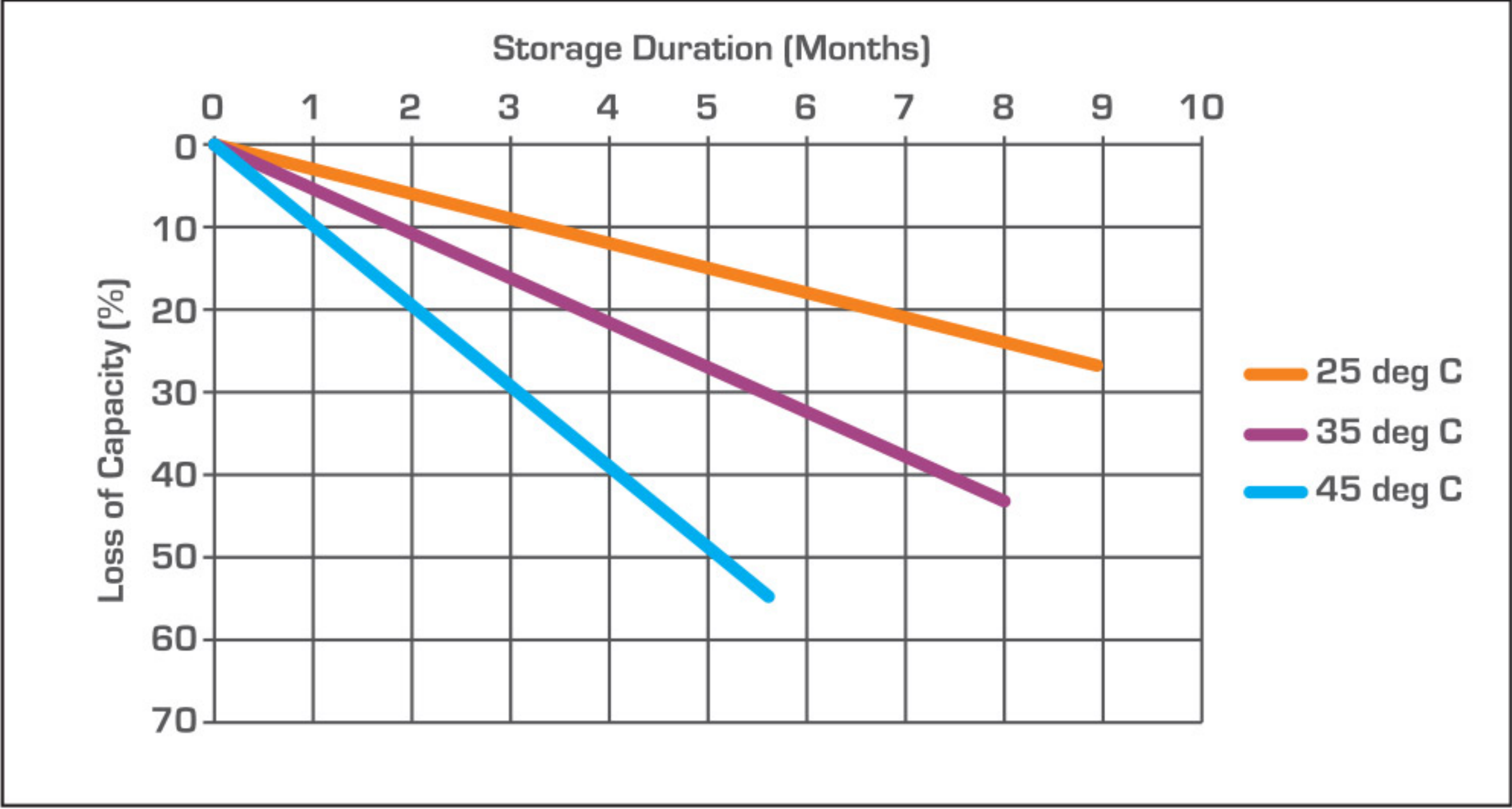
Battery Specified Capacity Test @ 27°C					
Model	C10 @10.5V	C5 @10.5V	C3 @10.5V	C2 @10.5V	C1 @10.5V
200Ah/12V/C10	200	147	126	111	88
220Ah/12V/C10	220	161	139	122	97
250Ah/12V/C10	250	184	158	139	110
Ah & Wh Efficiency					
Ah Efficiency		>90%	Wh Efficiency		>83%

- Poly Components Material :- Polypropylene Co polymer
- Watering system :- Individual to every cell in Monobloc
- Color :- Blue
- Testing Parameters :- IS 13369:2005 & IEC 60896-11

Charging Profile



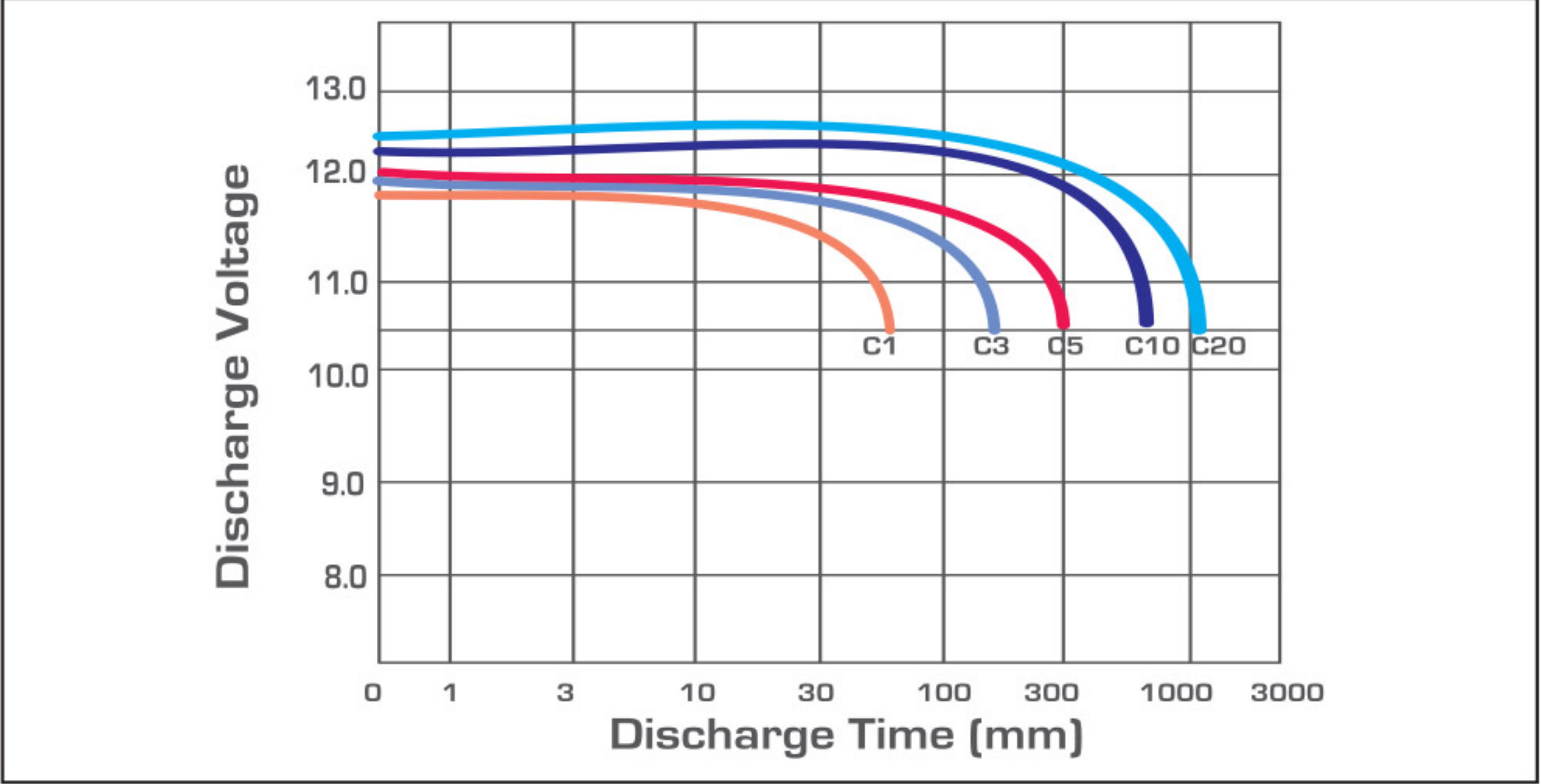
Self Discharge Characteristics @ Different Temperature



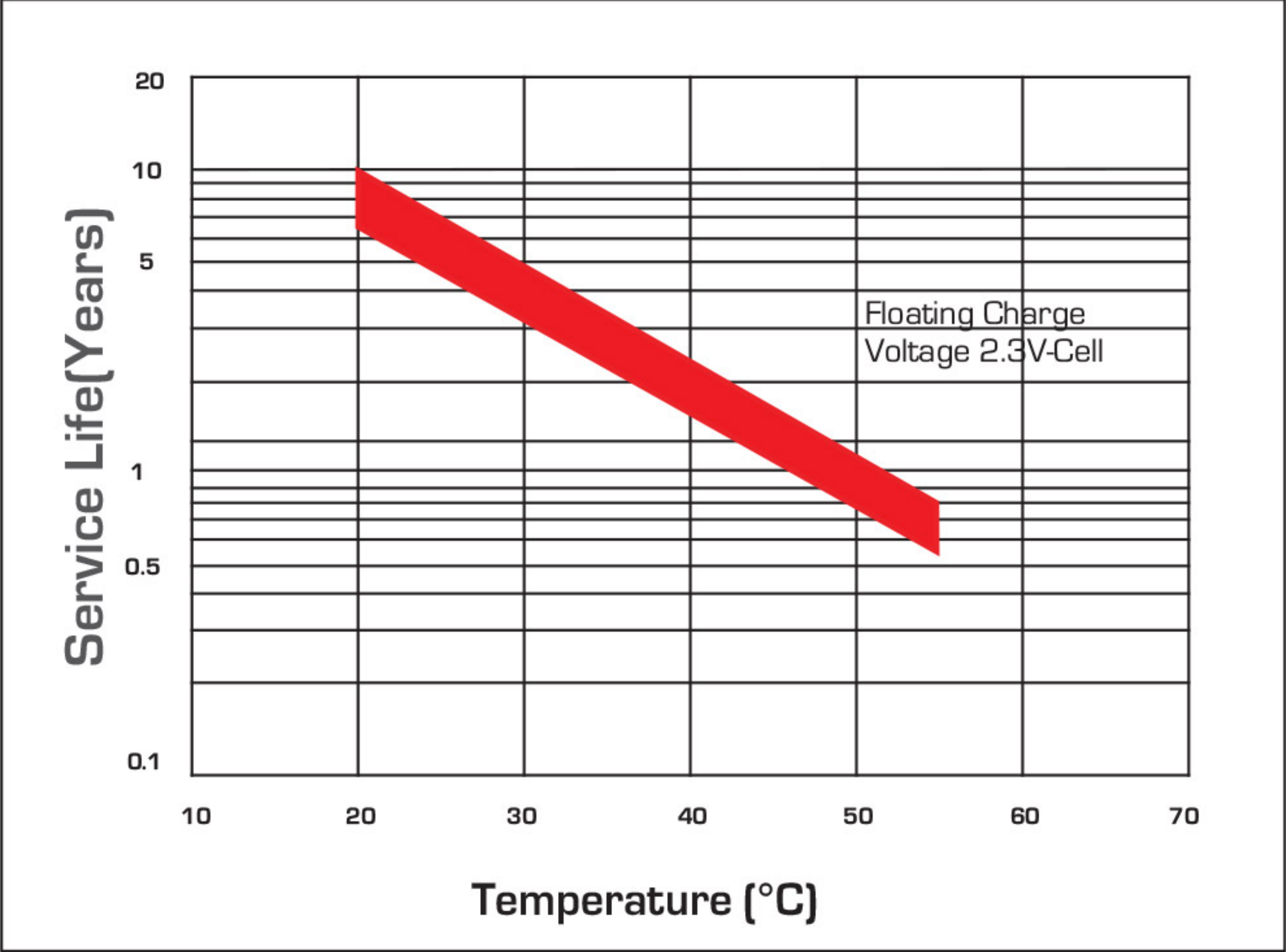
State of Charge Measure of Open-circuit Voltage @ 27°C

State of Charge	Specific Gravity	Voltage
100%	1.260	12.7V
75%	1.225	12.4V
50%	1.190	12.1V
25%	1.155	12.0V
0%	1.120	11.8V

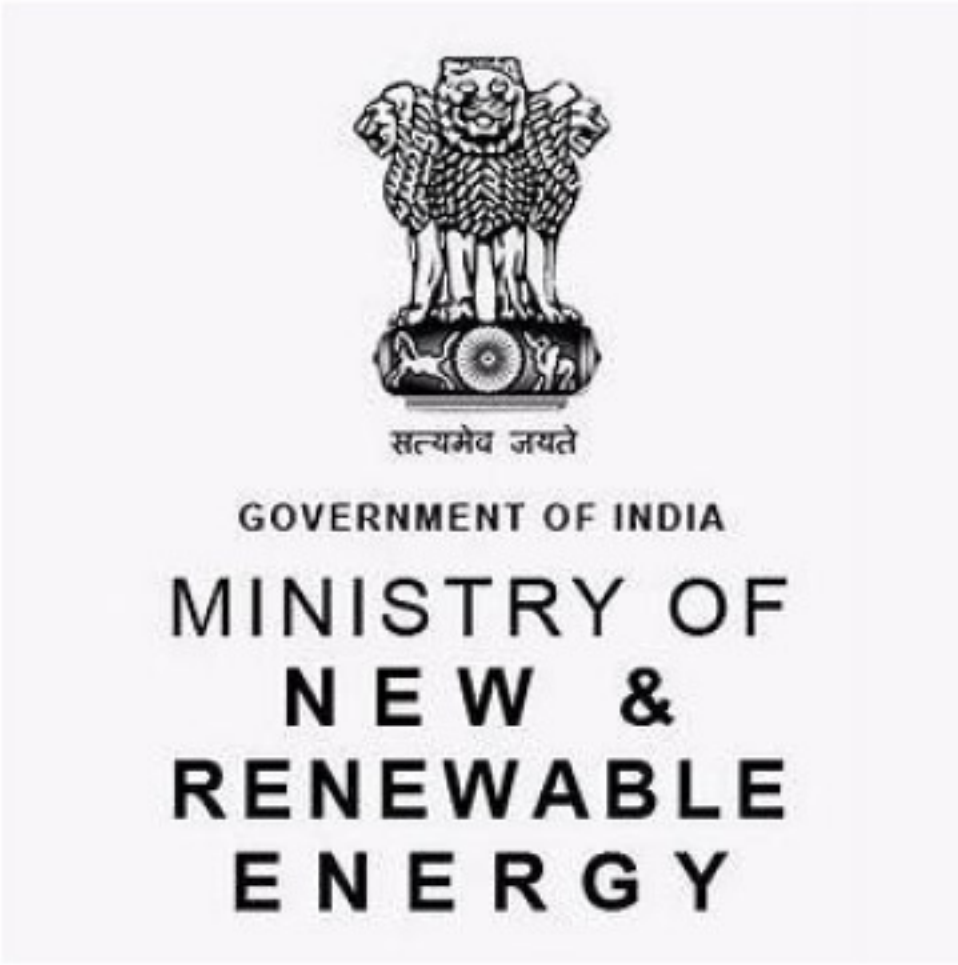
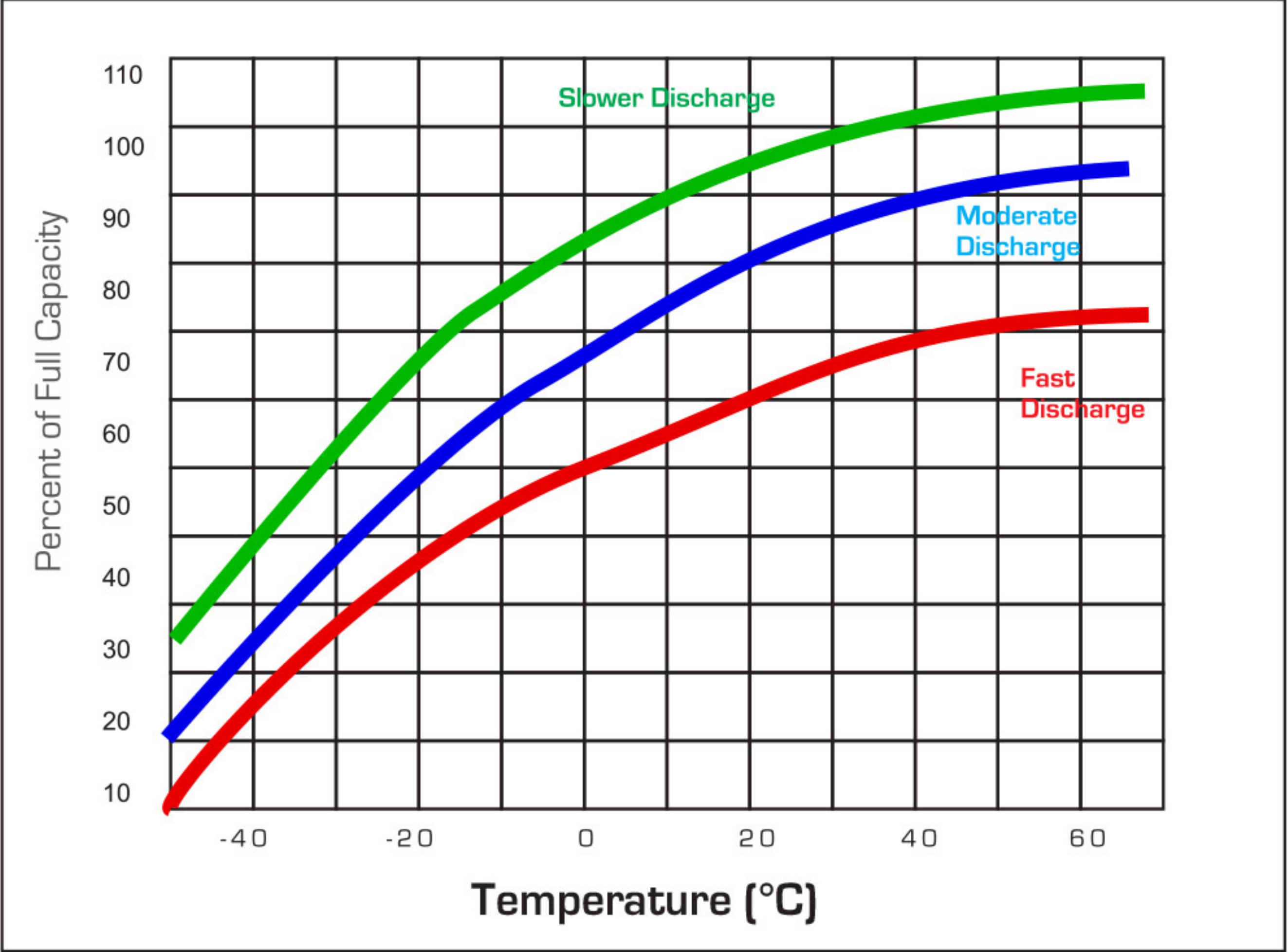
Discharging Characteristics at various rates @ 27°C



Service (Float) Life and Temperature



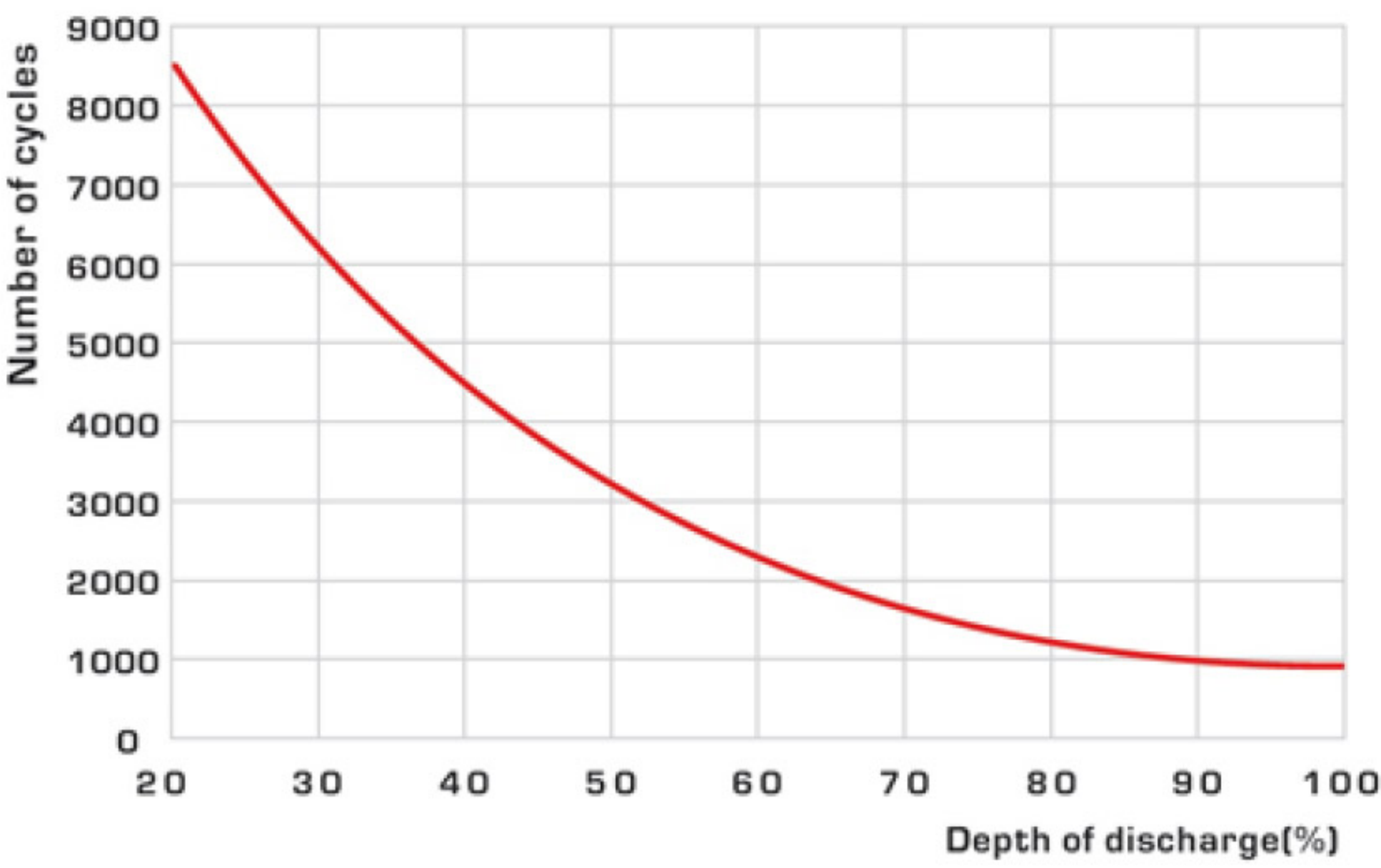
Expected Capacity vs Temperature



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 +55°C] At temperatures below 32°F [0°C] maintain a state of charge greater than 60%.	As per discharge Graph

EXPECTED LIFE @ 27°C



Charging Instructions

Charger Voltage Settings [at 77° F/ 25°C]			
System Voltage	12V	24V	48V
Maximum Charge Current	0.2C10		
Maximum Absorption Phase Time [hours]	4		
Absorption Voltage	14.4	28.8	57.6
Float Voltage	13.6	27.2	54.4
Equalization Voltage	16	32	64
Do not install or charge batteries in a sealer or non- ventilated compartment. Constant under or overcharging will damage the battery and shorten its life as with any battery.			
Periodic Charge	Provide a periodic freshening charge to maintain a SOC greater than the threshold of 70%		

Comparison in between Solar Tubular & AGM VRLA

S.No	Parameter	IPI Tall Tubular Conventional	AGM VRLA
1	Plate Technology	Tall Tubular Plate	Flat Pasted Plate
2	Electrolyte	Free Flow Electrolyte	Electrolyte in- between AGM
3	Water Loss	Low	Negligible
4	Self Discharge	Low <2.0%	Low <2.0%
5	Life Cycle w.r.t DOD	1200+ Cycle @ 80% DOD	450 Cycle @ 80%DOD
6	Water Top up	Low water top up	Water top up not required throughout life
7	Plastic Material	PPCP Material	PPCP material & ABS material
8	Battery Technology	Conventional Technology	Valve Regulated Technology
9	Separator	Polythylene [PE]	AGM Separator [Very low Electrical resistance]
10	Life w.r.t Application	Excellent performance on cyclic application	Not good for cyclic application
11	Acid Stratification	Low	No
12	Discharge Current	Low Range	Wide Range
13	Charging setting	Generic set point for chargers	Required special set point for charges
14	Operating Temperature	Wide Temperature Operating range	Temperature Operating range is limited
15	Spillage	Low Spill-proof	Spill-proof
16	Application	Suitable for Float application above 1H: discharge rate	Good for float & stand by application
17	Recovery in PSOC	Excellent	Low

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

