



OREMA POWER CO.,LTD. EV45-12H (12V55Ah)

EV Series Battery

OREMA EV series battery is Deep Cycle battery specially designed for frequently charge and discharging application. By using heavy duty grids, thicker plates and specially active materials, which the battery can offer 80% more cycle life than general AGM batteries, they are suitable for motive power equipments application.

Applications

- Marine and RV
- Aerial Lifts and Fork Lifts
- Golf carts and Wheelchairs
- Floor Sweepers and Electric Vehicles
- Mobility and Medical Equipments
- Solar and Wind Renewable Energy

General Features

- Non-spillable construction
- Sealed and maintenance-free
- Excellent recovery from deep discharge
- High density active materials plates
- Longer Life and low self-discharge

Standards

- Compliance with IEC, BS, JIS and EU standards.
- UL, CE Certified
- ISO45001, ISO9001 and ISO14001 certified production facilities

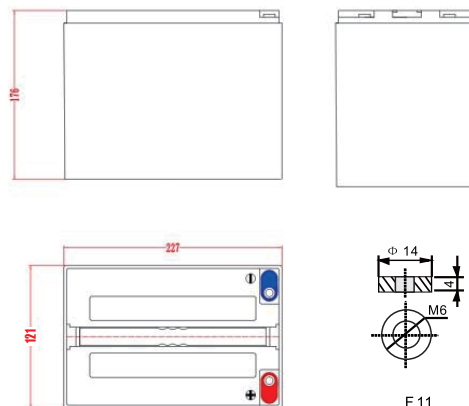
Specifications

Rated Voltage	12V	
Nominal Capacity	55Ah	(C ₂₀ , 10.8V)
Approx Weight	12.8kg±3%(28.22lbs)	
Terminal	F11	
Rated Capacity(25°C)	55 Ah	(20hr, 2.7A, 10.5V)
	49 Ah	(5hr, 9.8A, 10.5V)
	47 Ah	(3hr, 15.7A, 10.2V)
Max.Discharge Current	550A(5s)	
Max.Charge Current	13.75A	
Internal Resistance(25°C)	Approx 11 mΩ	
Operating Temp.Range	Discharge	-20~60 °C(-4~140 °F)
	Charge	-10~50 °C(14~122 °F)
	Storage	-20~60 °C(-4~140 °F)
Nominal operating temperature	25±5°C	
Charge Voltage @25°C(77°F)	Cycle Use	Initial Charging Current less than 13.75 A. Voltage 14.4V~15.0V at 25°C(77°F).
	Standby Use	Initial Charging Current less than 13.75 A. Voltage 13.5V~13.8V at 25°C(77°F).
Temperature effects on capacity	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
	-15°C (5°F)	65%
Self Discharge(25°C)	Capacity after 3 months storage	91%
	Capacity after 6 months storage	82%
	Capacity after 12 months storage	65%



Dimensions

unit:mm



Length	227±3mm(8.94inches)
Width	121±3mm(4.77inches)
Container Height	176±3mm(6.93inches)
Total Height	176±3mm(6.93inches)

Battery Construction

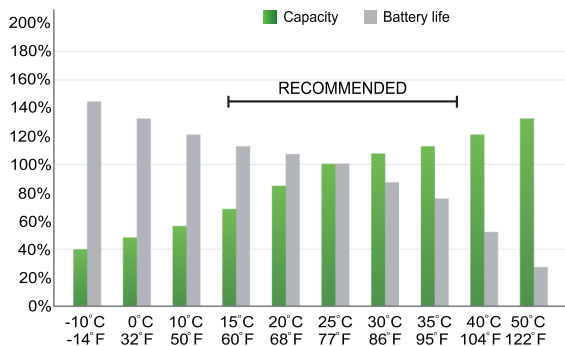
Component	Positive plate	Negative plate	Container	Safety valve	Terminal	Separator	Electrolyte
Raw material	Lead dioxide	Lead	ABS(UL94-HB) or FR(UL94-V0)	Rubber	Copper	Fiberglass	Sulfuric acid

PERFORMANCE SPECIFICATIONS

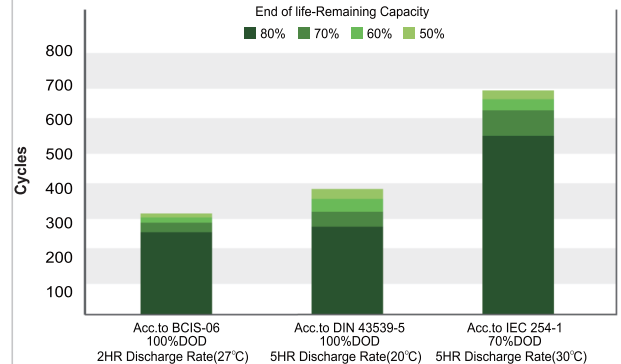
Amp Hours (AH)			Minutes of Discharge				
3 HR	5 HR	20 HR	@19.7A	@44A	@55A	@ 67A	@78A
47	49	55	123	45	30	27	23

3 HR: 1.70VPC; 5 HR: 1.75VPC; 20 HR: 1.80VPC. All at 25°C/77°F

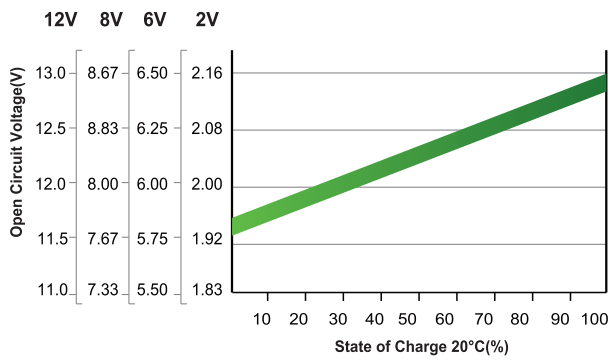
Temperature Effects on Capacity



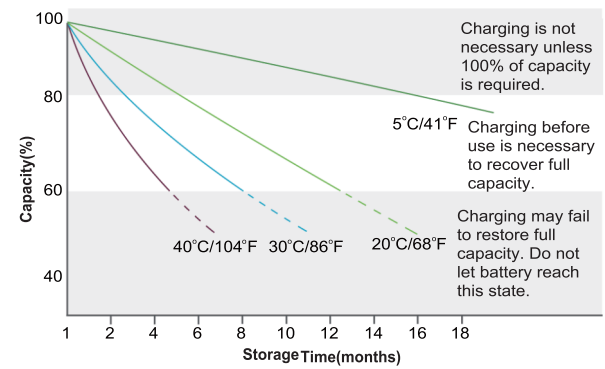
Test Standards and Cycle Life



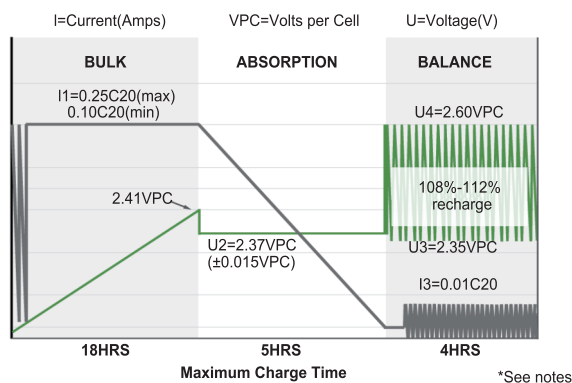
Open Circuit Voltage in Relations to SOC (20°C)



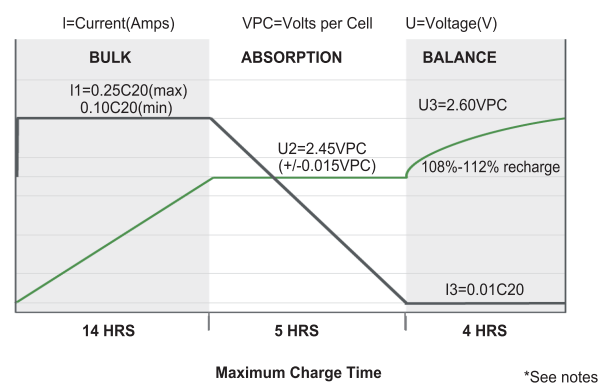
Self-Discharge Characteristics



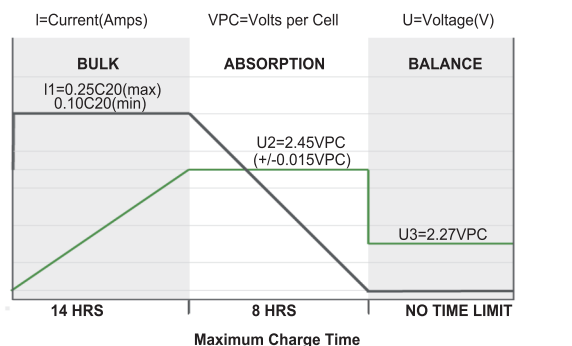
IUI Pulse Charge Profile



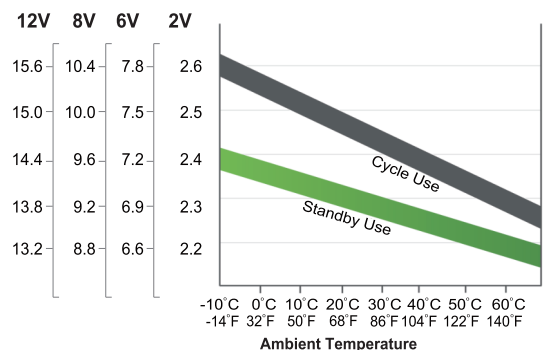
Constant Current (IUI) Charge Profile



Voltage Regulated (IUU) Charge Profile



Relations between Charge, Voltage, and Temperature



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1. Due to self-discharge characteristics of lead-acid battery technologies, batteries should be top charged within 6 months of storage to ensure optimum performance, prevent sulphation and permanent capacity loss.
2. Charge profile recommendations correspond to battery voltages at 25°C (77°F). For temperatures below, adjust +5mVPC/°C (+3mVPC/°F). Temperatures above, adjust -5mVPC/°C (-3mVPC/°F). Temperature compensated charging helps ensure optimum battery runtime and life performance.
3. Charge profile recommendations depend on application and charger. IUI (or IUI with Pulse) is appropriate for applications that require frequent and deep discharges. IUU is appropriate for applications that are on standby and cycled less frequently.
4. IUI with Pulse algorithm uses a pulse termination criterion. The finish current is pulsed on and off in order to keep the battery voltage at a minimum while still reaching target overcharge. If average VPC exceeds U4 and the charger output has been on for more than 30 seconds, the output is shut off until VPC falls to U3.
5. IUI Charge Profile (if applicable), may have a continuous float phase added (2.27VPC).

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