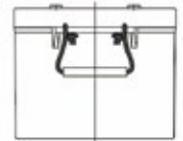
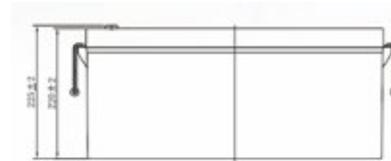
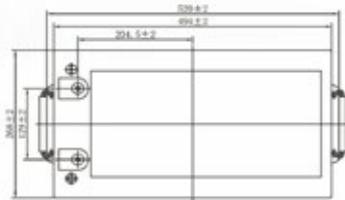
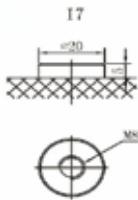




## ECOCARBON CB-220 /280-12 Battery For Renewable Energy Sources

The ECOCARBON series adopts newest lead carbon technology which add carbon material into negative electrode to slow down the sulfation. The Series battery provides not only high energy density, but also high power, rapid charge and discharge and longer cycle life. It's very suitable for renewable energy storage or where commercial power is unstable.

### CB-220-12 / CB-280-12



Applicable Operating Temperature Range: -20°C to +50°C  
Ideal Operating Temperature Range: +20°C to +35°C  
Storage Time From A Fully Charged Condition: 24 months at 20°C

## Features

- > **Advanced Lead Carbon Technology**  
The carbon material, boasts the super high specific surface area and super conductive performance, is added to negative electrode formula to inhibit the irreversible sulfation of the negative active material, and improve both low temperature performance and charging acceptance.
- > **Patent Rare Earth Alloy ( Green Alloy )**  
Strong corrosion resistance, creep resistance and electrochemical performance, maintaining a complete fluid collection structure throughout the battery life cycle to improve hydrogen evolution oxygen evolution potential, reduce water loss and extend battery life.
- > **Patent Hydrophobic Barrier**
  - » Superfine glass fiber AGM+ hydrophobic modified high polymer
  - » polyolefin fiber separator, patent number: ZL2012110070685.8
  - » Super tensile resistance
  - » Stable oxygen composite channel
  - » Persistent pressure retention performance
- > **Extended Cycle Life**
  - » High energy density battery 12V: 60%DOD 2 3600 times
  - » High energy density battery 2V: 60%DOD 2 4500 times
  - » High power density battery 12V: 15%DOD >10000 times
- > **Excellent Battery Performance**
  - » Excellent performance on fast charging, the charging time could cut down 30%
  - » The capacity -20°C is 20% higher than normal batteries
  - » The cycle life +35°C is 60% longer than normal batteries

## Applications

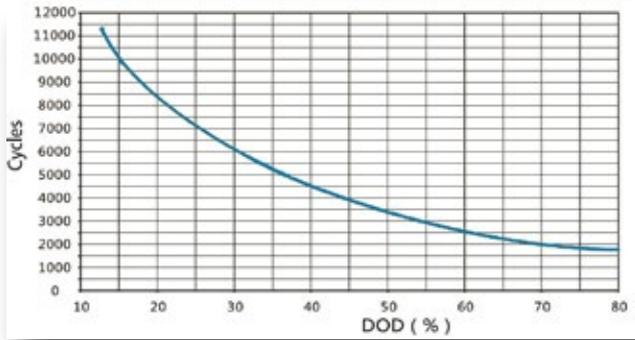
- > Solar power
- > Wind power
- > Water pumping
- > Lighting
- > Houses
- > Backup systems



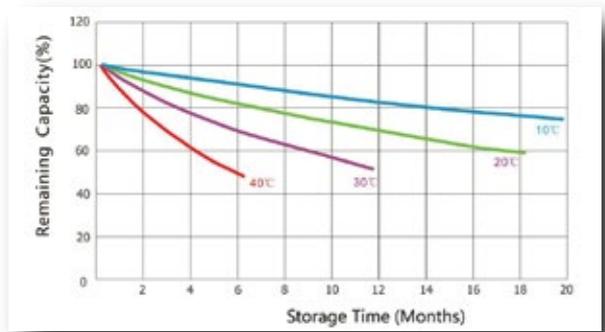
## Specifications

- |                  |                                   |
|------------------|-----------------------------------|
| > Positive plate | Alloy grid                        |
| > Negative plate | Pb-Ca grid                        |
| > Box            | Reinforced ABS                    |
| > Cover          | Reinforced ABS                    |
| > Safety valve   | Rubber                            |
| > Terminal       | Copper                            |
| > Separator      | AGM                               |
| > Electrolyte    | Dilute high purity sulphuric acid |

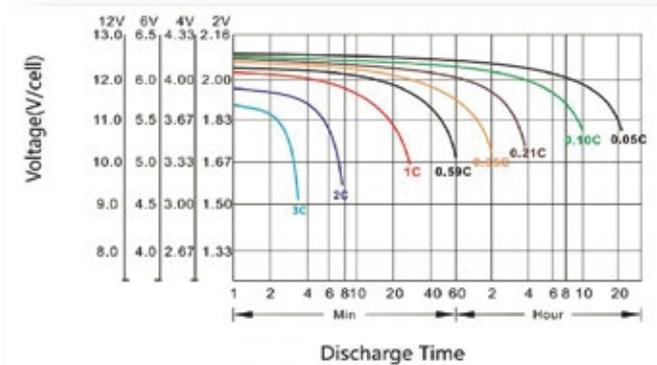
## Life characteristics of cyclic use



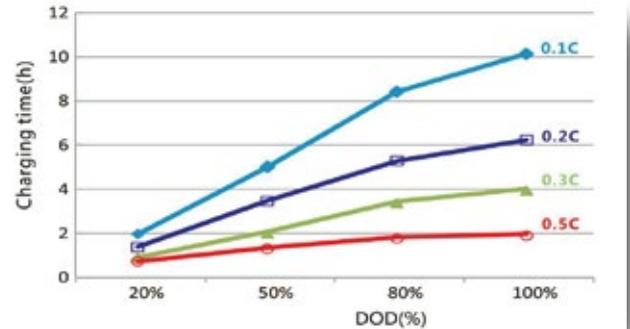
## Storage characteristics



## Charge characteristics curve of cyclic use



## Discharge characteristics curve



## Capacity Factors At Different Temperatures

Temperature	-20°C	-10°C	0°C	5°C	10°C	20°C	25°C
Factor	70%	83%	90%	95%	97%	100%	102%

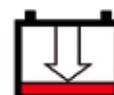
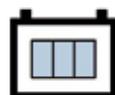
## Discharge Amps (25°C)

Type	Volt (V)	C10 Hr	C20 Hr	C100 Hr	Approx Wt. (Kg)	Dimensions in (mm)		
						Lenght	Width	Height
CB - 220 - 12	12	170	186	220	70,5	522	239	220
CB - 280 - 12	12	200	250	280	72,5	520	268	220

### IMPORTANT CHARGING INSTRUCTIONS

WARRANTY VOID IF OPENED OR IMPROPERLY CHARGED. Do not install in an air-tight condition. Constant under or overcharging will damage any battery and shorten its service life. Use a good constant potential, voltage-regulated charger or voltage regulated solar controller. For 12 volts monobloc, charge to at least 13.6 volts but no more than 14.4 volts at 25°C. The open circuit voltage of a fully charged 12 volts monobloc is 12.8 volts at 25°C. However, during the battery charge, the building internal pressure (voltage) causes resistance to the charge. Therefore, the charging voltage must be higher (at least 13.8 volts) to overcome this internal pressure (voltage) during charging. For longer life avoid deep discharges and large charging currents. Do not connect more than three strings, for larger capacities use 2V batteries.

\*All mentioned values are average values (Tolerance ±5%).



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