

DEEP CYCLE BATTERY <Amperes-Hour (AH) Rating>

All Deep Cycle batteries are rated in amp-hours (AH). An amp-hour is one amp for one hour, or 10 amps for 1/10 of an hour and so forth. It is Amps multiply (x) by Hours.

For example, if you have something that draws 20 amps, and you use it for 20 minutes, then the amp-hours used would be 20 (amps) x .333 (hours), or 6.67 AH.

The '*20 Hour Rate*' is the accepted AH rating time period for batteries used in solar electric and backup power systems (and also for nearly all Deep Cycle batteries).

This means that it is discharged down to 10.5 volts over a 20 hour period while the total actual amp-hours that it supplies are measured. Sometimes ratings at the *6 hour rate* and *100 hour rate* are also given for comparison and for different applications.

The *6 hour rate* is often used for industrial batteries, as that is a typical daily duty cycle. Sometimes the *100 hour rate* is given just to make the battery look better than it really is, but it is also useful for figuring battery capacity for long-term backup Amperes-Hour (AH) requirements.

Amperes-Hour (AH) is specified at a particular rate because of something called the Peukert Effect. The Peukert value is directly related to the internal resistance of the battery. The higher the internal resistance, the higher the losses while charging and discharging, especially at higher currents.

This means that the faster a battery is used (discharged), the LOWER the AH capacity. Conversely, if it is drained slower, the AH capacity is higher.