Frequently Asked Questions

Q. What is the CCA rating?

A. The cold cranking ampere (CCA) rating refers to the number of amperes a battery can support for 30 seconds at a temperature of 0°F until the battery voltage drops to 1.20 volts per cell, or 7.20 volts for a 12V battery. Thus, a 12V battery that carries a rating of 600 CCA tells us that the battery will provide 600 amperes for 30 seconds at 0°F before the voltage falls to 7.20V.

Q. What is the marine cranking rating?

A. The marine cranking ampere (MCA) rating refers to the number of amperes a battery can support for 30 seconds at a temperature of 32°F until the battery voltage drops to 1.20 volts per cell, or 7.20 volts for a 12V battery. Thus, a 12V battery that carries a MCA rating of 600 CCA tells us that the battery will provide 600 amperes for 30 seconds at 32°F before the voltage falls to 7.20V.

Note that the MCA is sometimes referred to as the cranking amperes or CA.

Q. Define the difference between MCA and CCA.

A. The marine cranking ampere (MCA) rating of a battery is very similar to the CCA rating; the only difference is that while the CCA is measured at a temperature of 0°F, the MCA is measured at 32°F. All other requirements are the same — the ampere draw is for 30 seconds and the end of discharge voltage in both cases is 1.20 volts per cell.

Q. I have heard of an HCA rating also. What is it?

A. The full form of HCA is *hot cranking amperes*. It is the same thing as the MCA or the CA or the CCA, **except that the temperature at which the test is conducted is 80°F**.

Q. What is the pulse cranking amp rating?

A. Unlike CCA and MCA the pulse cranking ampere (PCA) rating does not have an "official" definition; however, we believe that for true engine start purposes, a 30 second discharge is unrealistic. With that in mind, the PCA is a very short duration (typically about 3 seconds) high rate discharge. Because the discharge is for such a short time, it is more like a pulse.

Q. Are these a gel cell? What's the difference?

A. No, the ODYSSEY battery is **NOT** a gel cell. It is an absorbed electrolyte type battery, meaning that ***there is no free acid inside the battery; all of the acid is kept absorbed in the glass mat separators***. These separators serve to keep the positive and negative plates apart.

The key difference between the gel cell and the absorbed glass mat (AGM) cell lies in the fact that in the AGM cell all of the electrolyte is in the separator, whereas in the gel cell the acid is within the cells in a gel form. In fact, if the ODYSSEY battery were to split open, there would be no acid spillage!

Q. I do not understand the Ah rating. Please explain.

A. The ampere-hour (Ah) rating defines the capacity of a battery. A typical battery that is rated as a 100Ah battery at the 10 hour rate of discharge is capable of delivering 10A for 10 hours before the terminal voltage drops to a standard value such as 1.67 volts per cell, or 10.02 volts for a 12V battery. Similarly, a 50Ah battery would supply a 5A load for 10 hours. The BP1000 battery is rated at 42Ah, so it can furnish 4.2A for 10 hours.

Q. What is the reserve capacity rating? What does that mean in the industry?

A. The reserve capacity of a battery is defined as the number of minutes that it can support a 25 ampere load at 80°F until its terminal voltage drops to 1.75 volts per cell or 10.50 volts for a 12V battery. Thus a 12V battery that has a reserve capacity rating of 100 signifies that it can be discharged at 25 amps for 100 minutes at 80°F before its voltage drops to 10.75 volts.

Q. Is the ODYSSEY® battery a completely dry battery?

A. Because the ODYSSEY battery has no free acid inside, it is covered under the US Department of Transportation (USDOT) unregulated "wet nonspillable wet electric storage batteries" classification and International Air Transport Association (IATA) "unrestricted" air shipments categories. These batteries may be shipped completely worry-free. Supporting documentation is readily available.

Q. You mentioned high impedance. What is it?

A. The impedance of a battery is a measure of how easily it can be discharged. The lower the impedance the easier it is to discharge the battery. The impedance of the ODYSSEY battery is considerably less

than that of a marine battery, so its high rate discharge capability is significantly higher than that of a marine battery.

Q. How much current is generated if I accidentally short this battery?

A. As suggested before, the ODYSSEY battery is a very low impedance product, meaning that the short circuit current can be extremely high. For a series system (24V), the short circuit current will be of the order of 2,500 amperes; a 12V parallel system will generate close to 5,000 amperes!

Q. Do I ruin the battery if I accidentally drop it? Does it void the warranty?

A. Not necessarily, but it is possible to damage the internal connections sufficiently to render the battery useless. Our warranty applies only to manufacturing defects and workmanship issues; the policy does not cover damages suffered due to product mishandling.

Q. What is so special about pure lead tin technology? Is it a new technology?

A. While the answer to the first part of the question requires a detailed response, the short answer is that the extremely high purity (99.99%) of our raw materials makes our product very special. The technology is not new; the valve regulated lead recombinant technology was invented and patented by us back in 1973.

Q. How come you don't have to winterize your batteries? What's so special about it?

A. In general, winterizing strictly refers to a special maintenance procedure conducted on an automobile engine to insure its reliability during the coming winter season. This procedure essentially checks the engine's cooling system; in addition, the battery is load tested according to a specific protocol laid out by the Battery Council International (BCI). While ODYSSEY batteries do not specifically require this test to be conducted on them, the final decision whether or not to conduct this test is left to the user's discretion.

Q. Are these Ni-Cd batteries? Why doesn't somebody make these in Ni-Cd? Wouldn't they charge faster with Ni-Cd?

A. No, the ODYSSEY battery is **NOT** a Ni-Cd battery; it is an absorbed (starved) electrolyte valve regulated lead battery. In general, nickel cadmium batteries are much more expensive to manufacture and recycle, so they are far less cost effective than a lead acid product.

A nickel cadmium battery would charge faster than a conventional lead acid battery; however, the ODYSSEY battery is **NOT** a conventional battery and its charge characteristics are somewhat similar to nickel cadmium batteries. In fact, with a powerful enough charger, it is possible to bring ODYSSEY batteries to better than 95% state of charge in under 20 minutes! That is very comparable to the fast charge capabilities of a nickel cadmium product.