Nickel Iron Batteries From BeUtilityFree!

Thomas A. Edison invented the nickel iron battery at the turn of the century while searching for a rugged, long lived storage battery. Actual performance records have proven him correct with thousands of batteries still in service today. Nickel iron battery technology has withstood the test of time. BeUtilityFree™ considers this battery to be the "ultimate" battery for longevity, durability, ruggedness, and ease of maintenance with its clear plastic see through battery case. It can offer a lifetime of reliable service for home power systems, railroads, telecommunications, boats, island home power systems, or any other application where "you only want or need to buy just **ONE** battery and be done with it"

These nickel iron batteries have been manufactured for over 22 years by a Chinese manufacturing company which has won 36 prizes in their country. The advanced battery manufacturing assembly line was imported from VARTA AG Germany, thus what you are buying is Germany technology at a very reasonable price.

These batteries have many advantages listed below. Review them and compare. Once you use a nickel iron battery you will find you will never return to lead acid batteries again. Our company is the exclusive importer for North America and South America and have been importing then into the US from 1995. We have batteries that are over 10 years old and still producing 100% of their rated capacity! These are facts, not myths or half truths.

WARRANTY

We have the best warranty in the home power industry.

It is a 10 year warranty. The first 6 years is a free cell replacement and a 4 year prorated warranty that covers the battery in day to day service after the first 6 years, NOT float service. In other words these batteries like to be worked! Contact us for a copy of the warranty.

FINANCING

We offer battery financing for those who need it. Not being able to afford these batteries has been a detriment for many people, up until now! There should never be a reason NOT to consider this battery for your next battery bank because of cost. We can finance up to 50% of the cost of this battery. You can take the money you would have paid for a top quality lead acid battery and get a true lifetime battery instead! No other company selling batteries offers battery financing. We consider the battery the heart of your renewable energy system, so why not purchase your battery just once like other component parts of your system? Contact us for our battery financing flyer.

Battery Features	Nickel Iron	Lead Acid
• Up to 40 years life	Yes	No
• Leave in any state of charge without harm	Yes	No
• Has memory effect (1)	No	Yes
• Battery damage 100% D.O.D (2)	No	Yes
• Sulfating of plates	No	Yes
• Regulator optional	Yes	No
• Frequent hydrometer readings	No	Yes
• Corrosive fumes (3)	No	Yes
• Use on DC to AC inverters (4)	Yes	Yes
• Equalization charge required (5)	Yes	Yes
• **Add to system anytime (6)**	**YES**	**NO**
• Wide operating temperature	Yes	No
• Bad cell easily removed (7)	Yes	No
• Can fully charge in 5-7 hours without harm	Yes	No
• HydroCaps™ available	Yes	Yes
• Toxic substances	No	Yes
• Damage to battery if overcharged or undercharged	No	Yes
• Venting optional	Yes	No
• Translucent/transparent cases (8)	Yes	No
• Easy maintenance	Yes	No

1. Sinterplate nickel cadmium batteries have a memory effect as well as some lead acid batteries, not pocket plate nickel iron.
2. D.O.D. means depth of discharge.
3. Nickel iron batteries produce only hydrogen and oxygen past 80% state of charge. Gases still should be vented to meet electrical code.
4. Most inverters on the market are designed for lead acid batteries, but NiFe battereies can be used on most inverters today. We recommend Exeltech MSX, OutBack, Samplex and Xantrex sine wave inverters.
5. Twice a year for alkaline batteries and once a month for lead acid batteries.
6. Lead acid batteries internal resistance (IR) increases at a steady rate while alkaline batteries IR stabilizes. You should not mix batteries with different internal resistance's.
7. NiFe cells are much lighter then lead acid cells and also have less voltage per cell.
8. Most lead acid come in black plastic, our NiFe cells come in see thru acrylic plastic.

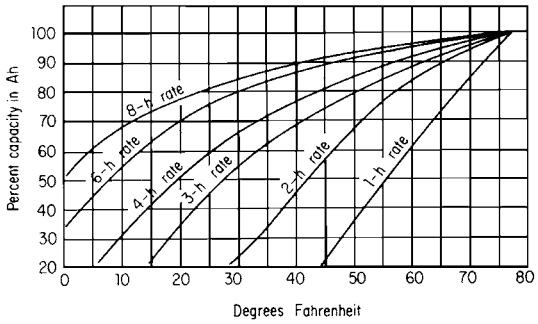
BeUtilityFree, Inc. **888.320.9211**

507 Summer Hawk Dr • Longmont, CO 80501 • USA • www.beutilityfree.com

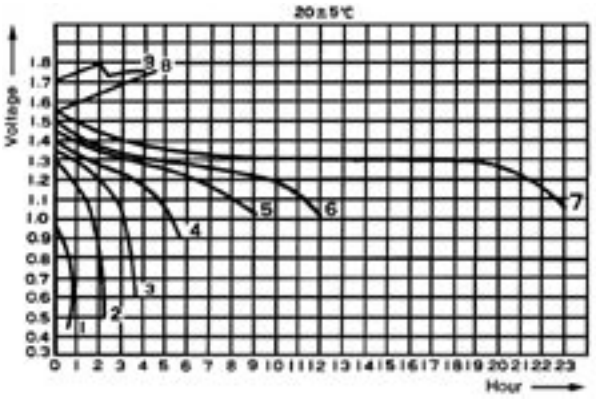
BATTERY OPERATING CHARACTERISTICS

WHY CAN A NICKEL IRON BATTERY LAST 40 YEARS?

The battery chemistry is the exact opposite of a lead acid battery. In a lead acid battery the electrolyte interacts with the plates during every charge, discharge cycle, and with every cycle lead is shed off the plates reducing the battery capacity. From the day you start charging a lead acid battery you are losing capacity each time you use it. It is on its path toward self destruction. With a nickel iron battery there is **NO** chemical interaction between the plates and the electrolyte. In fact the electrolyte used in a nickel iron battery (potassium hydroxide i.e. KOH) is a preservative of metal. When air is allowed to interact with the KOH, forming potassium carbonate, the cell loses its ability to store electricity. One to two electrolyte replacements **may** be needed to replemish the battery capacity in its life time. The replacement of electrolyte depends on many factors but is relatively easy to do with proper equipment. This is why we have nickel iron batteries in the field that are producing 100% of their rated capacity which are over **50 years old!**

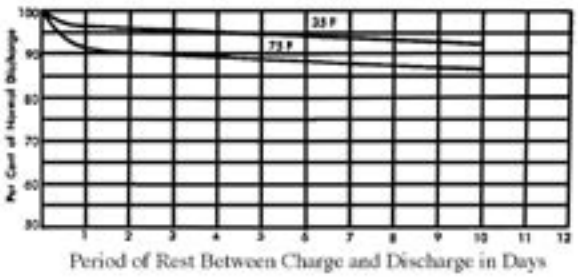


How cold weather effects performance on the nickel iron battery.



1.-1 hr discharge rate
2.-2 hr discharge rate
3.-3 hr discharge rate
4.-4 hr discharge rate
5.-8 hr discharge rate
6.-10 hr discharge rate
7.-20 hr discharge rate
8. Normal charge
9. Rapid charge

Charge - discharge curves - see legend to right of chart.



Loss of battery capacity during idle periods after full charge. A suitable trickle charge will offset any loss, keeping the battery fully charged.

BATTERY PRICING AND SPECIFICATIONS

Part #	Ah*	USD Price/ Cell	12V 10 cells	24V 20 cells	Dimentions (")	Dimensions (mm)	Kg	Lb
7008	122	$64	$644	$1,288	6 x 3 x 15	140 x 79 x 360	5	11
7009	183	$97	$966	$1,932	6 x 4 x 18	164 x 106 x 345	10	23
7010	244	$129	$1,288	$2,576	6 x 7 x 18	164 x 162 x 345	12	24
7011	305	$161	$1,610	$3,220	7 x 7 x 18	167 x 162 x 345	16	27
7012	366	$193	$1,932	$3,864	11 x 6 x 18	276 x 138 x 420	18	37
7013	488	$258	$2,576	$5,152	11 x 6 x 18	276 x 138 x 450	20	41
7014	549	$290	$2,898	$5,796	11 x 6 x 18	276 x 138 x 450	22	45
7015	610	$322	$3,220	$6,440	16 x 8 x 22	276 x 138 x 450	24	49
7016	732	$386	$3,864	$7,728	16 x 8 x 22	290 x 174 x 505	30	61
7017	854	$451	$4,508	$9,016	16 x 8 x 24	398 x 174 x 505	33	67
7018	976	$515	$5,152	$10,304	16 x 8 x 24	398 x 185 x 560	53	116
7019	1220	$644	$6,440	$12,880	16 x 8 x 24	398 x 185 x 560	55	121

* 100 hr. discharge rate. Any voltage combination is available! Prices include dry chemicals and manual. Buyer needs to add distilled water to chemicals. For BeUtilityFree to cycle and fill cells add $175 per 10 cells. These are sold by the **cell**. Buyer pays freight FOB LA, CA to final destination. Cell range: 12V:10 cells, 24V:18-21 cells, 48V: 36-41. For ordering procedures contact us. Table price effective date October 1, 2006. Battey specifications @ 25° C (77° F)

BeUtilityFree, Inc. **888.320.9211**
507 Summer Hawk Dr • Longmont, CO 80501 • USA • www.beutilityfree.com