

ELECTROCHEMICAL BATTERY STRIP



Magnesium seawater batteries are one example of magnesium's potential in energy applications. These electrochemical batteries contain a magnesium anode and a non-magnesium cathode and use seawater as their shared electrolyte. Seawater batteries are ideal for use in maritime and emergency response environments as a lightweight, low cost, environmentally friendly, low maintenance, long storage life alternative to other batteries, such as reactive, high maintenance lithium batteries, in part because they are not activated until they are deployed in seawater.

Lightweight, low cost, safe, highly anodic, and environmentally friendly magnesium is an attractive choice for battery anode applications. Magnesium is naturally anodic compared to other transition metals. The greater distance between the potentials of the anode and cathode determine the possible voltage. Magnesium's potential can be seen in the chart on the right. Alloying elements, such as those used in AZ31B and AZ61A, further improve magnesium's mechanical and electrochemical properties.

MAGNESIUM IN BATTERY APPLICATIONS



Electric motor torpedoes



Submarines



Sonobuoys



Emergency lighting on lifeboats and life vests



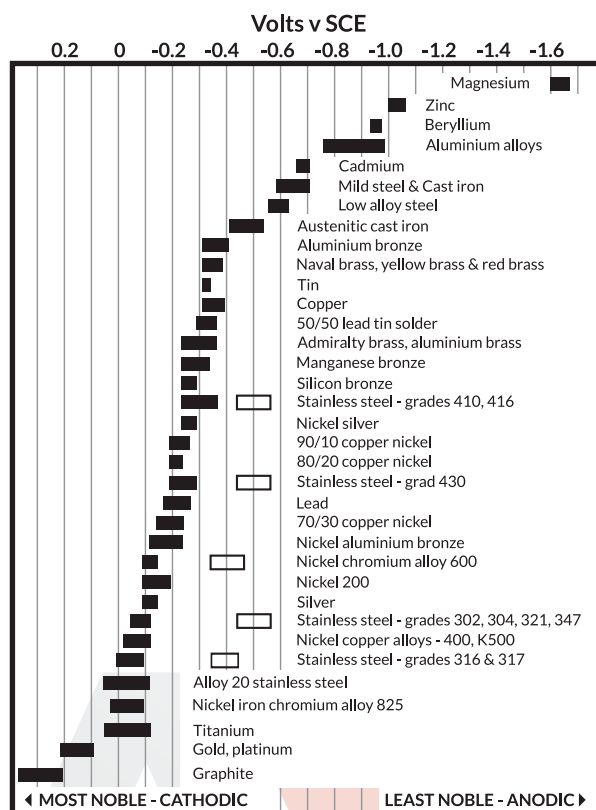
Field rechargers



Emergency power



Weather measuring equipment



BENEFITS OF MAGNESIUM IN BATTERIES

- Naturally Environmentally Friendly
- Low Cost & Abundant
- High Energy Density
- Safer Alternative to Lithium-Based Batteries

