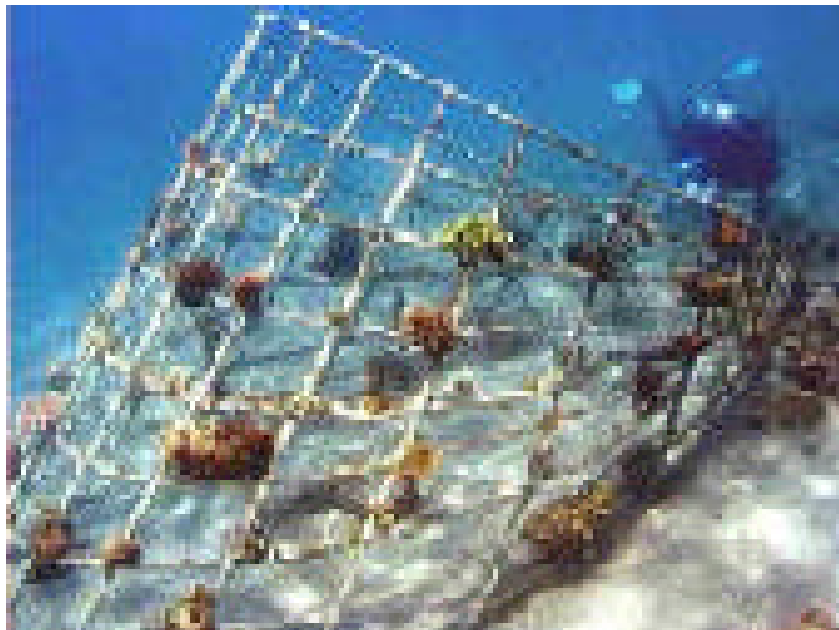


Global Coral Reef Alliance™

Dedicated to the Growth and Management of Coral Reefs Around the World

Biorock®/ Mineral Accretion Technology for Reef Restoration, Mariculture and Shore Protection

Biorock Technology, or mineral accretion technology is a method that applies safe, low voltage electrical currents through seawater, causing dissolved minerals to crystallize on structures, growing into a white limestone similar to that which naturally makes up coral reefs and tropical white sand beaches. This material has a strength similar to concrete. It can be used to make robust artificial reefs on which corals grow at very rapid rates. The change in the environment produced by electrical currents accelerates formation and growth of both chemical limestone rock and the skeletons of corals and other shell-bearing organisms.



Biorock methods speed up coral growth in damaged areas and restore authentic coral reef habitat and species. Biorock structures become rapidly colonized by a full range of coral reef organisms, including fish, crabs, clams, octopus, lobster, sea urchins. Species typically found in healthy reef environments are given an electrical advantage over the weedy organisms which often overgrow them in reefs stressed by humans. The advantages corals gain from mineral accretion are cancelled if they no longer receive current, at which point weeds will overgrow the corals. If the current is maintained, coral reefs can often be restored even in areas where water quality would prevent their recovery by any other method.



Biorock structures cement themselves to the hard bottom providing a physical wave barrier which over time, grows larger and stronger. Biorock materials are to an extent, structurally self healing. If a section is damaged, the cracks will fill making them ideal for breakwater shore protection.



Biorock projects can be powered by a wide range of electrical sources including renewable energy like windmills, photovoltaic solar panels and tidal current generators. This enables their construction in areas where conventional electric power is unavailable.



The mineral accretion process was first developed by architect Wolf Hilbertz in order to provide alternative construction materials. He and Tom Goreau of the Global Coral Reef Alliance later developed its use for reef restoration and shore protection.

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More information can be found at: <http://www.biorock.net/>
<http://www.globalcoral.org/Mineral%20Accretion%20Technology.html>