



**US Army Corps
of Engineers®**
Engineer Research and
Development Center

CORE-LOC® Concrete Armoring

Description

CORE-LOC® is an innovative coastal structure protection armor unit designed to withstand the harshest of wave climates. Its unique shape provides a strong interlocking unit optimized for high stability and low cost. Its superior hydraulic stability is attributed to the extraordinary interlocking of its symmetrically tapered octagonal members. This product is the result of years of concrete armor research within the Coastal Structures Group at the Coastal and Hydraulics Laboratory, U.S. Army Engineer Research and Development Center.



Benefits

CORE-LOC® has become the concrete unit of choice for both new construction and repair of existing concrete-armored slopes because of its extraordinary efficiency. Advantages are that it dissipates the maximum amount of wave energy with the least amount of concrete, requiring significantly less materials, and its layer has a reserve stability when properly designed and constructed. CORE-LOC® as much as 50 percent cost-savings over many other popular concrete armor units. Keeping in mind that the cost of an armor layer is proportional to the total volume of concrete on the slope, CORE-LOC® has one of the lowest packing densities in the industry, bringing about significant reduction in on-slope concrete volume. Together these factors account for as much as 50 percent cost-savings over many other popular concrete armor units. Since it is placed in a single layer, unlike many other types of concrete armor units,

Status

CORE-LOC® armor layers have been designed for hundreds of structures and over 30 have been constructed to date. The first project was constructed in 1996 in Port St. Francis, South Africa with 800 15-ton units. This site has endured three design level storms with excellent performance and no resultant damage. Patents and/or trademarks have been granted in more than 45 countries. The technology has been regionally licensed worldwide to several firms.

Distribution Source(s)

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Application See the list of the over 30 constructed sites – <http://chl.erdc.usace.army.mil> .

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