



PIPELINE



SLOPE

CABLE CONCRETE®

Articulated Concrete Block System

INTERNATIONAL EROSION CONTROL SYSTEMS INC.
855.768.1420 | www.iecsusa.com

DAM OVERTOPPING PROTECTION



IECS

INTERNATIONAL EROSION
CONTROL SYSTEMS

BOAT RAMP



BRIDGE SCOUR

Effective Erosion Control

AFTER



BEFORE
DIVERSION CHANNEL



Strong, Reliable & Cost-Effective

Effective Erosion Control - As an innovator in the field we have developed a highly effective product to protect against erosion with our Cable Concrete®. With our comprehensive approach to erosion control, we look at not only emergency erosion problems but long term solutions to erosion problems.

Customers choose us as a leader in Cable Concrete® manufacturing because...

- Our patented technology controls emergency and long-term erosion.
- Our concrete mats can be used for multiple applications.
- Our technology is cost effective and weather resistant.
- We are a leader in our industry.
- We deliver our materials in a timely manner and strive always for customer satisfaction.

How does it work?

For our Cable Concrete® mat to provide maximum protection, the mat in combination with a needle punched polyester geotextile fabric must pair up.

The geotextile allows moisture in the subsoil to drain, which prevents a buildup of hydraulic pressure beneath the concrete mat.

Subgrade material is kept intact through the weight of the Cable Concrete® and the separating ability of the geotextile layer. This durable and reliable shield protects the subgrade material from intense water velocity and persistent wave action.

In order to provide maximum effectiveness in erosion control the Cable Concrete® must keep uniform pressure on the geotextile and subgrade material at all times. Due to its integrated design Cable Concrete® will easily conform to any surface changes caused by freeze-thaw cycles.

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**CABLE
CONCRETE®**
Articulated Concrete Block System

Easy Installation

Cable Concrete® is exceptionally easy to install above or below water level. Since onsite assembly is not required, labor costs are kept to a minimum.

✓ SITE PREPARATION

This system can be installed over existing subgrade material with minimal grade preparation.

✓ DEPENDABLE STABILITY

If required our Cable Concrete® with its integrated cable allows easy interlocking of multiple mats to form a single strong unit which will cover any impacted area. We recommend clamping for maximum stability.

✓ VERSATILITY

Designed to be used wherever erosion occurs, our Cable Concrete® system can be easily adapted and cut to fit smaller areas to conform to irregular shapes or allow for drainage pipes.

✓ ANCHORING

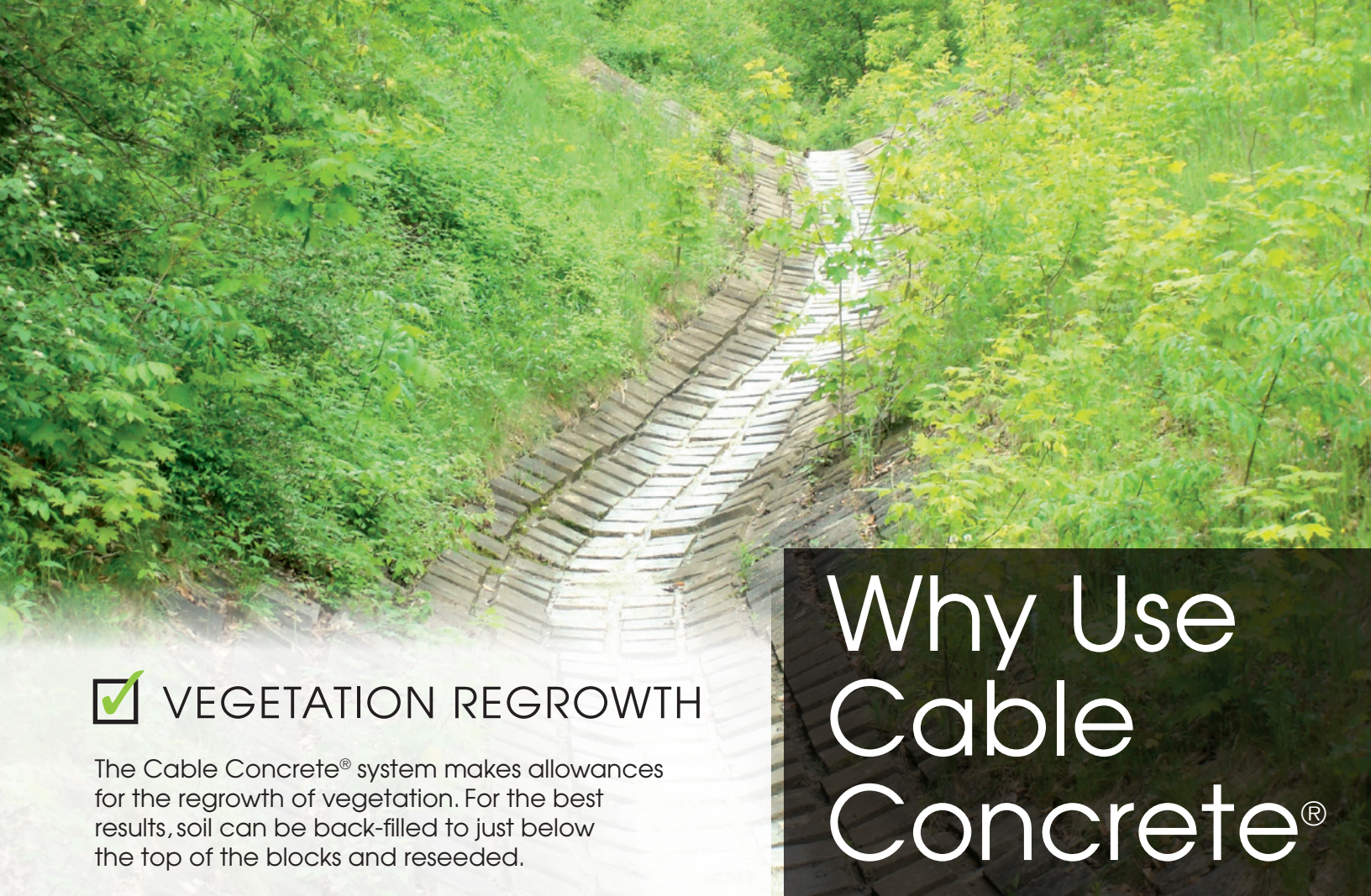
Some installations may require anchoring to reinforce stability, to meet those needs, the integrated cable in Cable Concrete® is easily accessible.

✓ VEHICLE TRAFFIC

Cable Concrete® was built to take vehicle traffic. Thanks to the integrated cable, weight is distributed throughout the system. This feature means that low water crossings and riverbeds are easily constructed.










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VEGETATION REGROWTH

The Cable Concrete® system makes allowances for the regrowth of vegetation. For the best results, soil can be back-filled to just below the top of the blocks and reseeded.

Why Use Cable Concrete®

-  **Quality:** The quality concrete and cable materials that go into creating this erosion control system are what make it such a highly functional, versatile and sustainable product.
-  **Cost effective:** Whether you have a severe or minor erosion problem, our technology offers an affordable solution.
-  **Quality Product:** We use top-notch materials with our Cable Concrete® mats, and it shows in the effectiveness and durability of our product.
-  **Easily Maintained:** Whether vegetated or rock-filled, our cable mats are easy to maintain.
-  **Weather Proof:** Our materials are highly resistant to ice damage and freeze-thaw cycles.
-  **Safety:** Safe for humans to walk or drive on, safe for animals in their natural habitats and safe for the environment. The gaps can be filled with vegetation or stone, which makes it that much more transplantable into the land, thus reducing accidents and hazards.
-  **Removable and Reusable:** Our mats can be removed and reused on future sites.

Our Concrete Mats Can be Used for Multiple Applications

- **SHORELINE PROTECTION:** Cable Concrete® stabilization increases the shoreline and bank resistance to erosive forces and repairing bank failures to protect valuable development.
- **RIVERBANK PROTECTION:** When erosion caused by high velocity and high water levels erode our riverbanks we offer bank stabilization solutions to protect ecosystems as well as developments.
- **LANDFILL DRAINAGE SYSTEMS:** Using our Cable Concrete® mats contractors can create a permanent channel to direct storm water into settlement basins and other waste areas.
- **LEEVE AND DAM OVERFLOW PROTECTION:** When severe storms strike it endangers the levees and dams on which we depend. Using our patented technology, our Cable Concrete® mats provide protection from erosive forces of flowing water.
- **BOAT RAMPS:** Our mats create a safe, effective and durable structure to service boaters and canoers within a multitude of geographic areas.
- **ACCESS ROADS:** The linked concrete portions within the mat themselves provide erosion resistance during floods and other rainy periods. The sheer size of the mat itself creates stability over a wide swath of land, protecting areas of weakness from long-term erosion that may see the access road's size and stability threatened over time.
- **PIPELINE PROTECTION:** Cable Concrete® is an economical solution for protecting exposed and threatened pipeline disturbances; decreasing the potential for corrosion and physical damage. Inadequate erosion control methods, especially on pipelines constructed in steep, hilly regions creates the potential to introduce large amounts of sediment and silt into streams or wetlands at the base of the slopes.
- **SPILLWAYS:** Cable Concrete® can be easily clamped together to provide one homogeneous erosion protection system, it has become an ideal standard for spillways. With the Cable Concrete® anchored in place with high tensile strength earth anchors, an encompassing model for the spillway can be formed, without risk of erosion or failure that can be attributed to poorly constructed spillways
- **TEMPORARY AND EMERGENCY EROSION CONTROL:** When emergencies strike, rely on our patented technology to stop dangerous erosion and strengthen existing structures and passageways.
- **REEF AND BIOLOGICAL STRUCTURES:** With coquina rock or other materials embedded into the top surface of the units, the mattresses will create an environment conducive to coral reef growth, while reducing damages caused by erosion and coastal storms to shorefront structures.

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OUR MATS - Closed Cell - Cable Concrete® is formed to cover an 8 ft. x 16 ft. - 128 sq. ft. area, our mats are available in 20 to 175lbs/sq. ft. weights as well as Open Cell in 35 and 55 lbs/sq. ft. IECS also offers custom sizing according to the project specifications. This allows you to economically meet the requirements of your particular project.



BEFORE



AFTER
BERM

Open Cell Mats

These mats are created with an insert within the pans providing more open area for release of hydrostatic pressures. The open area also allows for additional vegetation. The ability to properly regrow vegetation atop Cable Concrete® makes it perfect for restoring the natural beauty of an area after the system has been put in place. The vegetation that's planted will eventually grow to create even more stability through the roots.

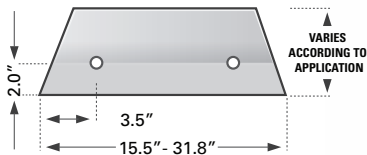
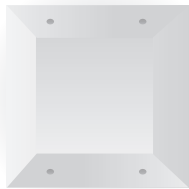
Superior Flexibility

The integrated design of our Cable Concrete® system assures consistent uniform pressure on the geotextile layer and the subgrade material, providing maximum erosion control effectiveness at all times. It easily conforms and adapts to any surface, regardless of freeze/thaw and other ecological processes.

Engineering and Testing

IECS has engineering and testing data showing the industry leading standards in performance and stability of our Cable Concrete®, involving the following:

- Minimizing Embankment Damage during Overtopping Flow, Federal Highway Administration Report No. FHWA-RD-88-181- November, 1988
- Hydraulic Stability of Articulated Concrete Block Revetment System During Overtopping Flow, Federal Highway Administration Report No. FHWA-RD-89-1988 – November 1989
- Wave Impact Testing and Measurement in accordance with Coastal Engineering Manual, US Army Corps of Engineers Manual EM 1110-110 (as amended up to August, 2008)
- Block wave impact testing was also compared to analytical results generated by Anamos Stability of Block Revetment program developed by Delft Hydraulics (The Netherlands)
- Conforms to HEC-23 & NCMA TEK -11 design guidelines for Articulated Concrete Block



CABLE CONCRETE® SPECIFICATIONS

CABLE CONCRETE SYSTEM	UNIT HEIGHT (IN)	UNIT WEIGHT (LBS)	UNIT WEIGHT (LBS/SQ.FT.)
CC 20	2.5	38.9	22-25
CC 35	4.5	66.7	37-40
CC 45	5.5	85.3	47-51
CC 50	6.0	96.0	53-57
CC 70	8.5	129.8	73-78
CC 90	8.5	661.3	90-95
CC 135	12.0	940.0	130-140
CC 180	16.0	1252.0	175-185
CC 35 Open	5.5	67.6	37-40
CC 55 Open	8.5	103.1	57-60

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Memberships & Associations

We are a member of both the Association of State Dam Safety Officials and the International Erosion Control Association.

Nationwide Services

We recognize that made in America is important; IECS produces our Cable Concrete® mats Nationwide supporting local economy by using local labor forces and suppliers.

- For jobs that require a large quantity of Cable Concrete® mats, we mobilize and produce your mats on site.
- Your tax dollars are reinvested in the local economy.
- We believe in preserving local employment opportunities.
- For three decades International Erosion Control Systems has been an industry leader, provided patented technology and innovative hard armor erosion control solutions to customers
- Cable Concrete® can accommodate quick release overflows that may result in heavy damage to lesser-prepared spillways, which can shift, erode or fail under catastrophic pressure.
- IECS is actually changing the way we deal with erosion by providing a stable, effective and virtually invisible way of dealing with shifting lands and damaging runoff.
- Cable Concrete® mats prevent erosion from occurring because it doesn't allow shifting soil to amass. The blocks are stabilizers and effectively trap soil that might have the potential to erode.
- Our mats conform well to the terrain because the blocks are pyramidal in shape, so they articulate between 20 and 60 degrees, depending on the slope.

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