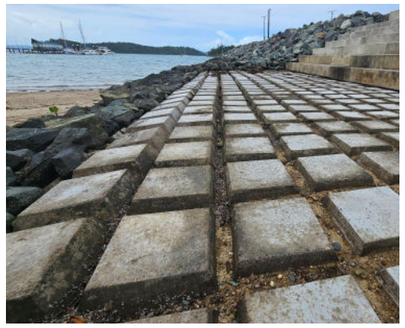
Where are Articulated Concrete Cable Block Mats Used?

VEHICULAR ACCESS ROADS

CAUSEWAYS, CREEK AND LOW WATER CROSSINGS

EMBANKMENT SCOUR PROTECTION

SHORELINE AND SLOPE STABILISATION



PIPE & CABLE PROTECTION

SWALES & TABLE DRAINS

LANDFILL & WASTEWATER

BOAT RAMPS

SPILLWAYS & OVERFLOWS

CULVERTS OUTLETS INLETS

TEMPORARY & EMERGENCY EROSION CONTROL & ACCESS

UNDERWATER APPLICATIONS

DAM & POND LINING

BRIDGE ABUTMENTS & BATTER PROTECTION

DUNE ACCESS & PROTECTION

CHALLENGED BY NATURE—BACKED BY ENGINEERS—PROVEN BY PERFORMANCE

Australian Concrete Mats manufacture and supply a range of flexible concrete mats with incredible drainage and stabilisation properties. Environmentally friendly, cost-efficient, quick to install and easy to use. Engineered for erosion control, drainage, scour protection, and slope stabilisation. Owner operated, concrete mats are manufactured in Northern NSW for convenient supply throughout Australia to various civil, public works, military, mining, horticultural, agricultural, environmental and resource sectors. Our clients range from international and government projects to private land owners.

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AUSTRALIAN CONCRETE MATS

EROSION CONTROL MATS

Articulated Concrete Cable Block Mats

Strong, Reliable and Cost Effective

As an innovator in their field Australian Concrete Mats Pty Ltd have developed a highly efficient product to protect against erosion with the Articulated Concrete Cable Block Mats. (ACCB)

The Articulated Concrete Cable Block Mat (ACCB) consists of trapezoidal shaped concrete blocks, with integral Aquatec Rope or Stainless-Steel Cable. These are cast into the blocks by running both lengthwise and widthwise, offering loops on all sides for clamping adjacent together mats to create a durable erosion control system that can protect any size or shape area.

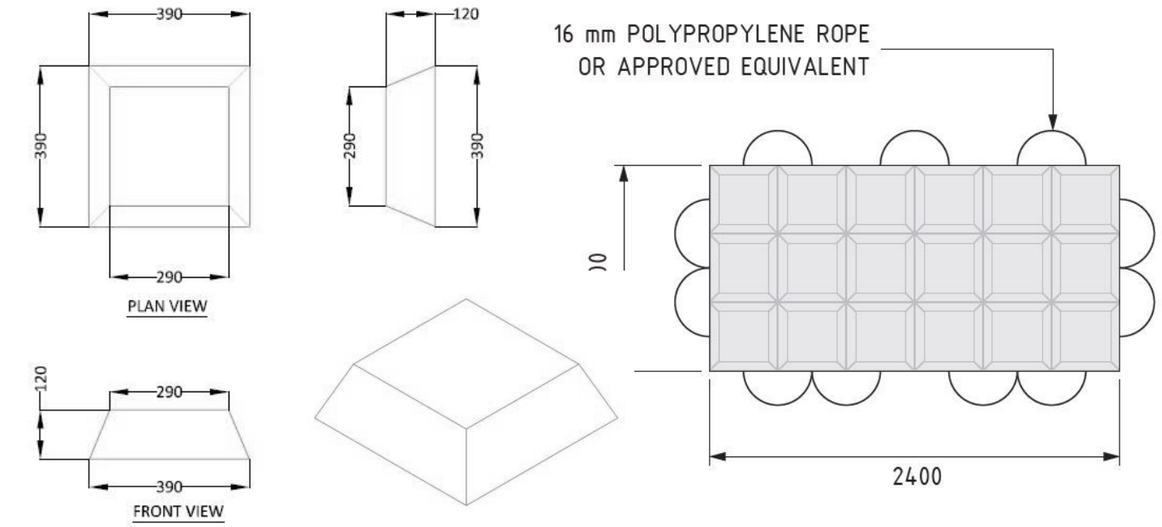
This innovative design gives the system flexibility to adapt to ground movement and gradient changes while maintaining stability.

ACCB provides a solution which allows water permeability, vegetation growth, contour flexibility, subsoil confinement and long-term control of erosion.

Examples of ACB systems from USA

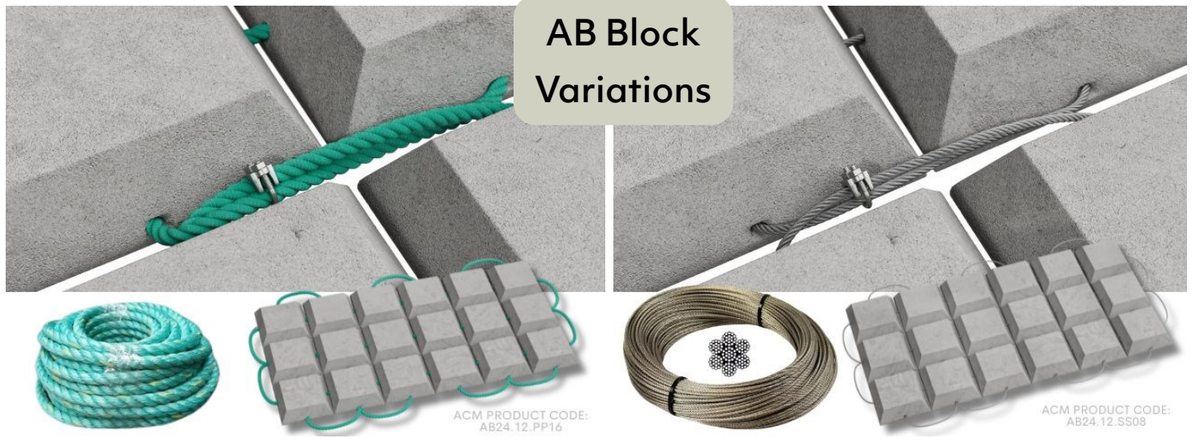
ACCB Characteristics

Mat Dimensions	1200mm W x 2400mm L x 120mm H
Mat Weight	214kg per m2 or 616kgs per mat
individual Concrete Block Size	Top face: 290x290mm, Bottom face: 390x390mm, Height 120mm
Blocks Per Mat	18 blocks per mat
Spacing between blocks	115mm (at top) and 15mm (at base)



Design Features and Benefits

- Trapezoid-shaped concrete blocks made to a uniform size.
- 50 MPa certified concrete mix
- Individual Blocks connected together with Aquatec Rope or Stainless-Steel Cable with a 3.95 tonne breaking strain
- Cables looped on all mat edges to provide for mat-to-mat connection and optional anchoring
- 20-30% open area to provide water permeability and vegetation growth.
- Trapezoidal shaped blocks allow for articulation ranging from 20 degrees to 60 degrees
- This individual mattress design makes it easy to transport to site, lift into place, join and position.
- Combined with geotextile underlay, ACCB mats keeps soil on site and can be made to encourage vegetation growth.
- Removal of individual blocks for larger vegetation plantings without compromising structural integrity.



How Do They Work?

The integrated design forms a durable and reliable protective shield that assures consistent uniform pressure on the subgrade material, providing maximum erosion control from intense water velocity and persistent wave action.

Combined with geotextile fabric underlay, ACCB mats keep the soil on site and can be made to encourage vegetation growth.

ACCB mat allows moisture in the subsoil to drain, which prevents a build up of hydraulic pressure beneath the concrete mat. The mats will conform and adapt to ground movement and gradient changes while maintaining stability, regardless of temperature and other ecological processes.

Why Use an Articulated Concrete Block System?

CERTAINTY

Brings design certainty to projects. The quality assurance and quality control of a manufactured product brings predictability to materials and project designs.

COST EFFECTIVE

Whether you have a severe or minor erosion problem, our technology offers an affordable solution.

ACCB Mats come as a finished product that can be assembled as a modular system on site. This results in reduced wastage and more cost-effective design controls.

Due to the increasing cost and scarcity of local rock, ACCB's permanence (life-cycle costs) also provides significant savings for project owners.

FLEXIBILITY

The trapezoidal shape of the blocks provides for large angular variability.

VERSATILE

ACCB mats is a low-profile hard armor suitable for new construction and infrastructure retrofits. It's also an alternative to riprap, gabions, structural concrete and other heavy-duty erosion protection systems.

EASILY MAINTAINED

Whether vegetated or rock-filled, our concrete cable mats are easy to maintain, due to their consistent low profile and stability.

WEATHERPROOF

Our materials are highly resistant to the harsh extremes of Australian weather events, cycles and landscapes.

SAFETY

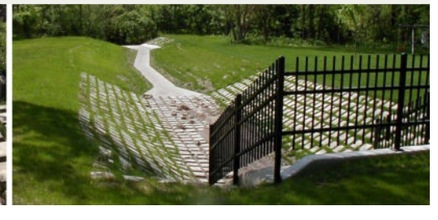
ACCB is also safer to install than rock alternatives. It has fixed lifting points which can be controlled, unlike Riprap or rock, which can roll down an embankment out of control, creating hazards for other staff and properties below.

Can be installed on site with stationary equipment and requires less on-site machinery overall.

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.

REMOVEABLE AND REUSEABLE

Mats can be removed and reused on future sites. They can be deployed quickly, ready for use in emergencies or remote projects. Their strength and durability ensure a long expected lifecycle.

HIGH FLEXTURAL STRENGTH

With a Modulus of Rupture of **14.2 to 16.4 MPa**, the ACCB Mats have a high flexural strength when compared to other concrete road pavements which typically require between 4.8 to 5.2 MPa.