

EcoBale

Product Data Sheet



1.0 Description

The **EcoBale** is a lightweight cylindrical structure manufactured with recycled Polyethylene terephthalate (PET) matrix rolls. The **EcoBale** is encapsulated in a nylon netting system for and coated with spray polyurea armoring.

2.0 Use

The **EcoBale** is a proprietary breakwater product developed to attenuate wave energy for the use of shoreline protection, bank stabilization and pipeline demarcation. EcoBale can be used as a breakwater due to its high tensile and shear strength to dissipate wave energy along high energy corridors of shoreline.

The 96% void space also provides shoreline stabilization through the collection of sediments. It is also effective at creating a visible protective boundary for pipelines.

3.0 Ideal Applications

- Shoreline Protection
- Sediment Accretion
- Plug for Shoreline Openings
- Pipeline Demarcation

4.0 Advantages

- Lightweight
- Safe & Easy to Install
- Visibility

5.0 Physical Properties

EcoBale Properties	Value
Height	5 feet or 7.5 feet
Diameter	4.5 feet
Weight	5 feet =245 pounds; 7.5 feet= 365 pounds
Color	Coast Guard Yellow or Coyote Brown
Average Tensile Strength	154 kilopascal (kPa)
Average Compressive Strength	895 kilopascal (kPa)
Matrix Properties	Value
Matrix Fiber Type	100% Recycled Polyethylene terephthalate (PET)
Matrix Binder System	Cross Linkable Water Based Latex
Binder Application	Spray/Thermal Bond
Toxicity Testing	Non-toxic

Foam Properties	Value
Foam Type	Two Part Polyurethane Marine Foam
Ecotoxicity	Not known to be toxic to aquatic organisms
Netting Properties	Value
Double Strand Nylon Netting	#21 Nylon 3/4"
Polyurea Properties	Value
VOC	0%
Tensile Strength (ASTM D638)	2000-2800 (lb/in)
Tear Strength (ASTM D624)	300-450 (lb/in)
Environmental	Food Contact Certified; will not leach
Ecotoxicity	Not known to be toxic to aquatic organisms;

6.0 Sizes

EcoBales come in 2 sizes:

5'L x 4.5'D

7.5'L x 4.5'D

7.0 Value

EcoBale is manufactured as a modular product allowing for decreased costs of production, handling, transport, and installation. This improves the overall value proposition of the project and a competitive advantage over other protection technologies.

8.0 Installation

EcoBale's modular design provides a standard approach to installation. Vertically deployed to meet design depths, **EcoBale** is also lightweight with minimal loading of the sub grade. This mitigates the need for sub grade improvements such as geo-textiles.

9.0 Mobilization

EcoBale is manufactured off site, delivered to the landing area, loaded onto barge for delivery to the project site with minimal labor and equipment. The lightweight design of **EcoBale** allows for maximizing the barge load which minimizes the number of trips. The need for dredging to allow access in shallow project areas is all but eliminated. These characteristics allow for decrease in both equipment and personnel for mobilization of the material.

10.0 Limitations

EcoBales should not be installed in high wind and wave locations with water depths greater than 4.5 feet. Consult **Martin Ecosystems** for other available systems.

11.0 Environmental Safety

- The matrix is manufactured with 100% recycled Polyethylene terephthalate (PET) plastic drinking bottles. Water Based Latex Resins are used in the matrix manufacturing process. No phenol-formaldehyde resins are used in the binding process. The matrix has been tested and was found to be non-toxic to aquatic life.
- The polyester matrix fibers (PET) are non-reactive and resistant to attack by micro-organisms. PET is inert, won't biologically degrade and will not leach. PET is also inherently more UV resistant than other plastics, like polypropylene, because of its molecular structure.
- The polyurea coating is perfect for marine environments because it is inert, it will not hydrolyze, leach or contaminate. It provides UV protection, contains no VOCs and is direct food contact approved.

12.0 Green Initiative

- Polyester fiber used in our matrix material comes from 100% recycled PET plastic drinking bottles.
- Every 1 square foot of 2" thick matrix is manufactured using 3 (16.9 oz) plastic bottles.

13.0 Safety

Basic safety for personal protection is:

- Wear long sleeves and/or gloves when handling to avoid skin scratching and abrasions.
- Do not put or use near high heat or open flames.

14.0 Technical Services

Contact **Martin Ecosystems** for Sales and Customer Support 225-292-6750

15.0 Warranty

Martin Ecosystems will refund the price of or replace, at its election, this product to the original purchaser, if it finds to be defective of materials and or workmanship, provided the product has been used properly. Except as stated above, the company



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makes no warranty of damage caused by the owner modifying, attempting to fix or otherwise altering the product from its original embodiment and no warranty of installation of product. This warranty lasts for one (1) year from the date of original purchase. This warranty covers the original purchaser and is not transferrable. In no event shall the company be responsible for damage to or loss in shipment. This limited warranty does not insure the product during shipment. This warranty is the sole and exclusive warranty. No employee, agent, dealer, or other person is authorized to alter this warranty or make any other warranty on behalf of Martin Ecosystems. No Other Express Warranty Applies. Martin Ecosystems shall not be responsible for any incidental or consequential damages. Some states do not allow the limitation or exclusion of relief, incidental, consequential, special or indirect damages, or the limitation of liability to special amounts, so the above limitations or exclusions may not apply to you.