



Coastal Protection • Dredged Material Disposal • Dewatering

MacTube®

MACCAFERRI

What is MacTube®?

Maccaferri MacTube® is a geocontainment system providing a vital system component to the Engineer for the design and construction of a variety of marine and hydraulic engineering structures. They are hydraulically filled to various sizes to meet design and installation requirements. Maccaferri MacTube® geocontainer systems are used for:

- the construction of coastal and riverine structures for erosion protection and/or land creation with installation possible beneath the water surface;
- dewatering a wide variety of wet slurries, wastes, and sludges, thus eliminating the need and cost of belts, gears and other complicated mechanics for containing, dewatering and reusing dredged material.

MacTube® geotextile containers are constructed of high-strength woven geotextile fabrics that are extremely strong and durable with sewn seams that are up to 33% stronger than any competitor's product. Maccaferri MacTube® geotextile containers are custom manufactured in various sizes and strength requirements with color choices of 'sand' to blend in with natural surroundings or standard black. The geotextile fabric is woven in a rip-resistant



weave pattern for maximum resistance to damage and to provide for years of continued performance.

MacTube® geotextile containers are easy to install. Installation can occur on land or in the water, including below the water surface. As a "soft" armored structure, it offers minimal impact to the environment while providing a cost effective alternative to "hard" structures.

Protecting Coastlines

MacTube® geotextile containers can be used in the design of several types of coastal engineering structures:

Revetments - to protect against erosion of shoreline adjacent to existing buildings.

Groins - installed perpendicular to and extending out from beaches to restore or protect beaches.

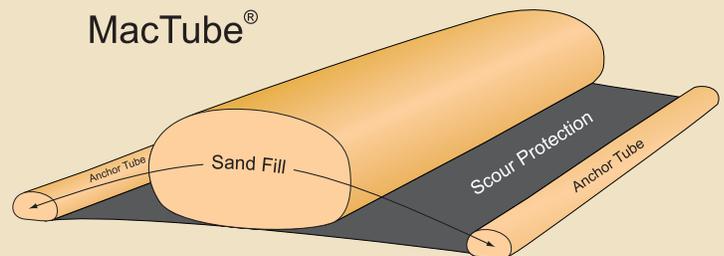
Breakwaters - installed parallel to beaches offshore to restore or protect beaches.

Dikes - constructed to form a containment area in which to pump dredge spoils and can also be used for land creation.

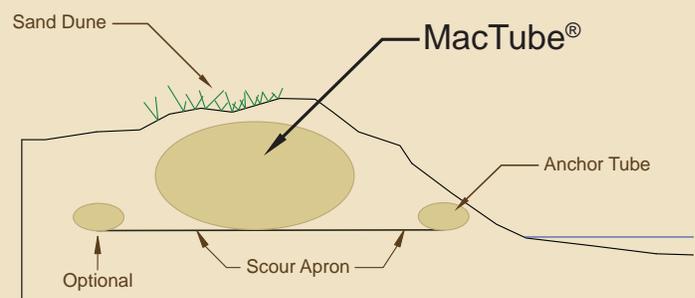
Dune Cores - to construct an artificial dune that will subsequently be covered and revegetated.

Reefs - installed offshore to replace natural reefs.

"Hydraulically filled with sand, MacTube® geotextile containers can use on-site materials."



Groin Cross Section



Dune Core Cross Section

Dewatering

MacTube® geotextile containers offer maximum versatility and ease of use for all your dewatering needs. They are a cost effective alternative to the belt press method of dewatering sludge and eliminate the need for expensive capital expenditures for equipment. By using MacTube® geotextile containers for dewatering, you can increase efficiency and reduce dewatering time.

MacTube® geotextile containers are constructed of high-strength, permeable, specialty engineered geotextiles designed for containment and dewatering of high moisture content sludge and sediment. They offer the broadest selection of fabrics available to better meet design requirements. MacTube® geotextile containers are filled through a reinforced port using a hydraulic dredge pump. The porosity of the geotextile fabric allows excess water to drain from the tube resulting in an effective and relatively inexpensive method of dewatering.



In some instances, environmentally safe polymers are added to aid in flocculating or coagulating solids to maximize dewatering efficiency. As the excess water drains, the MacTube® geotextile container can be



MacTube® Applications

Revetments

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Groins

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Breakwaters

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Dikes

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Dune Cores

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Reefs

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Land Creation

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Dewatering

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Dredged Material Disposal

refilled multiple times.

Once the MacTube® geotextile container is filled to capacity, the material inside will continue to dewater. The amount of dewatering time depends on the type of material being dewatered, the use of polymers and other site conditions. After dewatering is completed, the MacTube® geotextile container can be cut open and the solid material removed and disposed of in a proper facility.

MacTube® geotextile containers are the most versatile solution for dewatering when space is limited. With a small foot print and the ability to stack geocontainers, you can set up a dewatering operation just about anywhere.

Dredging

Dredged/pumped material can be easily contained and disposed of, or reused, using MacTube® geotextile containers. Placing and constructing geocontainers is simple and cost effective with minimal impact on the environment. Plus, the extremely strong, high-strength woven geotextile fabric provides increased confidence in material containment.

MacTube® geotextile containers filled with dredged material also provide the opportunity to use the consolidated material in other structures like dike construction and wetland creation.



Maccaferri Advantage

Maccaferri offers its customers more than just a simple collaboration, we offer a real partnership which goes beyond merely supplying products. We are a partner that works alongside our customers from the very start.

Our dedicated and experienced technical department can help support you with advice on geotextile container sizing and site construction. If you are using MacTube® in a dewatering application we can assist you with selecting the right polymer if needed.

We know all projects are different, that's why Maccaferri tackles every project by identifying and resolving each customer's individual needs. From project inception to project completion, Maccaferri can support you at every phase.

MacTube® Sizes

MacTube® Dimensions ft. (m)				
Nominal Circumference	15 (4.5)	30 (9.1)	45 (13.7)	60 (18.3)
Maximum Recommended Fill Height	3.5 (1.1)	5.0 (1.5)	7.5 (2.1)	10 (3.0)
Filled Width at Recommended Fill Height	6.5 (2.0)	12 (3.7)	18 (5.5)	24 (7.3)
Standard Lengths - Linear ft. (m)				
50 (15.2)	100 (30.5)	200 (60.9)	250 (76.2)	

Custom length sizes are available to fit individual site requirements.

TECHNICAL DATA for MacTube®

	Test Method	Units	OS150	OS400	OS500	OS750	MT 1010	MT 1010 pet
Polymer	n/a	n/a	PP	PP	PP	PP	PP	PET
Wide Width Tensile Strength (MD)*	ASTM D4595	ppi (kN/m)	375 (66)	400 (70)	465 (81)	800 (140)	1000 (175)	1000 (175)
Wide Width Tensile Strength (CMD)**	ASTM D4595	ppi (kN/m)	290 (51)	600 (105)	775 (136)	1300 (228)	1000 (175)	1000 (175)
Wide Width Elongation	ASTM D4595	% (max.)	20	25	25	25	20	11
Apparent Opening Size (AOS)	ASTM D4751	US Sieve (mm)	50 (0.300)	40 (0.425)	50 (0.300)	60 (0.25)	50 (0.300)	70 (0.212)
Flow Rate	ASTM D4491	gpm/ft ² (l/min/m ²)	15 (611)	27 (1100)	20 (817)	20 (817)	20 (817)	24 (978)
UV (Typical) @ 500 Hours	ASTM D4355	% Retained	95	95	95	95	95	70
Color	n/a	n/a	sand	sand	sand	sand	sand	white
Operating Strength (OS)***	ASTM D4884	ppi (kN/m)	150 (26)	400 (70)	500 (88)	750 (132)	500 (88)	500 (88)

* Machine Direction (MD) ** Cross Machine Direction (CMD) *** Operating Strength (OS)

MACCAFERRI

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