

## Application Story

**PROJECT** | AMWAJ ISLANDS, BAHRAIN  
**Product** | Geotube® Marine Structures Technology  
**Application** | Island Creation

**Location** | Amwaj Islands, Bahrain  
**Installation** | 2001/2002

### The Challenge:

A magnificent plan was proposed to reclaim land from the sea and build an exclusive community just off the coast of Bahrain. The project would create a group of six man-made islands, the Amwaj Islands, right out of the Arabian Gulf.

### The Solution:

The new waterside development was constructed on property reclaimed from the sea by using Geotube® marine containment technology. The expansive project used more than 30 kilometers of 13 meter circumference Geotube® containers to create the perimeter for the 2.79 million square meter island.

The perimeter was created by filling two layers of Geotube® containers to a total height of 4.6 meters. The first layer of the installation was filled using a 0.4 meter diameter cutter head dredge. Then the second layer used the hopper method [photo 1] or a sand induction pump. Typically the containers were covered in sand, but riprap was used in some areas of the installation. The platform was completed in 2002. It involved 44,000 linear meters of GC1000 Geotube® units. Geotube® technology was also utilized in the core of the protective breakwater for the islands [photo 2].

The new island creation was formed by filling inside the Geotube® container perimeter with sand that was dredged from the surrounding area [photo 3].

### The Results:

The property developers were very pleased with TenCate™. They described TenCate™ as being instrumental in the very successful reclamation of the six man-made islands. "TenCate™ provided exceptional technical support."

The Amwaj Islands cover roughly 30 million square feet. The \$1.5 billion development now includes:

- 30 commercial office buildings
- 3 five-star hotels
- 2 marinas
- 500 condos [photo 4]
- 1,500 private residences



### Contact Information:

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