Palm Islands

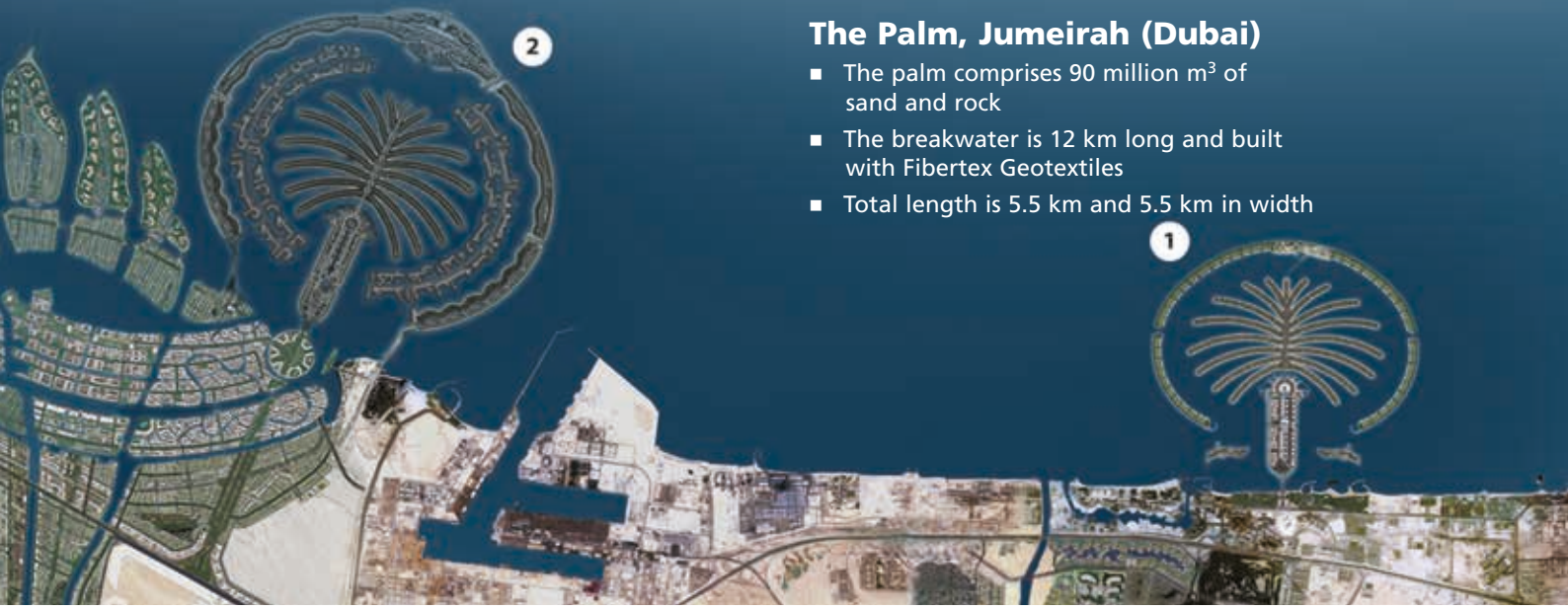
The 8th wonder of the world

The Palm, Jebel Ali (Dubai)

- The palm comprises 172 million m^3 of sand and rocks
- The breakwater is 15.5 km long and built with Fibertex Geotextiles
- Total length is 7 km and 7.5 km in width

The Palm, Jumeirah (Dubai)

- The palm comprises 90 million m^3 of sand and rock
- The breakwater is 12 km long and built with Fibertex Geotextiles
- Total length is 5.5 km and 5.5 km in width



Palm Islands

The challenge, Jumeirah

The first palm, Jumeirah, was initiated in June 2001 and is expected to be completed by 2006. The Palm is to be a residential and resort island with 2000 luxury villas, 40 luxury hotels, Marine Park, shopping complexes and cinemas. The island is built in the shape of a palm tree with 17 fronds each 75 m wide and 2 km long, surrounded by a 12 km long and 200 m wide protective breakwater extending 5 km into the sea south of Dubai city. In large-scale land reclamation projects, as the Palm, built directly into the sea, the quality of the construction materials is decisive. This is where Fibertex enters the picture.

The challenge, Jebel Ali

The second palm, Jebel Ali, is situated 22 km from the Palm, Jumeirah. The palm, Jebel Ali, will be 50% larger than the palm, Jumeirah, and is expected to open in 2008. The most outstanding new elements are the 1,060 water homes. Built on stilts, the water homes will form a 12 km long chain between the fronds and the breakwater. When viewed from above these homes will spell out a verse from an Arabic poem. The depth of the water below will be approx. 8-10 metres. Other new elements are six marinas and a "Sea Village" – a sea aquarium with killer whales and other deep-sea wildlife.

Fibertex NONWOVENS

The project, Jumeirah

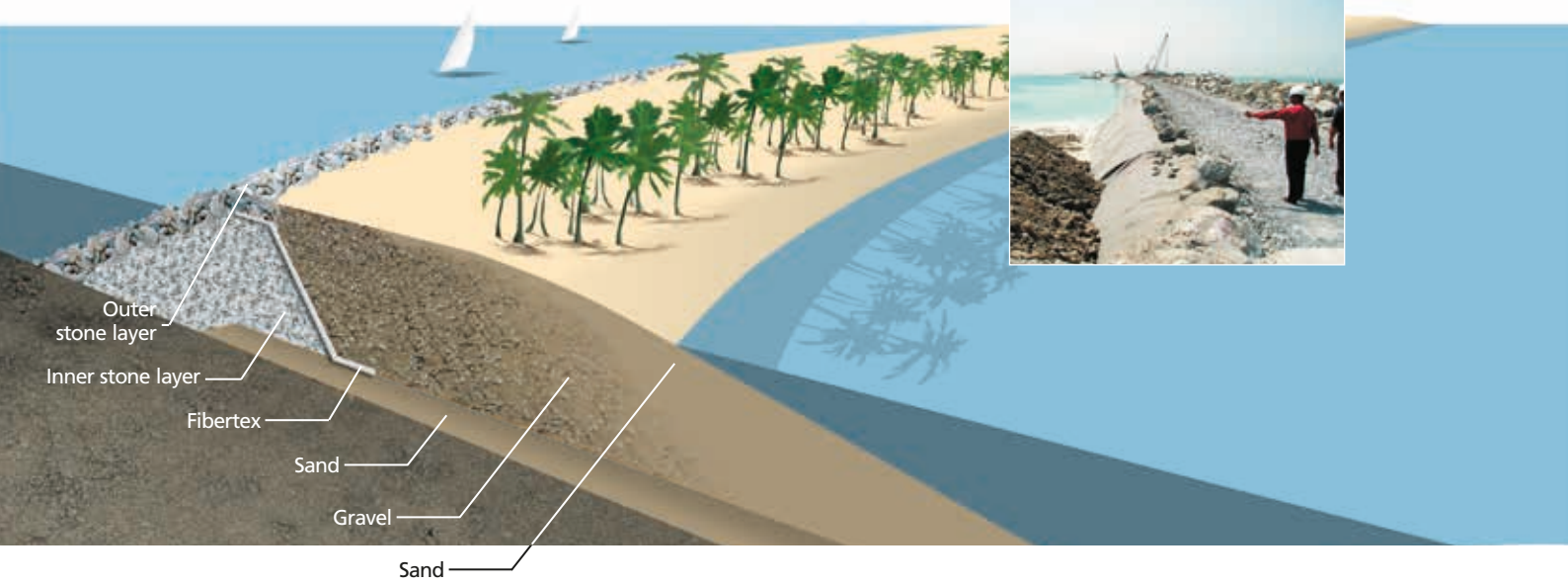
Fibertex F-650M was chosen for stabilisation of the 12 km long and 200 m wide breakwater. Fibertex F-2B was used in the construction of the infrastructure.

The project, Jebel Ali

Fibertex F-700M was chosen for stabilisation of the 15.5 km long and 200 m wide breakwater.

The water depth varies from 3 to 5 m, and during high tide the breakwater is more than 4 m above the water surface.

The outer side of the breakwater is constructed with an outer layer of large stones weighing up to 10 tons each and an inner layer of smaller stones weighing up to 500 kg each. During construction of the beach on the inner side of the breakwater, 160,000 tons of sand and gravel is pumped in daily.



Filtration

Separation

Geotextile functions

To stabilize the subbase of e.g. roads a strong and flexible geotextile is placed between the construction layers to prevent mingling of materials while allowing free movement of water.

The pore structure of Fibertex Geotextiles is designed to retain particles while allowing free movement of water, making it possible to separate two layers during intense hydraulic activity.

Migration of layers is avoided and the load-bearing capacity is maintained.

High puncture resistance to resist the strains of installation (large stones) and use in general is decisive for the load-bearing capacity of the construction.

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