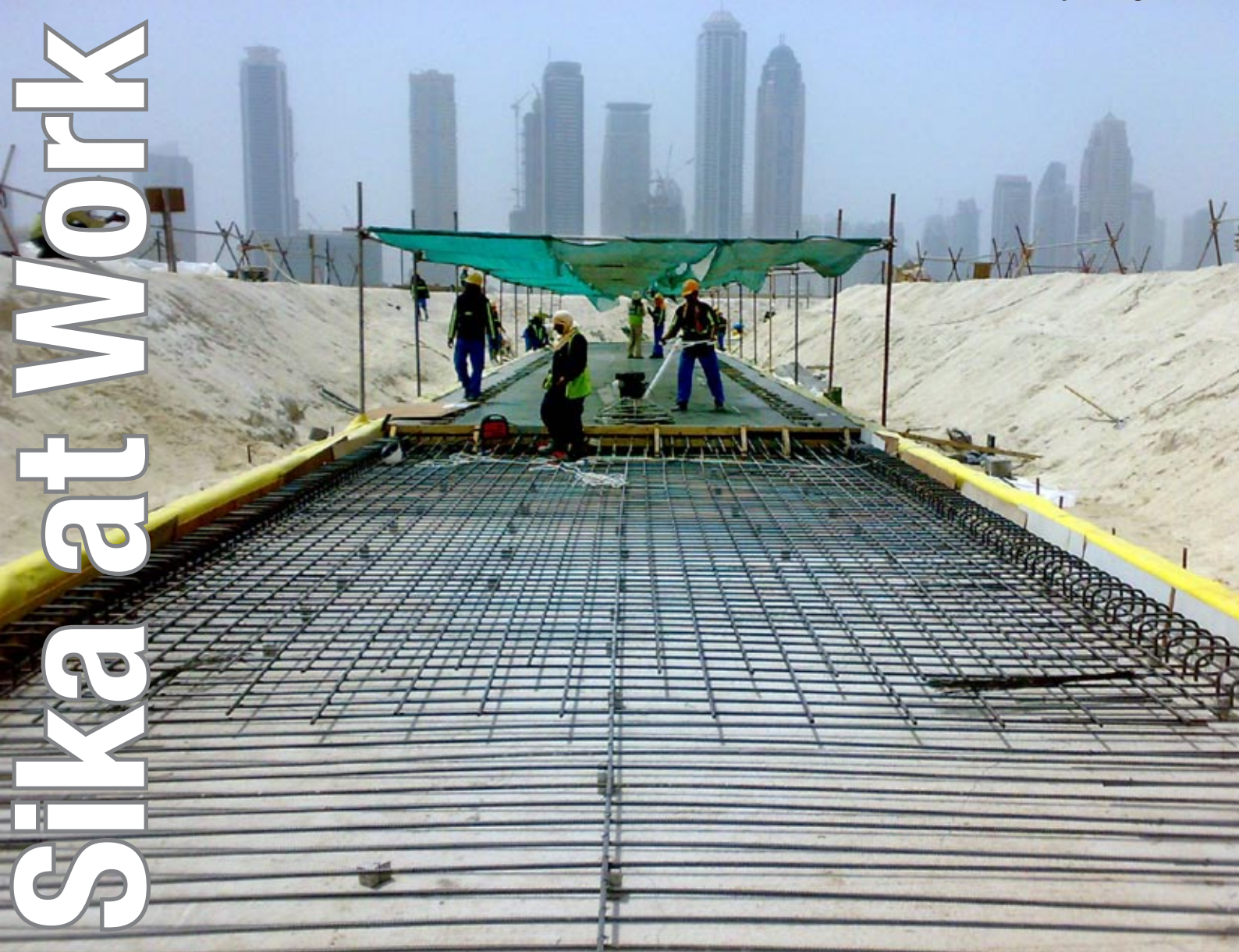


Sika at work



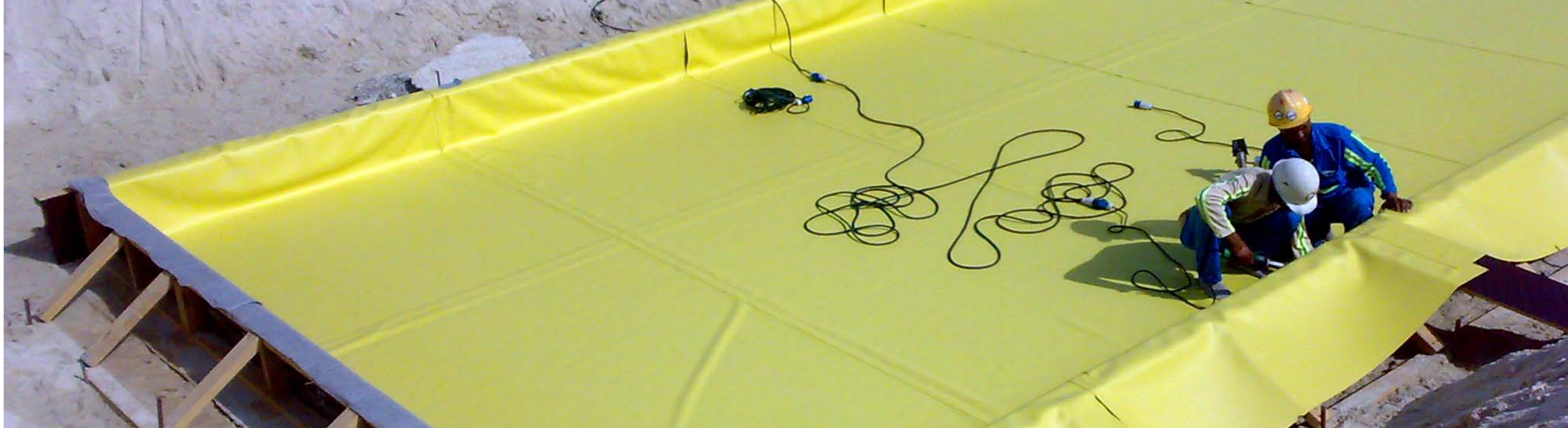
Basement Waterproofing of Supply Channel at Palm Jumeirah, Dubai U.A.E.

Power- and Water Supply, Sewer System and Telecommunication for Luxury Hotel and Villas

Waterproofing Membranes: **Sikaplan® WP 1100-15 HL**

Waterproofing Joints: **Sika® Waterbar AR 20**





Basement Waterproofing of Channel Structure with Sikaplan® Membrane

Project

The man made Dubawi Island is located at western side of Palm Jumeirah Island in front of Jumeirah Beach, Dubai. The owner, Zabeel Properties plans to build a luxury hotel and villas on this island. This requests the preparation of infrastructures for power- and water-supply, sewer system and telecommunication, which shall be encapsulated into an accessible below ground concrete service trench. The channel structure is a combination of in-situ concrete bottom slab and prefabricated elements with U-shaped to be placed upside-down on prepared slab.

Requirements

The channel concrete structure has to be protected against salt water and against corrosion. An externally placed loose laid single ply waterproofing sheet membrane has been specified as most effective and economical solution. The structure is two meters below the sea level and requests a waterproofing.

Sika Solution

The waterproofing area consists of PVC sheet membrane **Sikaplan® WP 1100 - 15 HL**, which is loose laid under the foundation slab as well as over walls and covers of prefab elements. The entire membrane area is divided into compartments to limit spreading of seepage water in case of leads through punctured membranes. The compartments are separated with **Sika® Waterbar type AR** below slab and with waterproofing tapes **Sika® Dilatec E - 220** at walls and on covers. The end-laps of **Sika® Dilatec E - 220** are heat welded on flat side of **Waterbar type AR** prior to adhesive. The installed membranes are protected against mechanically damage with geotextiles, protective boards and cement mortar screeds.

Sika Products used in the Project

Waterproofing membrane:

Sikaplan® WP 1100 - 15 HL, 10'000 m²

Waterstops for compartments:

Sika® Waterbar type AR 20, 200 m

Joint waterproofing tapes:

Sika® Dilatec E - 220, 2'500 m

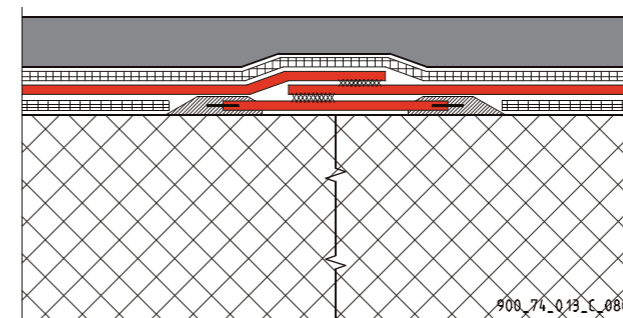
Epoxy adhesive:

Sikadur® - 31 CF slow

Grouting of joints:

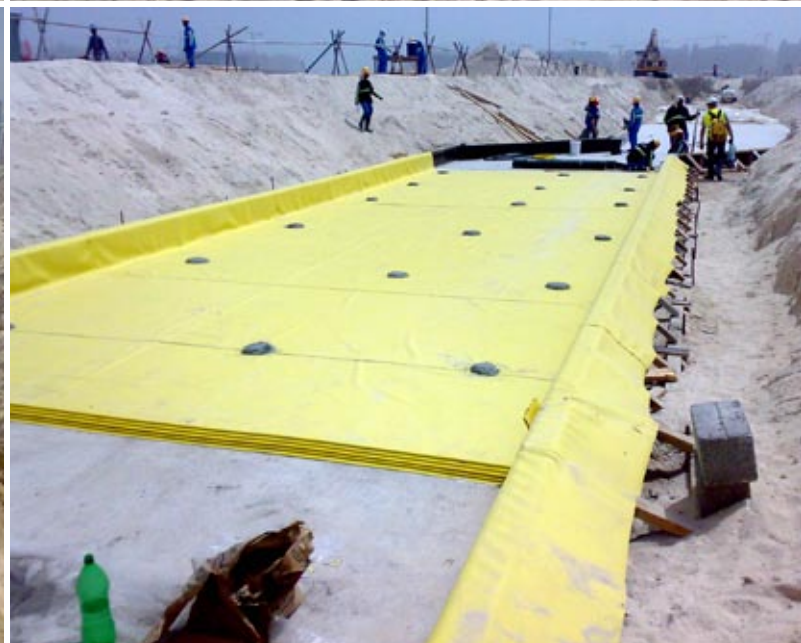
Sikagrout® - 114

Detail of Compartment at Walls and on Cover



The waterproofing tape **Sika® Dilatec E - 220** glued with **Sikadur® - 31 CF** epoxy adhesive at walls and on cover of prefabricated concrete elements to form the compartments. The **Sikaplan® WP 1100 - 15 HL** waterproofing membrane to be heat welded on glued **Sika® Dilatec E - 220**.





Project Participants

Project Management: Sika UAE, Hani Fikri, Rodney van Eck

CMF Waterproofing: Hans-Joerg Stich, Sika Services AG

Owner: **Zabeel Properties, Dubai**

Architect: **OAL, Dubai**

Consultant: **GHD, Dubai**

Main contractor: **Al Naboodah / Laing O'Rourke, Dubai**

Kick-off waterproofing works: July 2008

Specified completion of waterproofing: 2008

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