

Polyfelt® TS Geotextile separator on Arabian seafloor

Jamnagar Gujarat, India

Project Data

Project	: Pipe line laying on seafloor for waste disposal
Location	: Jamnagar, Gujarat, India
Owner	: Reliance Industries Ltd
Products Used	: Polyfelt® TS 009

Overview

Jamnagar refinery is a crude oil refinery located at North West of India with production capacity of 661,000 barrels per day. As the expansion to double its production capacity to 1.2 million barrels per day will generate huge volumes of wastewater during the process of crude oil extraction, it was proposed to dispose the treated wastewater through the pipelines laid on the seafloor to avoid contamination of the environment surrounding the refinery. Five 1.4m in diameter and two and a half kilometers pipes were laid in a 70.5m wide x 3.5m deep pre-dredged trench on the seafloor (Figure 1).

Solution

To separate the bedding material from the silt, a layer of Polyfelt® TS009 nonwoven geotextile was laid at the base of the trench followed by 300mm thick of well graded aggregates. Polyfelt® TS009 nonwoven geotextiles are required to act as a separator to prevent the loss of the aggregate into soft subgrade of the seafloor, thereby maintaining the structural integrity of the aggregate fill layer. The trench was backfilled with in-situ soils after the installation of the pipes. The pipelines were laid in a trench to avoid damages caused by the local navigation.

Method of Construction

Two sections of 4m width Polyfelt® geotextiles were stitched together longitudinally on site to form 7.5m width geotextile panels at the site. An 8m width spreader bar mounted to a crane that sat on a floating barge was

used to accurately deploy the 7.5m wide x 2.5km long Polyfelt® TS009 at the base of the trench. Polyfelt® TS009 nonwoven geotextiles were rolled off into the water with the aid of counter weights in the form of bags filled with aggregate. The installation of Polyfelt® TS 009 geotextile was done with the help of divers. Pipes were placed at a distance of 3.5m center to center in the trench. Appropriate selection of construction material and its installation has proven to be of great cost savers.

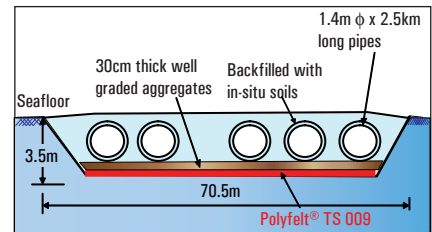


Figure 1 Cross section of effluent disposal pipelines



1.4m ϕ pipes for effluent disposal



Installation of Polyfelt® TS009 nonwoven geotextile by using a floating barge

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Further details of this application and products can be obtained by contacting your nearest TenCate Technical Support Office.

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