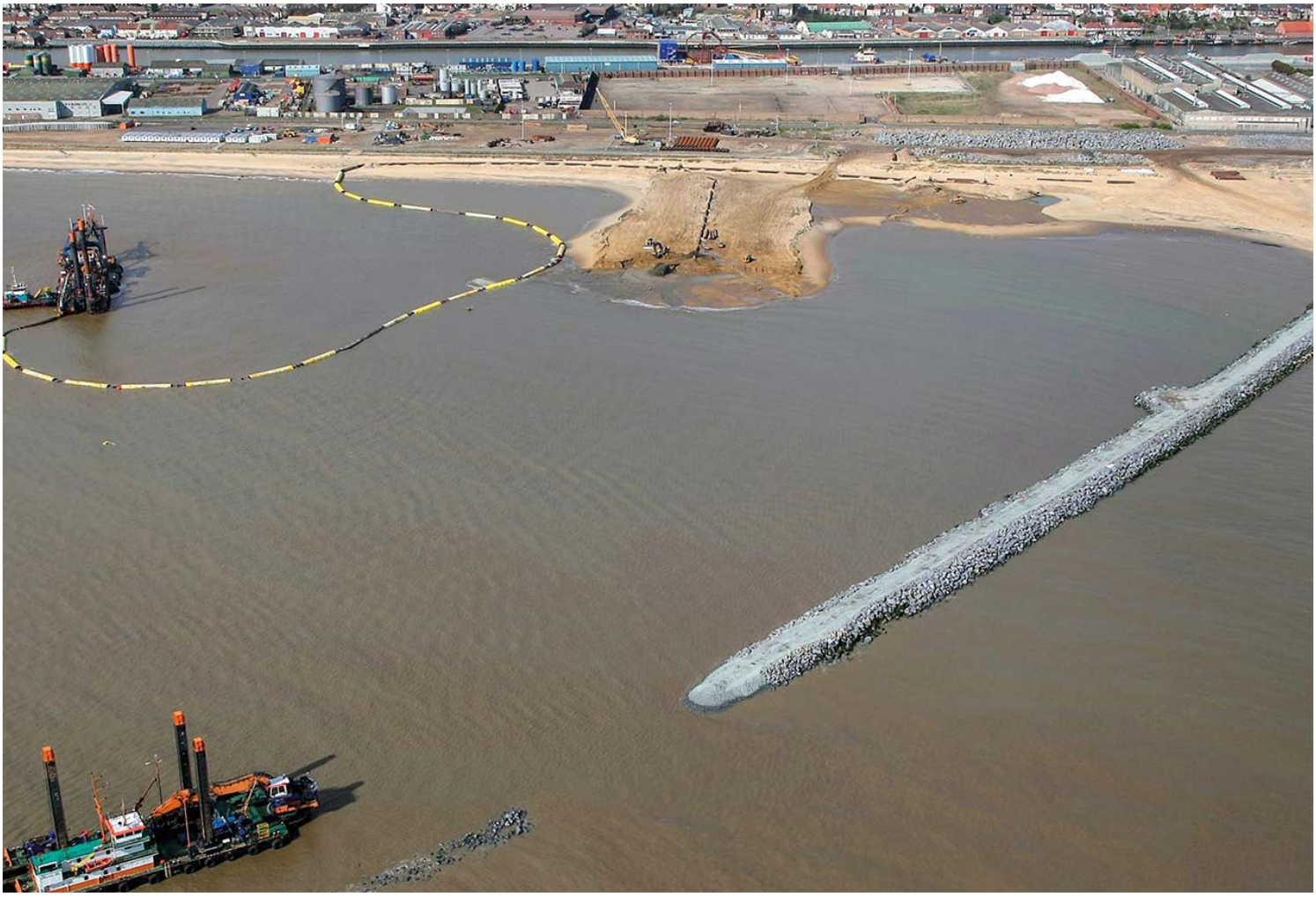
Secutex® H - Great Yarmouth Outer Harbour

Lining and reinforcing the walls of newly built breakwaters

- **Project Name**
  Great Yarmouth Outer Harbour
- **Date**
  2009
- **Client**
  Great Yarmouth Port Company
- **Designer/Consultant**
  Cullen Grummitt and Roe
- **Main Contractors**
  Van Oord UK & BAM Nuttall
- **Product**
  Terrafix 609
  (new name of the equivalent product: Secutex® H 501)



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Located on England’s east coast, Peel Ports Great Yarmouth is a multi-purpose 24/7 port with a modern deep-water outer harbour and successfully supports and partners with customers across a range of sectors; handling supplies for the offshore energy, automotive, decommissioning, agri-bulk, timber, steel, project cargoes and aggregates markets. Formerly trading as EastPort UK, to reflect the major investment of both private and public funding to provide a multi-purpose port with a much wider appeal, it is now owned and operated by Peel Ports Group.

Experiences

Construction of the outer harbour involved extensive use of Naue products to line and reinforce the walls of newly built breakwaters, and was one of the largest new port developments in the UK in recent years; funded through a public-private funding partnership. Twin breakwaters were installed and dredging was undertaken for reclamation and deepening of the harbour basin. The construction involved creating pilings for a new quay wall along the northern breakwater. For this, and also for the southern breakwater, contractors Van Oord UK and Nuttall concluded that Naue’s Terrafix (new name for the equivalent product: Secutex® H) geotextile would provide the best solution to comply with the site method statement. "We used approximately 22,000m² of Terrafix 609 (new name of the equivalent product: Secutex® H 501) against both breakwaters, predominantly to prevent the sand from filtering through the rocks," explains Steve Hewitt, from engineering consultancy Cullen Grummitt & Roe. "This was an essential part of the process and had to be executed perfectly. Having used Terrafix in similar previous projects, we recognised its ability to perform the task."

Functionality

Secutex® H is a non-woven needle-punched fibre geotextile that creates an intricate mesh of pore openings; closely emulating the natural structure of soil with its hydraulic properties, and hence it works in a similar way with high water permeability, soil retention and the ability to allow root growth. Preventing coarse and fine materials mixing was a prerequisite of the specification at Great Yarmouth and, with a long and tested pedigree of success in harbour and waterway application, Terrafix has been proven to perform to the highest standards and has received approval from the German Federal Institute for Waterways Engineering (Bundesanstalt für Wasserbau, BAW).

Cost-savings

Secutex® H stands out for its flexibility, filter stability, resistance to abrasion, and robustness – it will conform to almost any installation surface and can even be covered directly with heavy rock armour. Secutex® H is supplied on extra-wide rolls, measuring 5.8m by 50m in length, which helps to minimise the number of overlaps required to complete a job. Efficient and easy installation can be achieved using a spreader bar attachment, and the product’s excellent sewnseam properties minimise the displacement of adjacent panels during installation and operation. Employing Naue's cost-effective Secutex® H in construction negates the need for labour-intensive installations of sand and gravel filter layers, makes the high-cost of extraction and transport unnecessary, and reduces CO_2 emissions.

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