

Dunbar Harbour

A ScotAsh product case study

QUEEN'S AWARD FOR ENTERPRISE WINNER 2005

Trojan technology repairs 16th Century walls

An historic 300-year-old harbour in Dunbar has been successfully repaired using PFA-based Trojan cements and grout from ScotAsh.

The Cromwell Harbour required emergency repairs to fill voids within its stonework – with ScotAsh materials providing an ideal solution in the tough saltwater environment.

Following the successful works, the harbour will continue to meet the needs of local lobster and prawn fishermen and leisure users for years to come.

Work started to build the Cromwell Harbour in 1655 and the structure, with its small basin, was completed about 1730. The harbour was used by Oliver Cromwell and his invasion force that defeated the Scottish Covenanters at the Battle of Dunbar.

In peaceful times, the harbour was famed for its herring fishing fleet and whaling industry and was a busy export centre for grain. However, the years had taken a toll on the harbour walls, a mixture of sandstone and volcanic rock, and they have been repaired on numerous occasions over the years.

A visual inspection in 2003 identified the need for further remedial work and emergency intervention to fill in voids within the stonework of the Cromwell Harbour wall. In autumn 2005, contractors AG Thomson of Dunbar carried out the void repairs using an infill mix of Trojan GPI0.

Trojan GPI0 consists of 91% PFA and 9% cement. PFA reacts with lime and water to produce hydrated cementitious products.

A mix of PFA/cement was used as pump slurry and a cement/sand mix was used to infill and point externally.

A Scottish Office grant covered 80% of the project work with Dunbar



Trojan cements and grouts have helped to restore the 300-year-old Cromwell Harbour at Dunbar

Harbour Trust meeting the balance.

The grant did not, however, cover consumables but ScotAsh agreed to supply the Trojan grout at a greatly discounted cost to assist the Trust with its valuable work and help the project remain within its budgeted expenditure.

Trojan cements are ideally suited for use in a marine environment.

Over time, Trojan cements increase in strength and they are resistant to sulfate attack and chloride ingress.

Trojan cements have been used successfully in harbour projects in the Orkney Islands and Jersey, and a new

pier at Inverie, Knoydart, to support the Small Isles Ferry Scheme. Trojan cement has also been used in the construction of a North Sea oil rig.

The use of PFA-based cements, such as the Trojan range from ScotAsh, also provides strong environmental benefits including displacing primary aggregates and saving energy and reducing CO₂ emissions that are required to crush, grind and heat raw materials.

Our cements comply with the requirements of BS EN 197-1 for CEM II A/B-V and CEMIV A/B cements. See our product sheets for more details or log on to www.scotash.com

To contact ScotAsh please telephone, fax or visit our website

T 01259 730110 F 01259 731055 W www.scotash.com

ScotAsh Limited, Longannet Power Station, Kincardine, FK10 4AA, Scotland

SCOTASH
A Lafarge ScottishPower Joint Venture