

DANFOSS FACTORY
SHAWFAIR, EDINBURGH, UNITED KINGDOM

Basal Reinforcement

Problem

Situated five miles south of Edinburgh city centre, Shawfair Business Park is Midlothian’s premier business destination. Major occupiers include the Scottish Qualification Authority and Spire Private Hospital with David Lloyd Leisure and Danfoss both recently committing to significant new developments.

Sustainability is at the heart of the Business Park which benefits from excellent connectivity to the City Bypass and from an onsite Park & Ride with frequent bus links to the city centre, along with a dedicated rail station providing a direct link to Edinburgh Waverley in under fifteen minutes. The Danfoss Low Carbon Innovation Centre will be the company’s first carbon neutral building in the world when it is completed in late 2022.

The site investigation report indicated evidence of abandoned mine workings, described as; ‘coal and air loss’ in the borehole logs at varying depths of between 12.80-14.90m below ground level. These were identified as the Diamond Coal and Musselburgh Jewel Coal seams which could both potentially lie within 30 m of the ground surface and therefore could pose a risk to surface instability therefore, stabilisation works was required for the full site, beneath the buildings, car park and loading areas.

Solution

Maccaferri were approached by Quattro Consult Limited in July 2021 to propose a suitable high strength geogrid for use as a basal reinforcement platform for the hard standing areas around the Danfoss factory. We proposed the use of our ParaLink®.

ParaLink® reinforcement in this application, is designed to prevent catastrophic ground collapse, should a void or subsidence feature occur, within the affected area. That is, if a mine collapse occurs and this migrates towards the ground surface in the form of a void or subsidence feature, the geosynthetic reinforcement will act to limit the depth of any depression occurring at the ground surface; crucially preventing a significant void opening up at ground level.

ParaLink® was supplied in February 2022 and installation by RJ McLeod in April 2022.

Client: BUCCLEUCH PROPERTIES

Designer / Consultant: Quattro Consult Ltd

Contractor: Mur Construction

Products used (Qty.)

Date of construction: 02/2022 - 04/2022

[Google Maps](#)

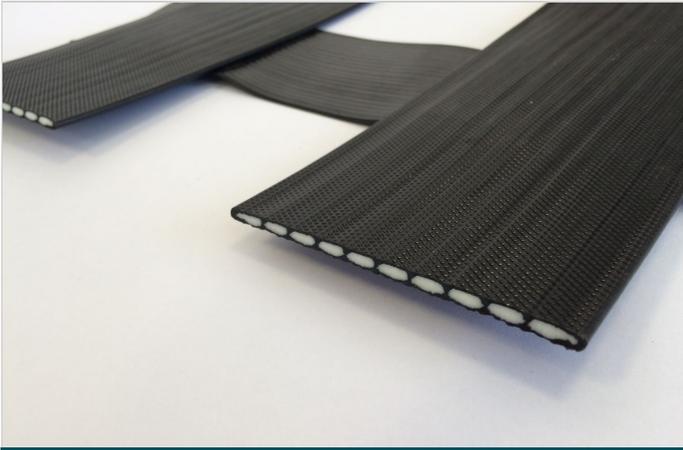
[Google Earth](#)



ParaLink® is easy to install around structures



Layers of ParaLink® can be installed perpendicular to increase protection



ParaLink® enables 120yr design with low reduction factors



Rolls were manufactured in lengths to suit site—no wastage