

ParaLink - Case History



Stansted Airport Rail Link, UK

Profile

ParaLink grades used
ParaLink 350 & 450

Client / Design: British Railways Board
Contractor: Peter Birse Ltd



As part of the airport expansion, it was necessary to construct a railway link from the British Rail main line (London ~ Cambridge) to the new airport terminal buildings. The spur line was constructed within a glacial valley on a 5.0m (16.40 ft) high embankment over highly compressible soils including a layer of peat up to 7.0m (22.97 ft) overlying chalk. The time needed for a conventional construction technique of surcharging the embankment, was unavailable.

The chosen solution was ParaLink reinforcement over a piled foundation which offered distinct advantages over conventional reinforcement materials. ParaLink 350 and ParaLink 450, cross laid, was placed over pile caps positioned at 2.75m centres (9.02 ft) the piles being driven through a geotextile layer used to separate the subgrade from the initial stone drainage layer.

ParaLink reinforcement enabled the vertical loading of the embankment to be transferred totally onto the piles and provided lateral restraint. A conventional construction would have required large diameter pile caps with the addition of raking piles along the sides of the embankment.

ParaLink's reinforcement core consisting of high tenacity polyester, is protected from possible installation damage from the granular drainage blanket by its polyethylene sheath.