

Gatwick Airport South Terminal CFRP Strengthening of Beams for New Escalator Installation



Application of CFRP Wrap over bonded CFRP Plate



Design & Construct Strengthening of Concrete Downstand Beams by use of Carbon Fibre Plate & Wrap Systems, to allow for the installation of New Escalator.

Balvac undertook the design and construction of strengthening measures, incorporating carbon fibre plate & carbon fibre wrap installation to No. 900mm x 1200mm deep down-stand beams, within the 'airside' zone' at Gatwick Airport, South Terminal.

Balvac were initially approached to offer advice and were able to provide the full design of the strengthening measures, based on the load case scenarios provided by the client's designer.

The strengthening was required as apertures were to be cut in existing reinforced concrete floor slabs to allow the installation of new escalator equipment. The strengthening works were carried out to two separate down-stand beams on separate floor levels.

Balvac worked with the main contractor to ensure that the works were completed safely and successfully. The lower beam works took place in a live baggage hall operating environment.

The works also included the concrete repair of the reinforced concrete beams, as cross-sectional profile modifications were required to the beams, prior to the application of the carbon modifications to the beams. The repairs were carried out using epoxy repair mortar.

The works were undertaken in the airport 'airside' environment, and were completed in two visits.

The project demonstrated Balvac capability in providing effective solutions for unusual problems.

Client: Vinci Construction
(Air Division)
Date: March 2011
Value: £92,000

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