CASE STUDY

Isle of Man Taxiway Refurbishment

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The Isle of Man Taxiways project involved early interaction between Colas and the airport to find the right solution – enabling them to refurbish seven taxiways with a budget of only £3.2 million and to do it sustainably with zero waste to landfill.

Reduced costs
40% reduction in new asphalt
56% reduction in planing
29% reduction in energy consumption
28% reduction in CO_2
49% reduction in lorry movements on local roads
10 days of night works to complete the runway

Project Details

The Isle of Man Airport had originally budgeted for a three year maintenance programme which would allow them to update seven of its taxiways. On further investigation, the taxiways were found to contain tar bound materials which, once taken from the site, would be classified as hazardous waste and would need to be transported to the UK for disposal. This approach would have increased the cost of the project significantly and the taxiways would have been out of action until completion.

The airport needed a solution that would enable the taxiway project to be carried out sustainably, within budget and without affecting airfield operations With a reputation for delivering innovation, Colas were approached and discussions took place in order to find the right solution for Isle of Man Airport.

"Colas were able to use our experience to give the client a real workable solution, providing value for money and meeting their objectives."

Simon Downing, Colas Airfields Business Manager

Following investigation of the existing taxiway pavement condition and the structural improvements required, Colas proposed two proven in-situ recycling processes. Deep Recycling and Repave.

By eliminating the need to remove tar bound materials and through reducing vehicle movements, the cost of the project was massively reduced and the programme was brought back to a minimal five weeks.

Savings in carbon emissions and energy consumption were also realised and contributed towards the airport's sustainability agenda.

Deep in-situ recycling was utilised over five of the taxiways which required structural repair. This involved the pulverisation of existing pavement, addition of cement, re-profiling and compaction.

A BBA surface course were then laid to the finished level.

Deep in-situ recycling gave a resultant saving in energy and CO_2 respectively of 51% & 36%.

Colas' Repave process was then used to complete the remaining two taxiways which did not need structural repair.

This hot in-situ recycling process heated up and scarified the top layer of existing pavement and was followed with a 30mm layer of BBA Surface Course. Repave removed the existing cracks and enabled a thermal weld between the existing layer and the new surface course giving a stronger and better construction.

The use of Repave brought about savings of 56% energy and 62% CO_2 over traditional surfacing methods.

Colas' history of offering innovation, value engineering and sustainable solutions to the client enabled two proven in-situ recycling processes to be used to meet the client's needs. This enabled all seven taxiways to be delivered sustainably, within budget and in a programme of only four weeks.

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