



hiperpile™

Project Profile

Manchester Airport
P2P2 Extension



Redefining sustainable construction



Hiperpiles were installed to support the new Pier 2 extension for Terminal 2 at Manchester airport.

The works were initially undertaken within in a 'live' operational airfield environment where managing logistics and minimising Foreign Object Debris (FOD) is critical. Hiperpiles were adopted as a solution which offered significant logistical benefits as well as reducing waste.

Conforming Scheme

- Saw cut and excavate concrete apron, reinstate with a lean mix prior to piling
- 152no 900dia solid shafted CFA piles
- Pile breaking, holding down bolt installation and concreting in place

Hiperenergy solution

Piled raft alternative

- 152no 900 HIPER® piles cored through the apron
- Piles constructed using modular precast units
- All piles backfilled with pile arisings
- Average pile length of 10m



Key Benefits

- Embodied carbon saving of 5%
- 46% saving in total volume of concrete used
- 86% saving on wet-concrete deliveries
- 32% saving on steel (including reinforcement and void formers)
- Reduction in all vehicle movements by 35%
- Muckaway of pile aspiring reduced by 26% by backfilling the precast void of spoil
- Optimization of pile design and rationalizing of precast unit
- Elimination of pile cropping and surface preparation works by incorporating holding down bolts and projection bars as required and grouting to top of precast level
- Pile and concreting lengths reduced by 18% through detailed SI and logging of pile arisings during augering using rotary bored techniques

