

Project Report

Heathrow Airport Terminal 4

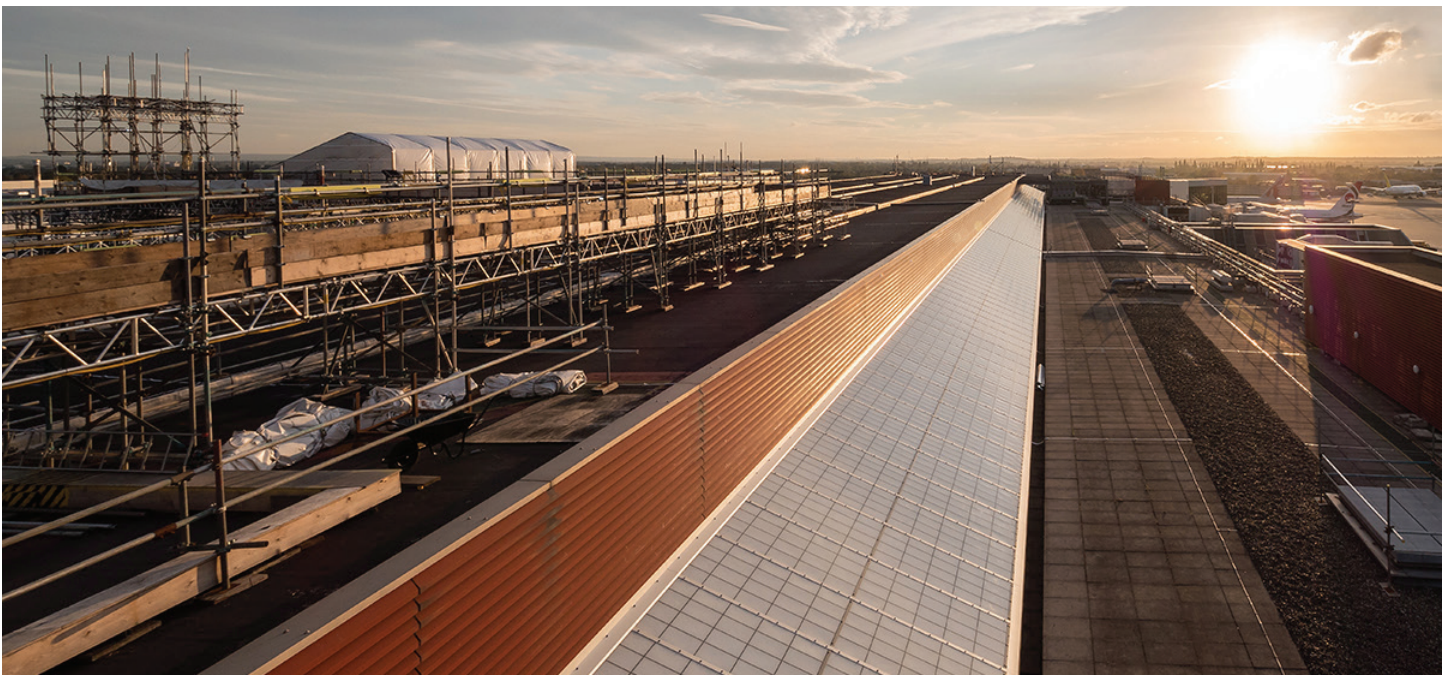
London, UK



Architect: Pascall + Watson
Photographer: Alex Upton



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KALWALL®

high performance translucent building systems

KALWALL SPECIFICATION:

Panel: 4" | 100 mm

Grid core: shoji

Exterior FRP: crystal

Interior FRP: white

System finish: clear anodized

U-Value: .15 | .86 Wm²K

Solar Heat Gain Coefficient: .09

Visible Light Transmission: 13%

WHAT IS KALWALL?

A translucent, structural sandwich panel that provides:

Glare-free, balanced daylighting

Superior thermal performance

Energy + electricity saving

Low maintenance life cycle requirements

Safety + security through visual privacy

Durability + graffiti / vandal-resistance

Hurricane, explosion venting + blast rated options



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For unparalleled thermal performance in translucent daylighting, consider specifying Kalwall with **CABOT's Lumira®** aerogel insulation. Available in 2.75" (70 mm) panel formats up to: 4' x 12' (1200 mm x 3600 mm) and 5' x 10' (1500 mm x 3000 mm) maximum.

Heathrow Airport Terminal 4, London, UK

DAYLIGHTING TAKES OFF AT HEATHROW

The aging glass skylights of Terminal 4 at London's Heathrow Airport were in need of repair. The challenges for the project's main contractor was finding a way to keep the project moving with little disruption to this busy terminal and also maintaining the airport's security protocol.

The answer was a single-source solution presented by Structura UK, the curtainwall engineers who are the exclusive distributor of Kalwall products in the United Kingdom and Ireland.

18,836 square feet (1750 square meters) of Kalwall Skyroof® cladding were used above the terminal's International Departure Lounge and check-in desks to replace the 30+ year old glass skylights. The Kalwall translucent sandwich panels are fully Aviation Security in Airport Development (ASAD) compliant with regards to blast performance and improve the solar control and insulation for the space below. In fact, Kalwall 100™ panels were specifically chosen to exceed code requirements, therefore future-proofing the project.

The whole retrofit was completed externally using a custom moving scaffold and during evening hours, meaning there was no disruption to the inside of the building. And, as far as value, the lightweight translucent panels allowed for the existing substrate to be adapted and reused – a savings of nearly \$9 million (£7m) in project costs and more than a year off the build timeline.

"Structura UK was a new supplier to the major capital projects programme on the Airport (and) they delivered a flawless installation despite multiple challenging circumstances including adverse unseasonal weather, unexpected contaminated materials and multiple design changes," says Ben Hooper, Senior Project Manager at Heathrow.

Structura worked in conjunction with Structural Engineers Webb Yates for a scheme designed by Pascall+Watson architects. The project proved so successful that main contractor Balfour Beatty named Structura as their 'Most Promising New Supplier 2018'.

Kalwall offers complete line-of-sight protection, maintaining privacy for the security screening area and departure lounges while bathing the interior with diffused daylighting, regardless of the weather. Apart from providing the visual protection, its inherent strength and heavy-duty impact resistance make it ideal for secure locations such as this. It offers the highest protection in terms of wind-borne debris and resistance to impact, abrasion and point loads. Not only is it man safe, but Kalwall achieves S:AA (BS 476 part 3) and Broof(t4) to EN 13501 part 5 for external fire performance.

The exterior face is color stable and includes a UV resistant, self-cleaning surface. This means that normal rainfall helps to keep the surface free of dust and dirt while at the same time retaining its original color during the weathering process.



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