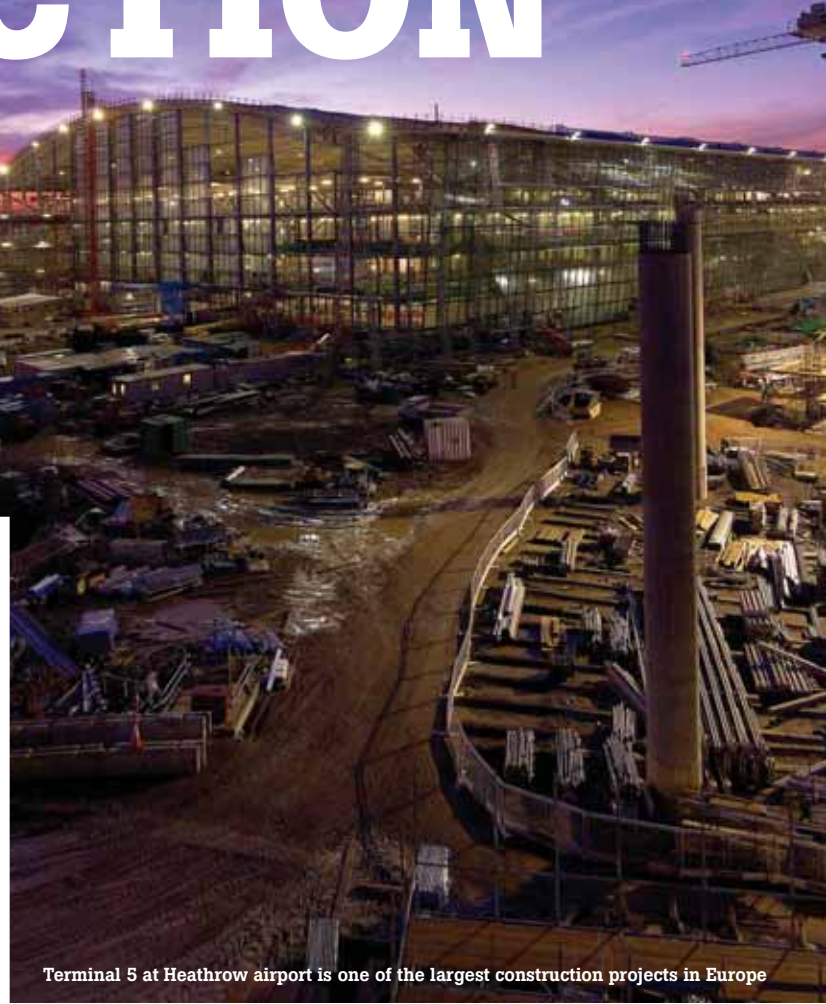


Preventing the spread of fire spread becomes a bigger challenge in large, open buildings. And you can't get much larger than Terminal 5 at Heathrow Airport, where we report on the installation of fire barriers.

TERMINAL PROTECTION



Terminal 5 at Heathrow airport is one of the largest construction projects in Europe

IT'S THE LARGEST CONSTRUCTION PROJECT IN EUROPE AND ONE OF THE MOST challenging in the world. A site the size of Hyde Park in the middle of the world's busiest international airport, hemmed in by some of Europe's busiest roads.

Yet BAA's spectacular Heathrow Terminal 5, designed by the Richard Rogers Partnership, is making excellent progress. When it opens in Spring 2008 it will be able to accommodate 30 million passengers a year. As well as the new terminal - which could fit 50 football pitches - and its two satellites, the project includes 47 aircraft stands, a control tower, a 4,000 space multi-storey car park, a hotel, rail links, a spur road from the M25, and even the diversion of two rivers!

To help protect the vast terminal from the effects of spreading fire, Promat's Durasteel fire barrier and other fire protection systems are being installed across the £4.2 billion development. Promat's input includes the largest ever specification of Durasteel fire barrier, which is being used in the main terminal building, the satellites and in the railway station - in some areas forming barriers 14m high.

Built into the fabric of a building, passive fire protection creates a physical barrier to contain the heat and prevent the spread of smoke and fire. This helps control the course of a fire and the damage it can do, giving occupants time to get out and firefighters the chance to save the building.

Durasteel is a sheet material made from a core of composite fibre cement, sandwiched between mechanically-bonded steel facings. It is described as impact resistant, light, and durable, and can cope with up to 360 minutes exposure to fire. While subjected to fire conditions, it will withstand spray from firefighters hoses or sprinklers. Previously it has been used on projects such as the British Library, Canary Wharf and Jubilee Line extension, and for clients including the Ministry of Defence. Installation is also underway at Multiplex's new shopping centre development at White City in west London.

At T5, Promat supplied 80,000m² of Durasteel in 9.5mm sheet for insulated fire barriers. It features prominently below apron level, lining the tunnel-like service corridors, the cavernous baggage handling areas, lift pits, workshops and plant rooms. Indeed, continuous barriers of silver Durasteel - punctuated by apertures for doors and services - provide a visible presence in these areas.

The fire barrier met the specification for 120 minutes' fire resistance. But that's not the only reason it was chosen. The system was installed well before the dry envelope stage, so it had to be exceptionally tough and durable.

"Before the roof went on, rain water was running down the Durasteel walls for months on end without any detrimental effect on the integrity of the product," says Peter Sandals, site agent for Essex-based R&S Fire &



Security, the specialist sub-contractor responsible for its installation.

The fire barrier's high impact resistance was another key factor, as it has to withstand the impact of trolleys and baggage systems.

In typical applications at T5, two layers of Durasteel are set on steel channel tracks, sandwiching mineral wool between them. Steel studs located at 1.2m centres are used to fix the sheets to fillets and horizontal framing members. The barriers have movement joints to accommodate +30mm and -100mm.

Work began installing the barriers in July 2004 and the work on the main terminal will be complete by the end of this year. Work will then start on the first satellite building, T5B, where 800m² of Durasteel is to be installed.

Alongside Durasteel, significant quantities of other Promat products are being used at T5. They include Vermiculux, Supalux, Monolux and Promatect 250 high performance fire protection boards - as well as Durasteel doors. Applications range from protecting structural steelwork in the satellite building to providing ceilings to airside cores, and cavity barriers inside the new control tower. ■

Promat's Passive Fire Protection Handbook is available by visiting www.promat.co.uk