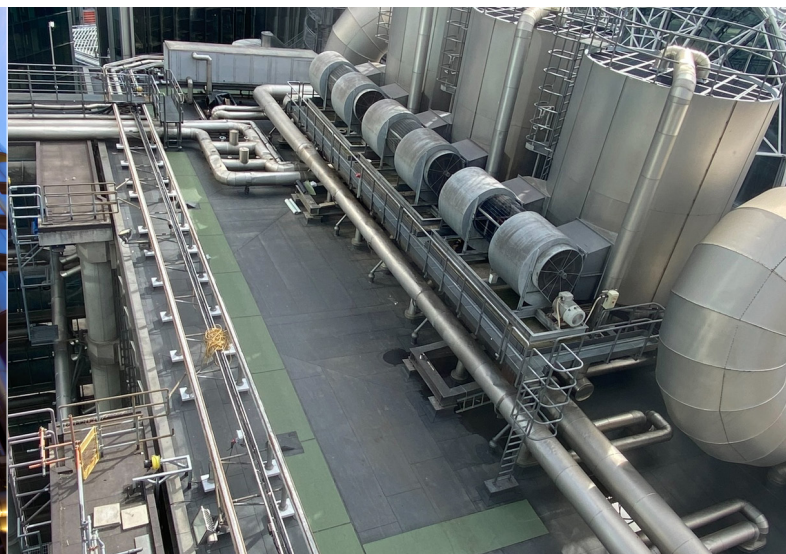


Lloyds of London

Roof Refurbishment of Grade I Listed Building



BACKGROUND

The Lloyd's building is the home of the insurance institution Lloyd's of London. It is located on the former site of East India House in Lime Street, in London's main financial district, the City of London. The building is a leading example of radical Bowellism architecture in which the services for the building, such as staircases, lifts, ductwork, electrical power conduits and water pipes are on the outside, maximising space inside.

The building consists of three main towers and three service towers around a central, rectangular space. It is 88 metres to the roof, with 14 floors. On top of each service core stand the cleaning cranes, increasing the overall height to 95 metres.

The original enquiry came from Arup in Scotland who contacted manufacturers Bauder to carry out a full site survey. A comprehensive roof condition report was then submitted along with the recommended waterproofing specification. The project was awarded back in November 2020, and Bauder chose to partner with Inspire Contract Services who had been specially recommended due to their experience and capability to successfully deliver such a complex and prestigious scheme.

The "once-in-a-generation" overhaul of this Grade I listed building included the full refurbishment of all flat roofs on the property, which had remained in place for approximately 35 years since the original construction in 1986.

CLIENT	Lloyds of London
SECTOR	Commercial
LOCATION	Lime Street, London
SOLUTION	Built-up Felt Roofing System



THE WORKS

INSPIRE

Following an in-depth comprehensive roof condition survey, Bauder's BTRS PLUS built-up felt roofing system was specified for the refurbishment works. Key features of the solution provided included the following:

- High performance, polymer modified bituminous membranes providing flexibility, strength and stability in the most demanding weather conditions
- "DUO" membrane lap technology, ensuring thorough sealing of lap joints, even in lower temperatures
- Totally organic insulation, manufactured from recycled glass ($\geq 60\%$) and natural raw materials
- Attractive charcoal grey mineral finish with a contrasting green colour for designated walkways

Delivering reliable performance and compliance with the latest fire safety standards:

- A mixture of torch-on, self-adhesive, and hot air applied systems were specified on this project, depending on which area was being waterproofed
- Cold-applied build-ups were specified at perimeter areas and around all penetrations and upstands in accordance with the NFRC's Safe2Torch guidelines
- The specified system also carried full BBA certification and provided Broof T4 fire performance.

THE RESULT

A number of technical and logistical challenges needed to be overcome in order to successfully deliver this project for the client. For example, the unique design of the building design meant that a special hanging scaffold system had to be designed. Another huge challenge involved getting materials safely up onto the roof and removing the waste away. This had to be done using wheely bins and tonne bags and required 3,000 lift operations during this project between the ground and Level 13 area.

The installation was also technically difficult in many areas. For example, the host of external services, supports, plant, equipment located within the working area, along having to operate in a continuously live environment meant that this was a particularly high-risk activity. Access routes, works methodology and sequencing all needed to be carefully planned so that we minimised any disruption to the client.

Inspire also successfully implemented a thermal imaging system on site which enabled regular reports to be submitted and analysed of the roof surface temperatures. This additional safety measure minimised any potential fire risk whilst also leading to a more efficient overall project delivery.

Detailed quality and safety assurance plans were put in place throughout the project with regular on site checks carried out by the manufacturer's site technician and the Client's own inspectors.

Overall, a collaborative approach ensured that this prestigious Grade I listed building was refurbished in a sympathetic and caring manner.

