



James House, Belfast [Location](#)

Alumasc Replaces 13-Year-Old EPDM Roof Short of its Declared Lifespan

Since 2004 upon what was once Belfast City's Gasworks, overlooking the River Lagan, James House has been home to office accommodation for various government agencies. Originally complete in the early aughts on a historic brown field site during the population and housing boom, a mere two decades later the building is part of a major initiative to upgrade and modernise for the next technological office age.

Bespoke Roof Condition Report

Technical re-design service included the most suitable waterproofing - incorporating efficient drainage and thermal performance. Full strip and replacement of the existing EPDM roof.

Derbigum sustainable flat warm roof system. Full capabilities including carbon cleaning technology, and 40 years+ lifecycle.

Sustainable warm roof performance includes:

- ✓ BROOF (t4)
- ✓ BBA system certification
- ✓ 35-Year system warranty
- ✓ Olivine waterproofing resulting in neutralising 3,500kg of CO₂

Client Brief and Design

Alumasc Roofing's Site Technician team explained, "The core sampling showed 4 inches of saturated insulation, rucking, and insufficient upstand heights. The membrane was found to have had an inadequate fixing pattern to the loose laid EPDM membrane. The termination to the existing roof outlets was also a major contributing factor to the failure of the total roof system. Along with wear on the rainwater outlets, cracking, blistering, and distortion, all contributing to the significant failure of the original waterproofing."

Working closely with the Kennedy Fitzgerald Architects, Alumasc Roofing technical experts were able to design a solution to meet the key longevity, warranty, and quality expectations of the client.

"Given the immediacy of the roof failure our report advised a full roof strip of all existing roof covering back to the concrete structural deck. This allowed full access to the concrete deck for structural repair work to the defects caused by the original waterproofing system. This allowed the new sustainable warm flat roofing system to be installed efficiently and incorporating a full high performing AVCL to the structural deck. This system was completed with a full cut to falls insulation design improving the drainage strategy and thermal performance. The warm roof system was completed utilising 2-layer BUR waterproofing, consisting of Hi-Ten Universal underlay and environmentally focussed Derbigum Olivine cap sheet."

Challenges



Re-design of current drainage positions (both internal and external)



Thermal upgrade to meet current building standards



Tying in with the existing building envelope



Working in close proximity of a live railway network



Meeting current fire regulations

Environmentally Focussed Solution

Derbigum by Alumasc have a full range of environmentally focussed product ranges. Derbigum Olivine is an APP polymer modified bituminous waterproofing membrane, with underlays, insulation boards, and air and vapour control layers (AVCL). CO₂ neutralising, with a composite glass fibre high tensile polyester core and magnesium iron silicate (olivine) grain finish.

Over the next 35-years the 2,000m² roof could potentially absorb 3,500kg of CO₂.

Project Data:

James House is a five-storey office block located in the Gasworks, Cromac Avenue, Belfast. Full refurbishment works were completed in 2022.

Architect: **Kennedy Fitzgerald Architects**

Main Contractor: **Tracey Brothers Ltd**

Alumasc Registered Roofing Contractor: **McCaughey Roofing & Cladding**

