

# RESIDENTIAL FLATS, SALFORD, MANCHESTER

## REFURBISHMENT CASE STUDY



### Project Overview

This refurbishment cladding contract in Salford, Manchester involved the removal of non-fireproof cladding materials and the reinstallation of fire rated materials following the tragedy of the Grenfell Tower incident in 2017. It was a government funded project and was highly sensitive for obvious reasons, so from the outset the priority was to identify and remove any products which were found to have little or no fire rated qualities.

### The Challenge

MAC Roofing's design team worked closely with The Building Research Establishment (BRE) to identify any hazardous cladding. The impartial findings concluded that all 9,000m<sup>2</sup> (14 storeys) of the existing ACM cladding and insulation needed to be stripped and replaced, along with over 22,000 terracotta tiles which were fixed to the building's façade. This presented a significant challenge, given the timescales and budgets available and the extremely stringent planning conditions.

In addition, upon closer inspection it was discovered that the terracotta tiles had been individually cut and scribed by the previous contractor, making the cost, complexity and practicality of reinstalling the tiles untenable for the client – particularly as the existing supplier and its quarry had gone in to liquidation two years previously!



**Sector**  
Residential



**Size / Value**  
9,000m<sup>2</sup>

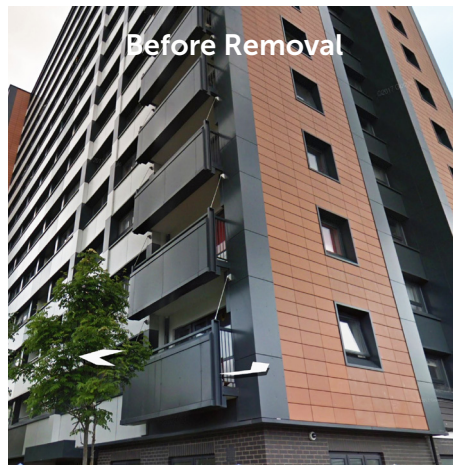


**Client**  
UK Government



### Solution Provided

- Strip off existing ACM cladding materials, terracotta tiling and PPC aluminium flashings
- Design & installation of new fire-rated, acoustic cladding solution



Before Removal



During Installation

**MAC Group of Companies**

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**MAC**  
GROUP OF COMPANIES



## The Solution

MAC's specialist in-house aluminium fabricators came up with the idea of manufacturing and creating an imitation terracotta tile made from aluminium. A near perfect match could be achieved in terms of size and colour thanks to our state-of-the-art punch and fold machinery and associated powder coating facility. Indeed this was immediately approved by the planning officers.

However, further research and development was required in order to meet the soundproofing requirements for this project and to meet A2 fire rating required by British Standards. Since Grenfell, only A1 and A2-rated materials can be specified in external walls due to their non-combustible nature.

In order to tackle these issues, we first set out to locate a sound absorbing material which would help with the potential vibration to the aluminium tile. This also needed to achieve high fire ratings and allow for secure, reliable fixing to the tiles. Following a comprehensive research and testing process, a 'RWO45' rigid slab compressed rockwool was selected due to its excellent thermal, acoustic and fire qualities.

## Achieving the Required Fire Standards

For the selected aluminium replica tile to be approved by the client (UK Government) and the planners, we then had to arrange for fire testing to be carried out by an independent body (Warringtonfire) in accordance with EN 13501-1:2018.

Time and cost were of the essence, and the MAC team invested significant resources to ensure that the testing process was expediated so that the residents of the two tower blocks were provided with a safe solution as soon as possible.

To our frustration, the initial composite system did not initially achieve the required fire standard. However, our technical experts worked hard to understand the issue and it was concluded that the method of bonding the insulation to the tiles needed to be changed. A new design involving additional tab profiles was created, enabling the insulation to be tucked into the tiles without the need for any additional glue or mechanical fixings. This solution meant that the panel and its components successfully achieved an A2-S1 rating, making it suitable for use on this project and allowing works to progress.

Ultimately, thanks to the time and effort invested into this product by the MAC team, a superb-looking, A2 rated rainscreen cladding solution was developed for the client, saving valuable time and money when compared with the alternative methods of tackling this project. The significant challenges were successfully overcome, delivering a high quality, fire-safe solution back to the tenants in a considerate and timely manner.

