

# CLEMENTS COURT, HOUNSLOW

**De-Clad : 10 days**

**Re-Clad : 18 weeks**



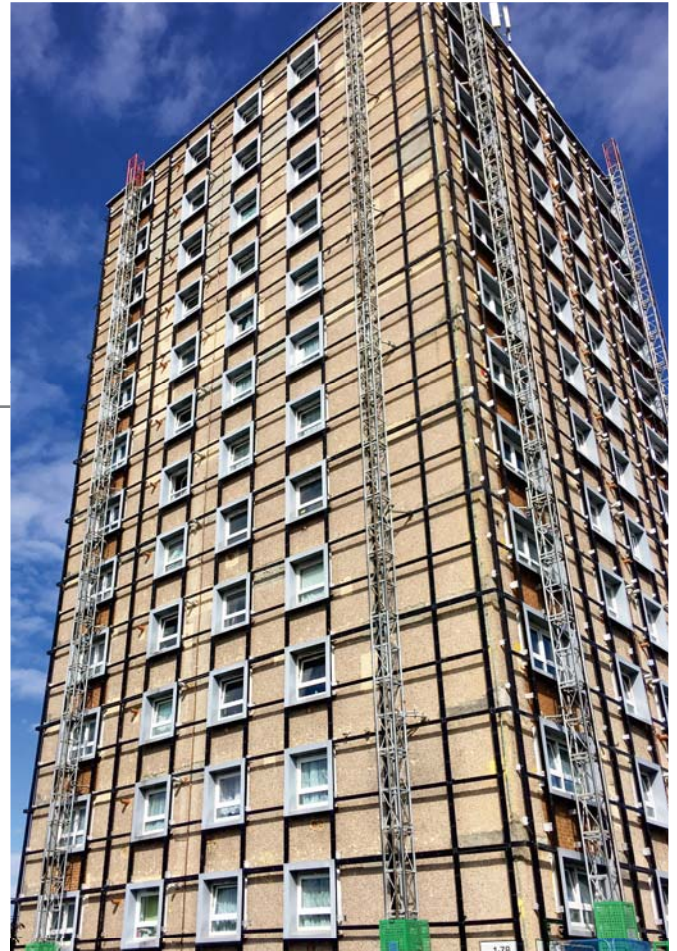
Clements Court 23rd June LBH become aware of fire hazard.

FIRE HAZARD IDENTIFIED

**23  
JUNE**

COMBUSTIBLE ACM  
CLADDING REMOVED

**4  
JULY**



Clements Court combustible ACM cladding removed within 10 days.



Clements Court 27th October defective overcladding stripped and replaced.

**27  
OCT**

BUILDING  
RECLAD AND  
NORMAL LIFE  
RESUMES

London Borough of Hounslow (LBH) moved swiftly to identify, procure and appoint a **design + build** overcladding specialist with a **proven track record** of success to rectify defective cladding. Hounslow prudently over-specified their requirements to surpass current fire regulations and then closely monitored the specialist throughout the design and construction phases. The result, an end product with indefinite longevity delivered on time and within budget.

**An exemplar process ensuring best value with clear roles, responsibilities and recourse for fit-for-purpose.**

**d+b facades**  
design + build overcladding specialist

## Foreword

### The scale of combustible overcladding failures bears testimony to the fact that overcladding is a high-risk and complex process – it is very easy to get wrong!

Overcladding failures extend well beyond combustible ACM to include delaminating composite panels and failed external wall insulation (EWI). In such event, limited period, caveated warranties seldom provide owners with recourse (buyer beware; apparent product warranties are often only disguised paint warranties).



This is not sustainable. The nation cannot afford to get things wrong on this scale. We cannot afford it financially and we cannot afford it environmentally.

Sustainable regeneration is only achieved by investing carefully to meet the needs of future generations, yet we are struggling to meet the needs of our own generation.

Overcladding can be designed to last 100 years, to meet all aspirations and provide desirable accommodation. This claim is readily endorsed by reference to the oldest successful project comparables ([c. 30 years old](#)).

Owners can be assured of delivering sustainable regeneration and avoiding failure whilst also having clear recourse in the unlikely event it's required.

Comparables are readily used to verify both product (including fire performance) and the installation service. We have empirical evidence available and buyers must rely upon it for reference.

We advocate design and build forms of contract and fully support the traditional Building Control mechanisms that provide us with a welcome safety net whilst not absolving us of our responsibilities.

Central Government advising which products are suitable for replacing the failed cladding further compounds and dilutes the responsibility from the industry where it should firmly reside.

We would like to thank the London Borough of Hounslow for their forward thinking and our employment on this project.

*Sustainable regeneration is only achieved by investing carefully today to meet the needs of future generations.*





**The combustible cladding was removed within 10 days.**

*The London Borough of Hounslow identified a 'Design Build' form of Contract as the correct mechanism which would result in clear responsibility and culpability being vested solely in the specialist contractor.*

## Summary

**The London Borough of Hounslow (LBH) identified Clements Court cladding as sub-standard and swiftly set about making the façade fire-safe.**

They initially took reference for, and sought advice from, the wide variety of industry sources available to them. They quickly agreed terms with d+b facades on a cost-plus basis to strip the offending cladding and make the façade fire-safe.

As the works to remove the combustible cladding progressed, LBH began to develop their Employer's Requirements for the making-good works. LBH recognised that there was no clear path of responsibility for the original cladding failure and they did not want to make the same mistake again. They identified a 'Design Build' Form of Contract that would result in clear responsibility vested in the Contractor. The Contractor would need to demonstrate a long, proven track record of performance on comparable projects. The design of the complete new façade system (fixings, support structure, insulation, firebreaks, cladding etc) had to be fully certified and warranted by an industry-leading structural engineer. The cladding system was to be non-combustible, it had to meet and surpass Approved Document B standards, be very long lasting with clear, concise and extended warranties. Limited-period and caveated product warranties were not acceptable. Planning and Building Control approvals were to be obtained. A competitive, fixed, lump-sum price was required and the works had to be completed within a strict timetable.

Employers Requirements established, LBH invited Contractors Proposal's. Following careful, weighted assessment of offer(s) received they appointed d+b facades and then closely scrutinised their every action throughout every stage of the design and installation process.

The result is an exemplar project, with clear responsibilities, delivered on time and within budget. The cladding is sustainable and will meet the needs of many generations to come.



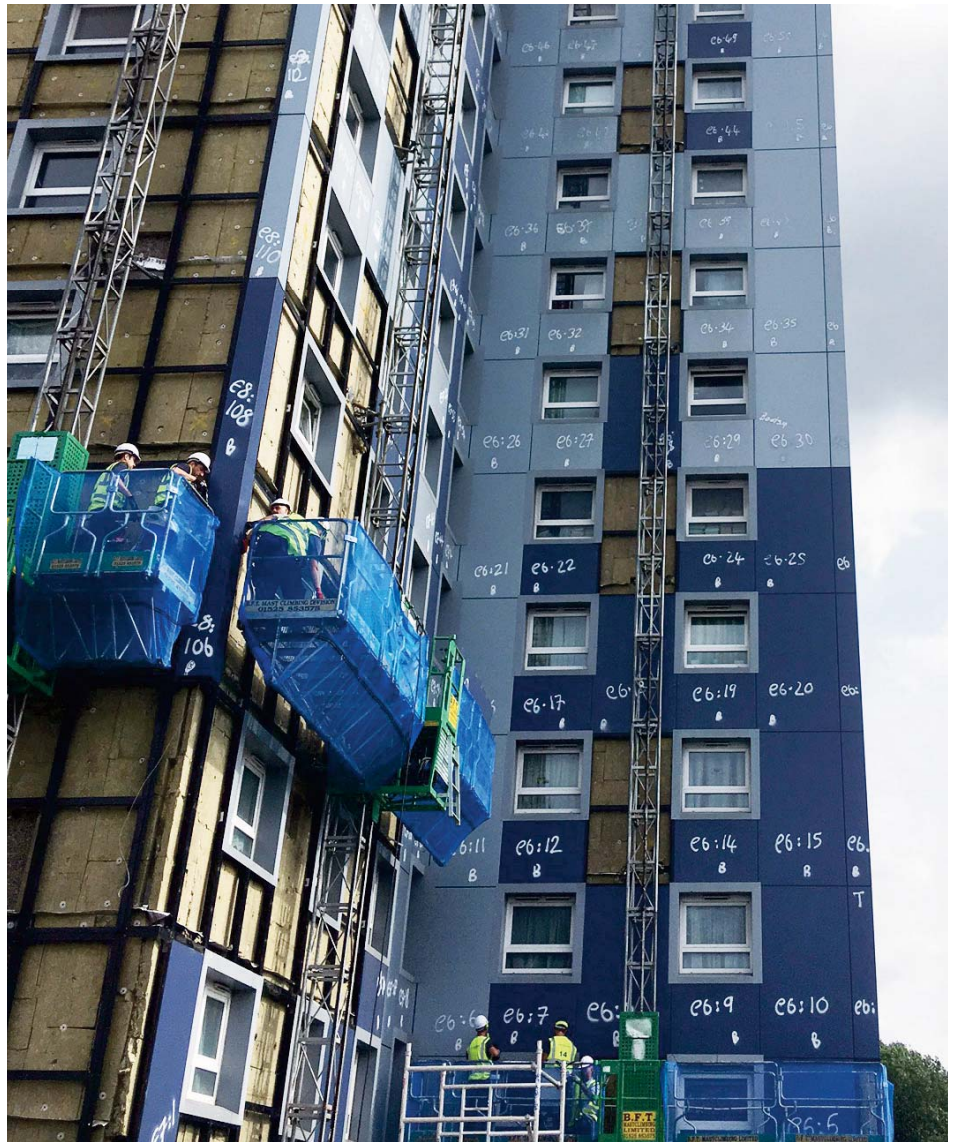
## Background

Clements Court, Hounslow, is a 13-storey residential tower block containing 78 flats owned by London Borough of Hounslow. It is typical of many tower blocks built in the 1960's and was overclad by the original contractor in 2007 to improve its appearance and thermal performance.

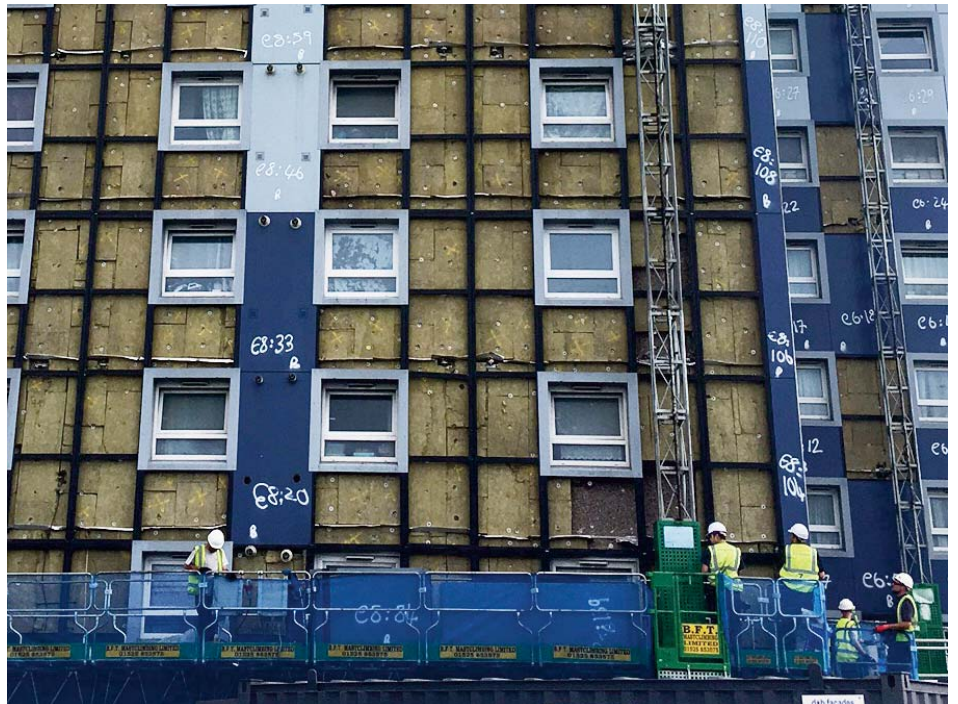
Following the Grenfell Tower tragedy, building owners across the UK were directed by central Government to check and test the cladding on all buildings including residential towers, hospitals, schools, commercial buildings and those within the HE/FE estate. The London Borough of Hounslow identified Clements Court as being at risk, clad in combustible ACM similar to that used on Grenfell Tower. The Council made the decision to remove the cladding as a matter of urgency.

d+b facades, one of the UK's leading design build overcladding specialists, was approached by the Council.

The need for action was urgent for the safety of the tenants. Following initial dialogue, and within 48 hours, the parties agreed to move forward to remove the combustible cladding.



Combustible panel removal.





## Commercial Arrangements

It was agreed that costs for the works of making the façade fire-safe would be on an open-book, cost-plus basis, providing the Council with assurance that they were paying only for the works undertaken. Critically, the works would be undertaken with d+b facades acting in a main contractor capacity and being singularly responsible for the works with LBH closely monitoring the works throughout.

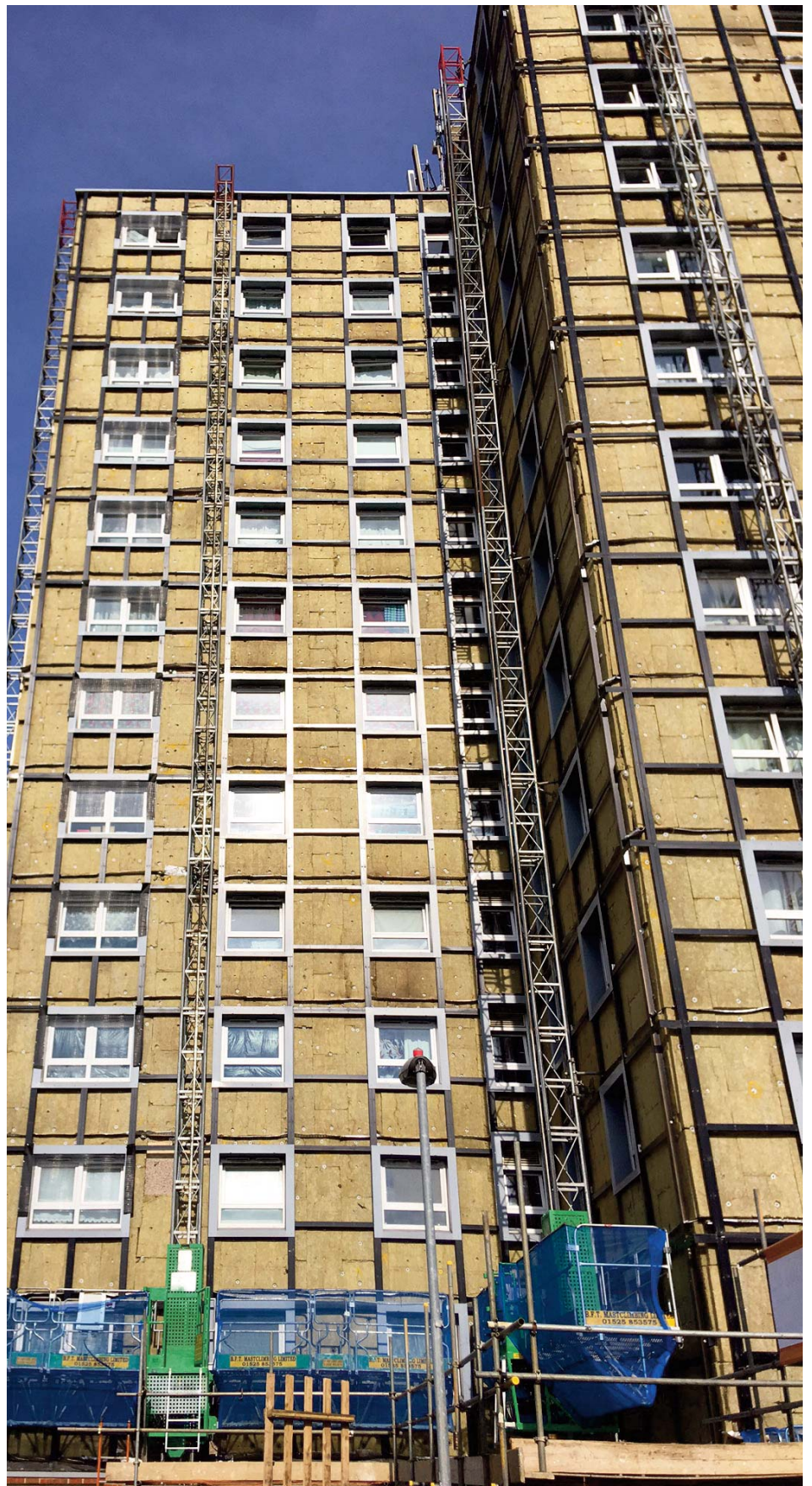
13 storey building envelope was removed in just 10 days, leaving the façade fire-safe for a very competitive cost, a testament to collaborative working.

With the immediate danger to residents now removed, focus turned towards how best to achieve the economical and proper reinstatement of the cladding.

All procurement and design options were considered by LBH, material specifications were carefully reviewed together with samples. Despite the extreme nervousness of the entire industry LBH calmly set out their Employer's Requirements (ERs) for the making-good works. They required an experienced contractor and structural engineer to provide a Design Build service, to be singularly responsible for the making-good and the subsequent warranting of the whole of the works which were specified to surpass current fire regulations using A1 non-combustible cladding. All of this was to be supplied for a fixed, lump-sum price including all prelims, access, fixings, support structure, firebreaks, insulation and cladding.

LBH invited tenders which were to comprise a full set of Contractor's Proposals (CPs), including a priced analyses bill, drawings, specifications, programme, warranties, method statements and risk assessments.

Following careful and weighted assessment of the CPs, comparison with known market rates, construction indices and costs for the original works to ensure value for money, LBH appointed d+b facades who then set about the recladding.



**The result was that the combustible cladding was removed within 10 days.**

Clements Court Hounslow De-Clad: 10 days, Re-Clad: 18 weeks

**d+b facades**  
design + build overcladding specialist



## Defects

As the combustible panels were removed the underlying construction revealed many defects. LBH, Curtins (structural engineers) and d+b facades undertook close inspection, testing and documenting of the original installation including primary anchors, cladding support structure, insulation and firebreaks. Defects included:

- Isolated support structure components and fixings were missing
- insulation was missing and/or insufficient and/or incorrectly fixed
- firebreaks were installed in the wrong positions and/or installed with gaps and/or insufficient lapping joints.



Combustible panel removal uncovers the insulation and firebreaks.



Incorrectly installed firebreaks and gaps in insulation.



Incorrectly installed firebreaks.



Insufficient fixings in insulation.



Gaps in insulation and support structure missing.



Missing support structure fixings.



## Rectifications

Curtins, d+b facades' structural engineering partners, directed site activities which included the removal of all insulation and firebreaks so that the underlying fabric and fixings could be clearly inspected and tested. These elements were deficient in any event and sent for recycling. Detailed surveys and in situ testing were then carried out of both the existing fabric and existing cladding support structure.

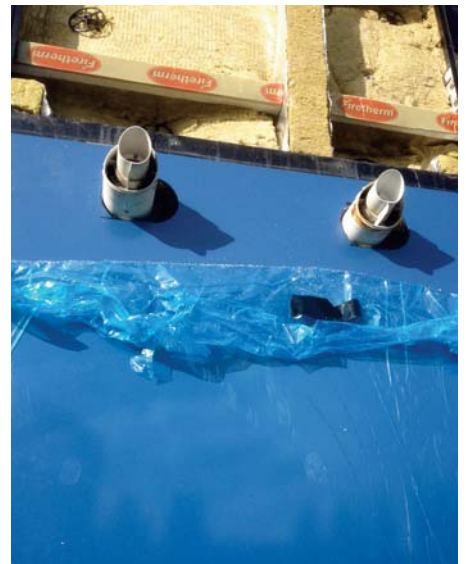
Defects were recorded within a comprehensive QA file. Curtins then set about desk top re-design of the entire system from 1st principals to prove the design and specify remedial works including additional supports and fixings where necessary. LBH closely monitored this process and witnessed in situ testing. Once the support structure remedial works were complete a thorough QA inspection was carried out and the works allowed to progress to the next stage. New firebreaks were installed at maximum 3m centres and around the perimeter of each opening to surpass Approved Document B. These were then QA inspected and signed-off prior to commencing the next stage of infilling with insulation. Insulation QA inspected and signed-off, the recladding was allowed to commence. This controlled process allowed the end product to be covered by a Curtins new-build-equivalent collateral design warranty.



Support structure replaced where missing.



Closeup of new firebreak & insulation.



Non combustible Flue panel installed.

## The Tenant's Perspective

By adopting a phased procurement and a design build approach the Council were able to rapidly mobilise to remove the combustible cladding by:

- Installing lightweight unobtrusive mast climbers around the building which posed no security risk to residents' and were operational within seven days of commencing works
- No requirement to enter tenants' properties throughout the entire process
- Minimal noise disturbance using diamond drilling techniques limited to restricted hours
- No restrictions to the use of kitchens whilst flue extracts were replaced/renewed
- Clear access/egress maintained via a fire protected tunnel whilst the works were underway.



Window and POD before clean and cladding replacement.



Window and POD clean after new cladding installed.



## Re-cladding

The making-good requirements were considered from the outset, for example access was established which addressed both the requirements of the stripping works and those of the making-good works, thus preventing any need for adaptations and allowing an almost immediate site start following d+b facades appointment for the recladding.

The LBH Employer's Requirements (ER's) were onerous though not unreasonable given the exceptional circumstances. d+b facades relish a challenge and working for a client able and willing to make informed decisions quickly is rare and makes all things possible. d+b facades submitted Contractor's Proposals (CP's) by way of offer to the Council and then at each stage of the works provided prototype samples for inspection and approval by the client in time to meet the off-site manufacturing programme which would ensure the works on-site could be carried out quickly and efficiently.

The replacement cladding panels are solid, non-combustible aluminium. Because they are not composite there is no possibility or risk of delamination, the panels will last indefinitely and can eventually be recoated in situ if necessary. Should the cladding no longer be required it will be recycled. The solution is faced-fixed unlike our cassette system and lacks the water management which prevents pattern staining but it is entirely fit-for-purpose and represents good value, meeting sustainability aspirations.

LBH Building Control Department requested the fire breaks and compartmentalisation which prevent the spread of flame behind the cladding to be upgraded to a level in advance of present regulations thereby future-proofing the installation against the possibility of more stringent regulations being introduced in the future.

As with any complex project there were problems to be overcome and constraints to be operated within, examples of this being the boiler flues and the fact that Clements Court is an occupied building. d+b facades had to devise safe methods of working to allow the safe removal of existing panels surrounding boiler flues and their subsequent replacement with



Access under removal.

new non-combustible panels whilst avoiding the need to enter residents' properties and isolate boilers. By working closely together with the Client team, all challenges were overcome and issues resolved with minimal impact.

Each stage of the recladding process was subject to careful inspection at pre-determined rigorous inspection hold

points to ensure that everything was 100% perfect with every aspect of the new installation.

**The whole process took just 18 weeks with the project being completed on time, on budget and with minimal disruption to residents without the need to decant.**



# Completion Ceremony



L to R: Peter Matthew (LBH Director of Housing), Lourdes DeBarry (Deputy Director of Housing LBH), Fiona Twycross (GLA), Alan Cochrane (Project Manager) and Rob Potter (LBH Investment Manager).



Cllr Steve Curran (Council Leader) securing the last non-combustible panel.



L to R: Phillip Morton, Mark Malcherek, Mark Loach, Cllr Steve Curran (Council Leader), Fiona Twycross (GLA), Mary Harpley (Chief Exec LBH).



Fiona Twycross and Steven Curran thank the residents for their patience.



Non combustibile cladding complete to surpass current standards.



L to R: Mark Loach, Fiona Twycross, Phillip Morton, Cllr Steve Curran, Mark Malcherek.