Unit 4
Botanic Estate
198 Edge Lane
Liverpool
L7 9PL

T: 0151 228 4666
F: 0151 228 8666
E: admin@dvarchitects.co.uk

dv ARCHITECTS

FILE NOTE

Job No: 1493	Client: NPC	Project: Manchester Road, Chorlton.

STATEMENT OF INTENT.

This statement is provided to assist both the planning department and any potential committee members on the design intent of the cladding and the early consideration of the passage of fire in clad buildings. It is intended only as a guidance document relative to the new build elements only.

In view of the recent events in London the Department for Communities and Local Government (DCLG) asked councils to cut samples of at least 25cm x 25cm from the cladding of towers and send them to the Building Research Establishment (BRE) at Watford for testing but has not said if the tests show whether they meet a British standard test.

Councils in Liverpool, London and Plymouth have ordered the removal of panels following the tests and follow-up inspections by fire experts.

It has been of great media interest that the test subject appear to of failed. However, the government tests on tower block cladding in the wake of the Grenfell Tower disaster are lacking transparency and are too simplistic to be used to condemn blocks as unsafe. Fire risk consultants and architects have suggested the government should reveal what tests were being conducted on the material after it was revealed every single cladding sample sent for analysis had failed the new assessment.

The communities secretary, Sajid Javid, announced that samples of aluminium panels from all 75 buildings that had been sent for fire retardancy testing had so far “failed”. But he did not reveal what testing was undertaken apart from to say they determine whether the materials meet “the requirement for limited combustibility in building regulations”.

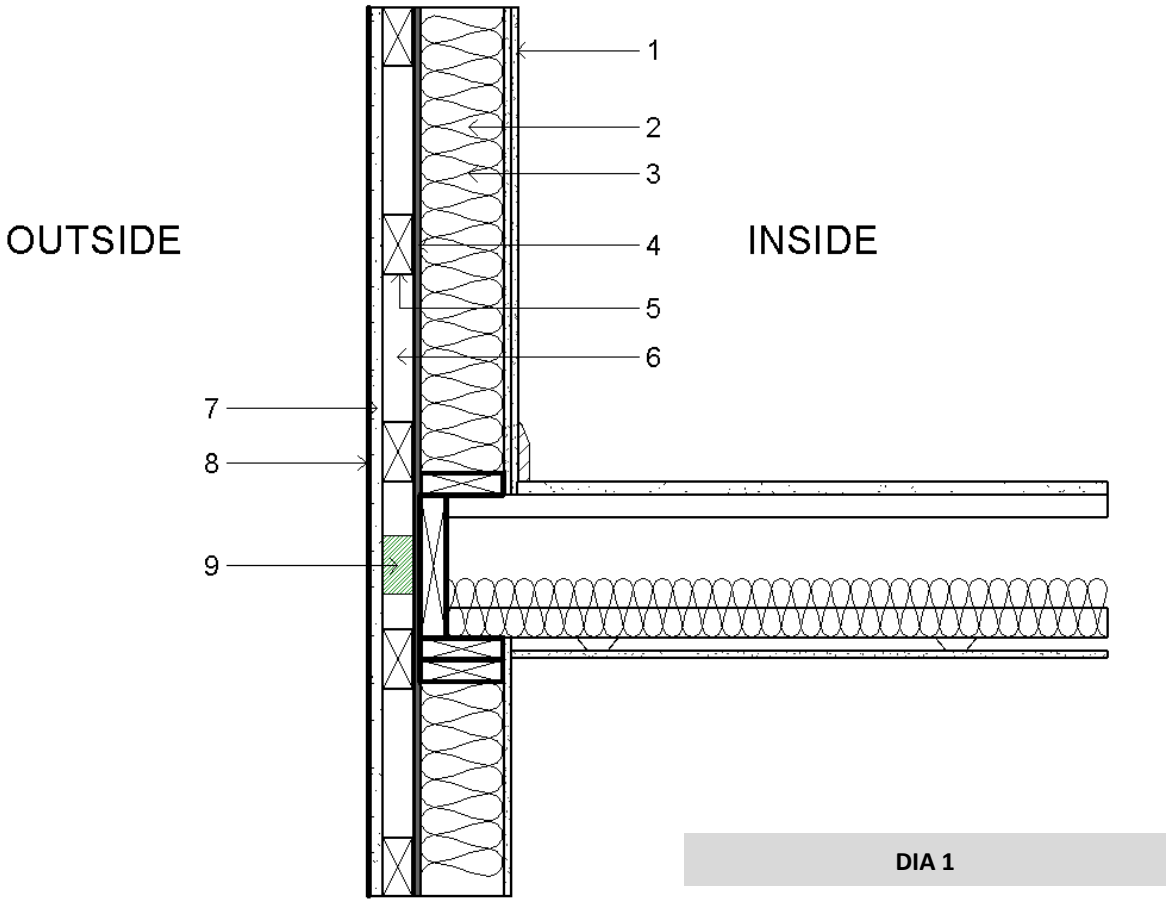
Essentially far more comprehensive tests on the ‘entire cladding system’ are needed to establish if buildings are as at risk as Grenfell was, including the insulation and critical design details such as ‘fire stops’.

The shadow housing secretary, John Healey, told the House of Commons that “cladding is not the whole story”. This presents a statement that requires concise understanding of the individual components to correctly ascertain its risk – and not broadly assume its cladding. The small scale tests on external panels need to be extended to a full disassembly.

The spread of fire within a building can be restricted by subdividing it into compartments and specification of the correct materials. This is also true of the external envelope which can contain cavities and potentially insulation.

In this instance the intention is to use a rain screen cladding. Fundamentally its composition and materiality will be different to the system we see at Grenfell Tower. If we think of this wall as a composition of layers we can break it down into component parts we may better understand how each element performs to prevent the passage of fire.

Typically there is an inner wall (part 1), a cavity (part 2) and an outer wall (part 3).



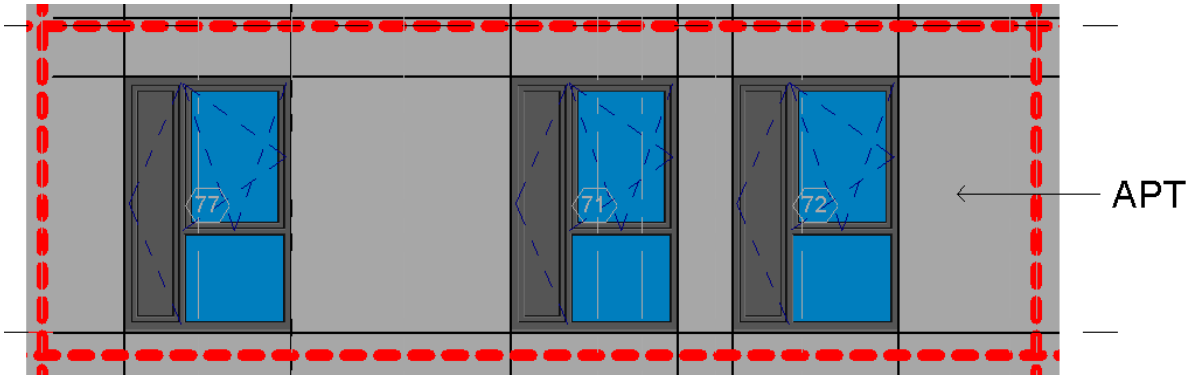
DIA 1

Part 1 - Internal wall – *often referred to as a cassette.*
Item 1: 2 Layers of 12.5mm Fire Line board. Providing 30min fire integrity.
Item 2: Full fill Rockwool insulation – non-combustible mineral wool.
Item 3: 140mm Treated timber frame – A1 treatment (non combustible)
Item 4: 12mm Cement Particle board – Non combustible. Providing 30min fire integrity.
Note: The cassette alone has substantial compartment properties.

Part 2 - Cavity – *Often Clear (This uses a carrier system to hold the external wall or rain screen element)*
Item 5: Carrier system – Timber A1 treatment (non combustible) or galvanised brackets again – non combustible.
Item 6: Clear cavity. (See item 9 and Dia 2 / 3 for prevention of passage of fire within the cavity.

Part 3 - External wall – *Usually in the form of a brick or other material – essentially the weathering element.*
Item 7: 18mm Plywood Class O / Class B – available in 18mm 8 x 4 Size this plywood has been treated and tested to withstand a one hour fire check.
Item 8: Zinc finish.

Compartmenting element – This item prevents the passage of fire within the cavity space. See dia 2 for the correct application of this treatment in both horizontal and vertical planes.
Item 9: Fire barrier.

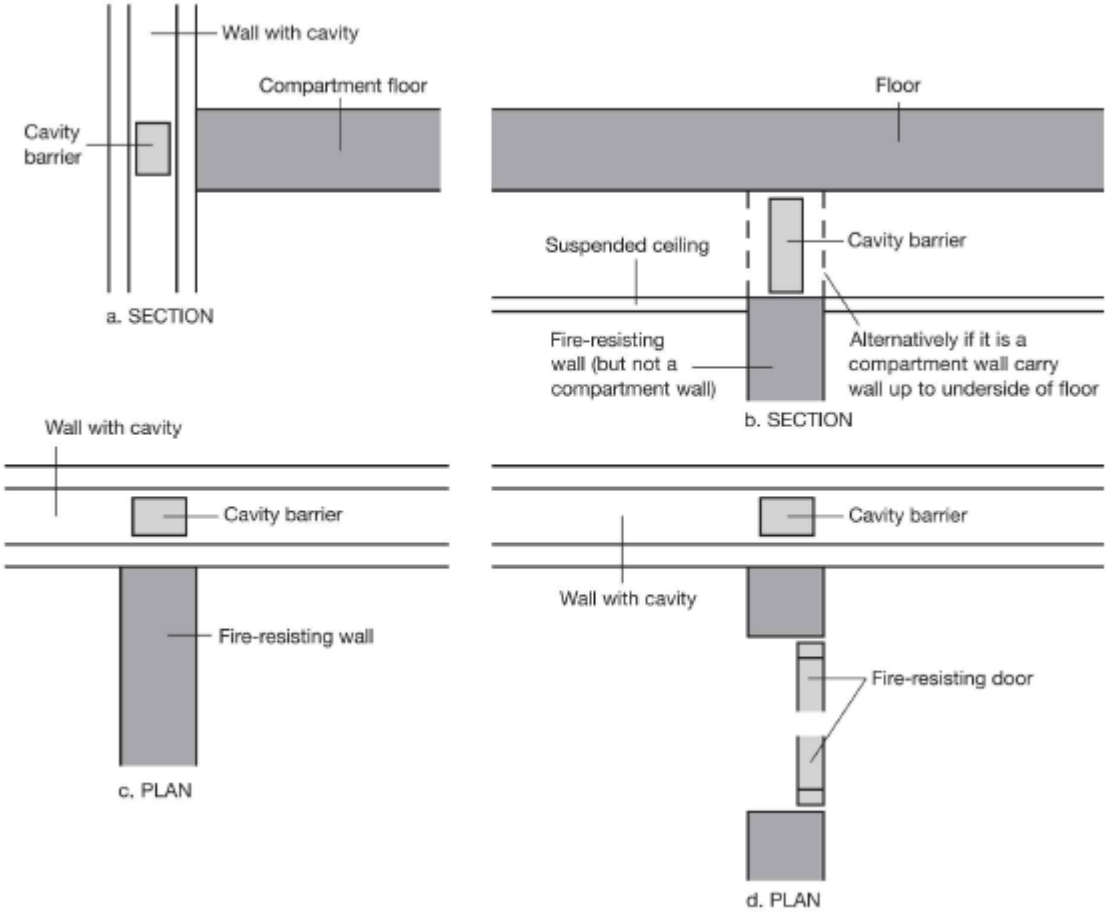


DIA 2

Broken red lines indicate the perimeter of each apartment being compartmentalised.

Concealed spaces or cavities in construction of a building provide a ready route for smoke and flame spread e.g. in walls, floors, ceilings and roofs. As any spread in concealed it prevents a greater danger than would a more obvious weakness in the fabric of a building.

Provisions are indicated in Dia 3 for cavity barriers in specified locations. The provisions necessary to restrict the spread of smoke and flames through the cavities are broadly for the purpose of subdividing cavities., which would otherwise form a pathway around a fire separating element, and closing the edges of cavities; therefore, reducing the potential for unseen fire spread.



Conclusion

As a matter of course the potential for fire is always a primary concern in the design of buildings and the composition and choice of materials.

We trust that this document not only evidences the considerable thought placed in the design of the structure at such an early stage, but also the Clients desire and commitment to ensure his product is a safe and considerate development from the outset.