

**APPENDIX 5 - PROGRESSIVE FIRE RISK ASSESSMENT ACTION PLAN ISSUES - HOUSING EXECUTIVE TOWER BLOCKS @ JANUARY 2018**

TOWER BLOCK	Current Fire Risk Assessment Review & Date	Briefing of Area Manager on FRA Issues Briefing	Follow up / Progress Meeting with Area Manager on earlier Briefing issues	KEY FIRE PROTECTION MEASURES			MANAGEMENT OF FIRE SAFETY					RELEVANT NORTHERN IRELAND FIRE & RESCUE SERVICES ISSUES					Other Key Issues
				Status of identified Fire Door Issues	Breaches in Compartmentation identified as part of FRA Review (post Grenfell)	Fire Safety Signage	Local Housing Office undertaking Resident Flat Visits	Persons identified in FRA as potentially requiring assistance	House-keeping	Tower Block Fire Safety Log & User Checks	Delivery of Fire Safety Awareness Training by NIHE Fire Safety Manager	NIF&RS Audit / Action Plan issues	Maintenance and Operation of Fire Fighting Measures	Joint Lift Surveys with NIF&RS including review of contents of NIF&RS Safe (GF Entrance Lobby)	Hose Reel Survey	Cladding / Infill Panel(s) subsequently identified which may contribute to external fire spread	
Latharna House	16/06/17 REVIEW 1	26/09/17 Action plan updated 05/10/17	05/12/2017	Fire door-set issues addressed  Fire door assemblies 70% Complete	COMPLETE / Addressed - October 2017	Addressed	95% Undertaken	Yes - information held in NIFRS Fire Safe	In order	In order	Delivered 26/11/17	Confirmed as broadly compliant - 19/12/17	Wet Riser in order / Smoke Clearance linked to Passive ventilation / Fire Fighting Stair is sterile	Planned January 2018	4 identified; exercise completed - Jan 2018	Current Review of perspex panels wall hung (full height) and linked to passive ventilation provision	Introduction of additional Premises "overnight watch" introduced - Dec 2017
Abbotscoole House	15/06/17 REVIEW 1	26/09/17 Action plan updated 05/10/17	04/12/2017	COMPLETE / Addressed as part of recently completed Health & Safety Revenue Upgrade Scheme	COMPLETE / Addressed as part of recently completed Health & Safety Revenue Upgrade Scheme	Addressed	100% undertaken	Yes	In order	In order	Planned February 2018	Confirmed as broadly compliant - 01/06/17	Recent Dry Riser issues dealt with - awaiting all commissioning Certificates	09.01.18 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay	N/A	No Issue	Fire Alarm & CCTV Link to 24/7 Bradan Court Concierge
Carncoole House	15/06/17 REVIEW 1	26/09/17 Action plan updated 05/10/17	04/12/2017	COMPLETE / Addressed as part of recently completed Health & Safety Revenue Upgrade Scheme	COMPLETE / Addressed as part of recently completed Health & Safety Revenue Upgrade Scheme	Addressed	100% undertaken	Yes	In order	In order	Planned February 2018	Confirmed as broadly compliant - 01/06/17	Recent Dry Riser issues dealt with - awaiting all commissioning Certificates	09.01.18 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay	N/A	No Issue	Fire Alarm & CCTV Link to 24/7 Bradan Court Concierge
Beechwood House	15/06/17 REVIEW 1	26/09/17 Action plan updated 05/10/17	04/12/2017	All complete (with the exception of 1A, 7A, 12A.)	Addressed	Addressed	100% undertaken	YES  3 x Mobility Scooter users being consulted and options explored	In order	In order	Planned February 2018	Confirmed as broadly compliant - 01/06/17	All measures in order	09.01.18 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay	N/A	No Issue	CCTV Link to 24/7 Bradan Court Concierge; Fire Alarm link direct to NIF&RS
Woodland House	15/06/17 REVIEW 1	26/09/17 Action plan updated 05/10/17	04/12/2017	All complete (with the exception of 4C)	Addressed	Addressed	100% undertaken	YES  Mobility Scooter users to be further consulted	In order	In order	Planned February 2018	Confirmed as broadly compliant - 01/06/17	In Order	09.01.18 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay	N/A	No Issue	CCTV Link to 24/7 Bradan Court Concierge; Fire Alarm link direct to NIF&RS
Mount Vernon House	16/06/17 REVIEW 1	24/10/17 REVIEW 1	15/01/2017	Work in progress around other Fire Door Issues  Outstanding Fire Doors (24) being reviewed in regard to a further scheme	All small compartmentation issues including lift room complete  Service duct risers / Electrical cupboards yet to be addressed.	Fire Extinguisher Signage Addressed. Stair & landing to be completed.	100% undertaken	Yes - information held at caretaker/ concierge reception within each block	Andrew Twigg was sent additional issues, 15.01.17	In order	Fire Safety training completed 12th & 13th  Additional training Planned 29th January and 5th February 2018.	Awaiting NIF&RS sign-off	Dry Risers Complete. Smoke clearance to Fireman's stair still compromised.	25.10.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay	11 identified; exercise completed - Jan 2018	No Issue	CCTV Link to 24/7 Concierge Facility (Ross House); Alarm link to Remote Monitoring Station / Ross House
Ross House	16/06/17 REVIEW 1	24/10/17 REVIEW 1	15/01/2017	Work in progress around other Fire Door Issues  Outstanding Fire Doors (28) being reviewed in regard to a further scheme	All small compartmentation issues including lift room complete  Service duct risers / Electrical cupboards yet to be addressed.	Fire Extinguisher Signage Addressed. Stair & landing to be completed.	100% undertaken	Yes - information held at caretaker/ concierge reception within each block	Andrew Twigg was sent additional issues, 15.01.18	In order	Fire Safety training completed 12th & 13th  Additional training Planned 29th January and 5th February 2018.	Awaiting NIF&RS sign-off	Dry Risers Complete. Smoke clearance to Fireman's stair still compromised.	25.10.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay	11 identified; exercise completed - Jan 2018	No Issue	Concierge Provision - 24/7
Braden Court Concierge	23/08/17 REVIEW 1	26/09/17 REVIEW 1	04/12/2017	Work in progress around other Fire Door Issues	In progress	Completed	N/A	N/A	In order	In order	Planned February 2018	N/A	NO LIFT IN BUILDING	N/A	N/A	N/A	24/7 manned Concierge Station

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				Status of identified Fire Door Issues	Breaches in Compartmentation identified as part of FRA Review (post Grenfell)	Fire Safety Signage	Local Housing Office undertaking Resident Flat Visits	Persons identified in FRA as potentially requiring assistance	House-keeping	Tower Block Fire Safety Log & User Checks	Delivery of Fire Safety Awareness Training by NIHE Fire Safety Manager	NIF&RS Audit / Action Plan issues	Maintenance and Operation of Fire Fighting Measures	Joint Lift Surveys with NIF&RS including review of contents of NIF&RS Safe (GF Entrance Lobby)	Hose Reel Survey	Cladding / Infill Panel(s) subsequently identified which may contribute to external fire spread	
Glencole House	15/06/17 REVIEW 1	26/09/17 REVIEW 1	04/12/2017	Work in progress around other Fire Door Issues	All small compartmentation issues including lift room complete  Service duct risers / Electrical cupboards yet to be addressed.	No issues	100% undertaken	Yes	In order	In order	Planned February 2018	Confirmed as broadly compliant - 01/06/17 & 19/12/17	Dry Risers Complete. Fireman's override switch for smoke clearance located in Lift plant Room. Powered door actuator required	09.01.18 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay	N/A	No Issue	Fire Alarm & CCTV Link to 24/7 Bradan Court Concierge
Monkscoole House	15/06/17 REVIEW 1	26/09/17 REVIEW 1	04/12/2017	Work in progress around temporary measures to existing Nominal Fire doors	Work in progress around temporary measures to existing Nominal Fire doors	Fire Extinguisher Signage; Stair & landing in preparation.	100% undertaken	Yes	In order	In order	Planned February 2018	Confirmed as broadly compliant - 19/12/17	Dry risers complete. Passive ventilation issue relevant to lift lobby and secondary lift lobby	09.01.18 No Fire Fighting measures available	N/A	No Issue	Area Manager appraising increased Concierge walkabouts to Tower Block IN INTERIM; CCTV link only to Bradan Court Concierge
Magowan House	29/06/17 REVIEW 1	12/10/17 REVIEW 1	14/12/2017	All urgent issues completed September 2017. Fire door upgrade work all complete.	Specialist contractor appointment imminent	Fire Extinguisher Signage; Stair & landing in preparation.	Still to be undertaken as of January 2018	Yes - consultation on 1 x Mobility Scooter still to be initiated	In order	In order	Planned February 2018	Confirmed as broadly compliant - 13/10/17	Dry Riser complete. No smoke ventilation within stair lobby. Fire fighting measure to alternative Means of Escape	Planned January 2018	Planned January 2018	Marley Eternit Cladding Panels installed to Rear Escape Stair ~25 years ago; FRA notes Class 0 A2-s1, d0	MULTI-OCCUPANCY ARRANGEMENT with Magaowan West Shopping Complex; fire alarm linkage from commercial complex; NIHE Tower Block has alternative escape stair
Grainne House	14/06/17 REVIEW 1	24/10/17 REVIEW 1	15/01/2017	Work in progress around other Fire Door Issues (80% complete)  Outstanding Fire Doors (48) being reviewed in regard to a procurement	Bin chute hopper seals - 90% complete; breaches within lift lobby complete. All small compartmentation issues including lift room complete.  Service duct risers / Electrical cupboards yet to be addressed.	Fire Extinguisher Signage; Stair & landing in preparation.	100% undertaken	Yes - information held at caretaker/ concierge reception within each block	In order	In order	Fire Safety training completed 12th & 13th  Additional training Planned 29th January and 5th February 2018.	Remedial works complete - awaiting NIF&RS sign-off	Dry Riser Complete. Smoke ventilation - some windows to the stairs noted as screwed shut. Reconfiguration of smoke vents to fire floor only to be confirmed (not passive system)	25.10.17 Fireman's switch not working - lift not descending to GF on odd	17 identified; exercise completed - Jan 2018	No issue	Hostel name reversion to 'Grainne House Family Units'. Refer to briefing minutes 22/09/17
Oisin House	14/06/17 REVIEW 1	24/10/17 REVIEW 1	15/01/2017	Hopper doors complete. Lift Plant Room access doors complete.  Outstanding Fire Doors (21) being reviewed in regard to a procurement	Bin chute wall rodding eye large compromises complete at all levels and bin chute seals.  Service duct risers / Electrical cupboards yet to be addressed.	Fire Extinguisher Signage; Stair & landing in preparation.	100% undertaken	Yes - information held at caretaker/ concierge reception within each block	In order	In order	Fire Safety training completed 12th & 13th December  Additional training Planned 29th January and 5th February 2018.	Remedial works complete - awaiting NIF&RS sign-off	Dry riser complete. Smoke ventilation ok. Stair ok.	25.10.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay	13 identified; exercise completed - Jan 2018	No issue	Polystyrene has been removed from Roofspace - sterile

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				Status of identified Fire Door Issues	Breaches in Compartmentation identified as part of FRA Review (post Grenfell)	Fire Safety Signage	Local Housing Office undertaking Resident Flat Visits	Persons identified in FRA as potentially requiring assistance	House-keeping	Tower Block Fire Safety Log & User Checks	Delivery of Fire Safety Awareness Training by NIHE Fire Safety Manager	NIF&RS Audit / Action Plan issues	Maintenance and Operation of Fire Fighting Measures	Joint Lift Surveys with NIF&RS including review of contents of NIF&RS Safe (GF Entrance Lobby)	Hose Reel Survey		Cladding / Infill Panel(s) subsequently identified which may contribute to external fire spread
Cuchulainn House	14/06/17 REVIEW 1	24/10/17 REVIEW 1	15/01/2017	Urgent NIFRS action plan issues completed  Hopper doors complete. Outstanding Fire Doors (22) being reviewed in regard to a further scheme	Bin chute wall rodding eye large compromises in progress at all levels and bin chute seals.  Service duct risers / Electrical cupboards yet to be addressed.	Fire Extinguisher Signage; Stair & landing in preparation.	100% undertaken	Yes - information held at caretaker/ concierge reception within each block 2G has a mobility scooter	In order	In order	Fire Safety training completed 12th & 13th  Additional training Planned 29th January and 5th February 2018.	NIF&RS temporary mitigation measures in place in regard to smoke ventilation & clearance	Dry Riser Complete. Ventilation compromised (significant finding) both to lift lobby and drying area and fireman's stair still outstanding. Mitigation proposals in progress  PRIORITY	25.10.17 FMS not working to EVEN - unable to take full control, Peek-a-boo okay	13 identified; exercise completed - Jan 2018	CLADDING SYSTEM has been subjected to full scale fire test under BS 8414-1 and a BR 135 Performance Classification Report is available. BR 135 Report confirms system as COMPLIANT.	External cladding and pyramidal roof - reintroduction of inlet ventilation drying area still outstanding and services within roof void not yet addressed - non extension of services within roof void. Mitigation proposals in progress  PRIORITY
Eithne House	14/06/17 REVIEW 1	24/10/17 REVIEW 1	15/01/2017	Outstanding Fire Doors (22) being reviewed in regard to a further scheme	Bin chute wall rodding eye large compromises in progress at all levels and bin chute seals.  Service duct risers / Electrical cupboards yet to be addressed.	Fire Extinguisher Signage; Stair & landing in preparation.	100% undertaken	Yes - information held at caretaker/ concierge reception within each block	In order	In order	Fire Safety training completed 12th & 13th  Additional training Planned 29th January and 5th February 2018.	NIF&RS temporary mitigation measures in place in regard to smoke ventilation & clearance	Dry Riser Complete. Ventilation compromised (significant finding) both to lift lobby and drying area and fireman's stair still outstanding. Mitigation proposals in progress  PRIORITY	25.10.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay	13 identified; exercise completed - Jan 2018	CLADDING SYSTEM has been subjected to full scale fire test under BS 8414-1 and a BR 135 Performance Classification Report is available. BR 135 Report confirms system as COMPLIANT.	External cladding and pyramidal roof - reintroduction of inlet ventilation drying area still outstanding and services within roof void not yet addressed - non extension of services within roof void. Mitigation proposals in progress  PRIORITY
Carnet House	16/06/17 REVIEW 1	17/10/17 REVIEW 1	15/01/2017	Outstanding Fire Doors (15) being reviewed in regard to a further scheme	All small compartmentation issues including lift room in progress. Service duct risers / Electrical cupboards yet to be addressed.	Addressed	Local Office requested checklist - no visits taken place.	Not complete; Chris Green to undertake a letter drop (next of kin form) to tenants	Local Office is proposing to undertake a letter drop to tenants regarding housekeeping in the common areas	In order	Planned February 2018	NIF&RS Enforcement Notice withdrawn 18/08/17	Dry riser complete. Smoke ventilation ok. Stair ok.	25.10.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay	N/A	CLADDING SYSTEM has been subjected to full scale fire test under BS 8414-1 and a BR 135 Performance Classification Report is available. BR 135 Report confirms system as COMPLIANT.	External cladding - no issues

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Whincroft House	16/06/17 REVIEW 1	17/10/17 REVIEW 1	15/01/2017	No issues.	All small compartmentation issues including lift room complete. Service duct risers / Electrical cupboards yet to be addressed.	Fire Extinguisher Signage; Stair & landing in preparation.	Local Office requested checklist - no visits taken place.	Not complete; Chris Green to undertake a letter drop (next of kin form) to tenants	Local Office is proposing to undertake a letter drop to tenants regarding housekeeping in the common areas	In order	Planned February 2018	Confirmed as broadly compliant 17/01/18	Dry Riser Complete. Smoke ventilation compromised to Fireman's stair given pyramidal roof. Smoke clearance (lift lobby through drying area) still to be reviewed. Mitigation proposals in progress <b>PRIORITY</b>	21.11.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay, <b>NO PLANS IN SAFE</b>	N/A	CLADDING SYSTEM has been subjected to full scale fire test under BS 8414-1 and a BR 135 Performance Classification Report is available. BR 135 Report confirms system as COMPLIANT.	External cladding and pyramidal roof - drying area still outstanding and services within roof void not yet addressed - non extension of services within roof void. Mitigation proposals in progress <b>PRIORITY</b>
Coolmoyne House	16/06/17 REVIEW 1 16/11/17 REVIEW 2	15/11/17 REVIEW 1	15/01/2017	5 x temporary door sets installed post 15/11/17 FIRE.	Infill panel replacement appraisal and glazing option initiated. All small compartmentation issues including lift room complete.  Service duct risers / Electrical cupboards yet to be addressed.	Fire Extinguisher Signage; Stair & landing in preparation.	100% undertaken	Yes - information held at caretaker reception within each block	Complete COSHH cabinets to installed on ground floor - currently on order	In order	Planned February 2018	Awaiting NIF&RS sign-off	Dry riser complete. Smoke ventilation ok. Stair ok.	21.11.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay, no secondary key for inside ODD lift	Planned January 2018	Small infill panel as part of window arrangement and extending full height this has been established as fibreglass wrap with Polyurethane foam; this to be replaced	Tower Block Fire recorded in Flat 9B - 15/11/17
Rathmoyne House	16/06/2017 REVIEW 1 REVIEW 2 in prep	15/11/17 REVIEW 1	15/01/2017	Work in progress around other Fire Door Issues	Infill panel replacement appraisal and glazing option initiated. All small compartmentation issues including lift room complete.  Service duct risers / Electrical cupboards yet to be addressed.	Fire Extinguisher Signage; Stair & landing in preparation.	100% undertaken	Yes - information held at caretaker reception within each block	Complete COSHH cabinets to installed on ground floor - currently on order	In order	Planned February 2018	Confirmed as broadly compliant 17/01/18	Dry riser complete. Smoke ventilation ok. Stair ok.	21.11.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay	N/A	Small infill panel as part of window arrangement and extending full height this has been established as fibreglass wrap with Polyurethane foam; this to be replaced	
Divis tower	16/06/17 REVIEW 1	12/09/17 REVIEW 1	15/01/2017	Work in progress around other Fire Door Issues  (19 inner bin chute doors) job raised not yet initiated  Separating door between Lift Lobby and stair still in dispute at each level - Fire door scheme  Outstanding Fire Doors (9) being reviewed in regard to a further scheme	Service duct risers / Electrical cupboards yet to be addressed.	Fire Extinguisher Signage; Stair & landing in preparation.	100% undertaken	Yes - information held in NIFRS Fire Safe (no mobility scooters)	COSHH cabinets have been requested for flammable liquids	In order	Planned 29th January and 5th February 2018. 6 staff in total, all staff will be present on both dates	Confirmed as broadly compliant 17/01/18	Dry riser complete.  Smoke clearance - repair issues noted. Confirmed as action. Smoke ventilation system for stair to be extended to uppermost level	21.11.17 No access to override switch, no key for padlock; key available to use inside lift simply shuts down lift to remain at ground floor - no control. Unable to test Peek-a-boo okay	No issue	24/7 Concierge	

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Maeve House	14/06/17 REVIEW 1	14/10/17 REVIEW 1	15/01/2017	Urgent NIFRS action plan issues completed  Work in progress around other Fire Door Issues  Outstanding Fire Doors (22) being reviewed in regard to a mop-up scheme	Bin chute wall and access drawers in progress at all levels and bin chute seals.  Service duct risers / Electrical cupboards yet to be addressed.	Fire Extinguisher Signage; Stair & landing in preparation.	100% undertaken	Yes - information held at caretaker/ concierge reception within each block	In order	In order	Fire Safety training completed 12th & 13th  Additional training Planned 29th January and 5th February 2018.	Confirmed as broadly compliant 17/01/18	Dry Riser complete. Smoke ventiation is passive	25.10.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay,	12 identified; exercise completed - Jan 2018	No issue	
Fianna House	14/06/17 REVIEW 1	24/10/17 REVIEW 1	15/01/2017	Urgent NIFRS action plan issues completed  Work in progress around other Fire Door Issues  Outstanding Fire Doors (21) being reviewed in regard to a mop-up scheme	Bin chute wall and access drawers in progress at all levels and bin chute seals.  Service duct risers / Electrical cupboards yet to be addressed.	Fire Extinguisher Signage; Stair & landing in preparation.	100% undertaken	Yes - information held at caretaker/ concierge reception within each block	In order	In order	Fire Safety training completed 12th & 13th  Additional training Planned 29th January and 5th February 2018.	Remedial works complete - awaiting NIF&RS sign-off	Dry Riser complete. Smoke ventiation is passive	25.10.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay	13 identified; exercise completed - Jan 2018	No issue	
Finn House	14/06/17 REVIEW 1	24/10/17 REVIEW 1	15/01/2017	Urgent NIFRS action plan issues completed  Work in progress around other Fire Door Issues  Outstanding Fire Doors (21) being reviewed in regard to a mop-up scheme	Bin chute wall and access drawers in progress at all levels and bin chute seals.  Service duct risers / Electrical cupboards yet to be addressed.	Fire Extinguisher Signage; Stair & landing in preparation.	100% undertaken	Yes - information held at caretaker/ concierge reception within each block	In order	In order	Fire Safety training completed 12th & 13th  Additional training Planned 29th January and 5th February 2018.	Confirmed as broadly compliant 18/12/17	Dry Riser complete. Smoke ventiation is passive	25.10.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay	13 identified; exercise completed - Jan 2018	No issue	
Belvoir House	16/06/17 REVIEW 1	17/10/17 REVIEW 1	15/01/2017	Urgent NIFRS action plan issues completed  Outstanding Fire Doors (21) being reviewed in regard to a procurement	Bin chute wall and access drawers in progress at all levels and bin chute seals.  Service duct risers / Electrical cupboards yet to be addressed.		Local Office requested checklist - no visits taken place.	Not complete; Chris Green to undertake a letter drop (next of kin form) to tenants	Local Office is proposing to undertake a letter drop to tenants regarding housekeeping in the common areas	In order	Planned February 2018	Confirmed as broadly compliant 17/01/18	Dry Riser complete. Smoke ventiation is passive	21.11.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay	N/A	Small infill panel as part of window arrangement and extending full height; currently being reviewed	Mains Gas pipe runs to outside of building. Emergency shut off valve to be checked
Breda House	16/06/17 REVIEW 1	17/10/17 REVIEW 1	15/01/2017	Urgent NIFRS action plan issues completed  Outstanding Fire Doors (73) being reviewed in regard to a procurement	Bin chute wall and access drawers in progress at all levels and bin chute seals.  Service duct risers / Electrical cupboards yet to be addressed.		Local Office requested checklist - no visits taken place.	Not complete; Chris Green to undertake a letter drop (next of kin form) to tenants	Local Office is proposing to undertake a letter drop to tenants regarding housekeeping in the common areas	In order	Planned February 2018	Confirmed as broadly compliant 17/01/18	Dry Riser complete. Smoke ventiation okay.	21.11.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay	N/A	Small infill panel as part of window arrangement and extending full height; currently being reviewed	Mains Gas pipe runs to outside of building. Emergency shut off valve to be checked

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Kilbroney House	16/06/17 REVIEW 1	17/10/17 REVIEW 1	15/01/2017	Urgent NIFRS action plan issues completed 09/17.			Local Office requested checklist - no visits taken place.	Not complete; Chris Green to undertake a letter drop (next of kin form) to tenants	Local Office is proposing to undertake a letter drop to tenants regarding housekeeping in the common areas	In order	Planned February 2018	Remedial works complete - awaiting NIF&RS sign-off	Dry Riser complete. Smoke ventiation okay.	21.11.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay,	N/A	N/A	
Moveen House	16/06/17 REVIEW 1	17/10/17 REVIEW 1	15/01/2017	Urgent NIFRS action plan issues completed  Outstanding Fire Doors (16) being reviewed in regard to a procurement	Service duct risers / Electrical cupboards yet to be addressed.		Local Office requested checklist - no visits taken place.	Not complete; Chris Green to undertake a letter drop (next of kin form) to tenants	Local Office is proposing to undertake a letter drop to tenants regarding housekeeping in the common areas	In order	Planned February 2018	Confirmed as broadly compliant 17/01/18	Dry riser complete.  Repairs required to smoke ventilation system.  Issue with smoke ventilation - windows screwed shut to stairwell  <b>PRIORITY</b>	21.11.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay (LIFTS TO BE REPLACED JANUARY '18)	N/A	N/A	
Moylena House	16/06/17 REVIEW 1	17/10/17 REVIEW 1	15/01/2017	Urgent NIFRS action plan issues completed  Outstanding Fire Doors (16) being reviewed in regard to a procurement			Local Office requested checklist - no visits taken place.	Not complete; Chris Green to undertake a letter drop (next of kin form) to tenants	Local Office is proposing to undertake a letter drop to tenants regarding housekeeping in the common areas	In order	Planned February 2018	Remedial works complete - awaiting NIF&RS sign-off	Dry riser complete.  Repairs required to smoke ventilation system.  Issue with smoke ventilation - windows screwed shut to stairwell  <b>PRIORITY</b>	21.11.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay (LIFTS TO BE REPLACED JANUARY '18)	N/A	N/A	
Clarawood House	16/06/17 REVIEW 1	17/10/17 REVIEW 1	15/01/2017	Urgent NIFRS action plan issues completed  Work in progress around other Fire Door Issues  Outstanding Fire Doors (34) being			Local Office requested checklist - no visits taken place.	Not complete; Chris Green to undertake a letter drop (next of kin form) to tenants	Local Office is proposing to undertake a letter drop to tenants regarding housekeeping in the common areas	In order	Planned February 2018	NIF&RS Enforcement Notice withdrawn 18/08/17	Dry Riser complete. Smoke ventiation okay.	21.11.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay  No floor plans	16 identified; exercise completed - Jan 2018	Open lattice arrangement below Flat Living Room Window at each level - to be reviewed	
Woodstock House	16/06/17 REVIEW 1	17/10/17 REVIEW 1	15/01/2017	Urgent NIFRS action plan issues completed 09/17.			Local Office requested checklist - no visits taken place.	Not complete; Chris Green to undertake a letter drop (next of kin form) to tenants	Local Office is proposing to undertake a letter drop to tenants regarding housekeeping in the common areas	In order	Planned February 2018	Remedial works complete - awaiting NIF&RS sign-off	Dry riser ok. Smoke vent ok. Smoke clearance lift lobby - no evidence of test / maintain	25.10.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay,	N/A	Open vent arrangement definition to concrete panel at each level; to be reviewed	

**APPENDIX 5 - PROGRESSIVE FIRE RISK ASSESSMENT ACTION PLAN ISSUES - HOUSING EXECUTIVE TOWER BLOCKS @ JANUARY 2018**

TOWER BLOCK	Current Fire Risk Assessment Review & Date	Briefing of Area Manager on FRA Issues Briefing	Follow up / Progress Meeting with Area Manager on earlier Briefing issues	KEY FIRE PROTECTION MEASURES			MANAGEMENT OF FIRE SAFETY					RELEVANT NORTHERN IRELAND FIRE & RESCUE SERVICES ISSUES					Other Key Issues
				Status of identified Fire Door Issues	Breaches in Compartmentation identified as part of FRA Review (post Grenfell)	Fire Safety Signage	Local Housing Office undertaking Resident Flat Visits	Persons identified in FRA as potentially requiring assistance	House-keeping	Tower Block Fire Safety Log & User Checks	Delivery of Fire Safety Awareness Training by NIHE Fire Safety Manager	NIF&RS Audit / Action Plan issues	Maintenance and Operation of Fire Fighting Measures	Joint Lift Surveys with NIF&RS including review of contents of NIF&RS Safe (GF Entrance Lobby)	Hose Reel Survey	Cladding / Infill Panel(s) subsequently identified which may contribute to external fire spread	
Willowbrook	16/06/17 REVIEW 1	17/10/17 REVIEW 1	15/01/2017	Urgent NIFRS action plan issues completed 09/17.			Local Office requested checklist - no visits taken place.	Not complete; Chris Green to undertake a letter drop (next of kin form) to tenants	Local Office is proposing to undertake a letter drop to tenants regarding housekeeping in the common areas	In order	Planned February 2018	Confirmed as broadly compliant 17/01/18	Dry riser ok. Smoke vent ok. Smoke clearance lift lobby - no evidence of test / maintain	25.10.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay,	N/A	Open vent arrangement definition to concrete panel at each level; to be reviewed	
Riverdale House	15/06/2017 REVIEW 1	14/11/17 REVIEW 1	15/01/2017	Urgent NIFRS action plan issues completed 09/17.			100% undertaken	Yes - information held at caretaker reception within each block	Complete COSHH cabinets to installed on ground floor - currently on order	In order	Planned February 2018	Confirmed as broadly compliant 17/01/18	Dry riser ok. Smoke vent ok. Smoke clearance lift lobby - no evidence of test / maintain	21.11.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay, <u>No additional secondary key</u>	N/A	N/A	
Parkdale House	15/06/2017 REVIEW 1	14/11/17 REVIEW 1	15/01/2017	Urgent NIFRS action plan issues completed 09/17.			100% undertaken	Yes - information held at caretaker reception within each block	Complete COSHH cabinets to installed on ground floor - currently on order	In order	Planned February 2018	Remedial works complete - awaiting NIF&RS sign-off	Dry riser ok. Smoke vent ok.	21.11.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay,	N/A	N/A	
Ferndale House	15/06/2017 REVIEW 1	14/11/17 REVIEW 1	15/01/2017	Urgent NIFRS action plan issues completed 09/17.			100% undertaken	Yes - information held at caretaker reception within each block	Complete COSHH cabinets to installed on ground floor - currently on order	In order	Planned February 2018	Remedial works complete - awaiting NIF&RS sign-off	Dry riser ok. Smoke vent ok. Smoke clearance lift lobby - no evidence of test / maintain	21.11.17 NIFRS can take control, Lift descends to Ground Floor okay, Peek-a-boo okay,	N/A	N/A	
Belvoir / Breda Concierge	05/09/2017 REVIEW 1	17/10/17 REVIEW 1	15/01/2017	Urgent NIFRS action plan issues completed 09/17.	Compartmentation issues yet to be addressed.	Fire Extinguisher Signage Addressed.	N/A	N/A	Chris Green to inform concierge of housekeeping issues	In order	Planned February 2018	n/a	Dry riser ok. Smoke vent ok. Smoke clearance lift lobby - no evidence of test / maintain	N/A	N/A		

**Northern Ireland**

**Current Regulation (Requirements) - Building Regulations (NI) 2012 (as amended)**

4.1 External Fire Spread - Regulation 36 - The external walls and roof of a building shall be so designed and constructed that they afford adequate resistance to the spread of fire over them, and from one building to another, having regard to:

(a) in the case of an external wall – the use, position and height of the building

**Current Guidance** – Technical Booklet E (Fire safety) 2012

4.2 The current guidance in Northern Ireland states:

- The external surface of a wall should meet the requirements given in Table 5.1 relevant to the height of the building and the distance between the building and the relevant boundary. The provisions of Table 5.1 are illustrated in Diagram 5.1. In the case of the external wall being of “rainscreen” construction (i.e. an outer cladding with a drained and ventilated cavity behind) the surface of the outer cladding which faces the cavity should also meet the relevant requirements of Table 5.1.
- Where a building has a storey the floor of which is 18 m or more above ground level, any materials used for supporting cladding and any insulation material incorporated within the wall construction (other than a masonry cavity wall complying with Diagram 4.5) should be a material of limited combustibility. (Advice on the incorporation of thermal insulation in such walls is given in Building Research Establishment Report – *Fire performance of external thermal insulation for walls of multi-storey buildings* (BR 135: 1988)).

Table 5.1 and Diagram 5.1 are included below.



**Building Regulations Guidance in Northern Ireland- Technical Booklet E**

**Table 5.1 Provisions for external surfaces of walls**

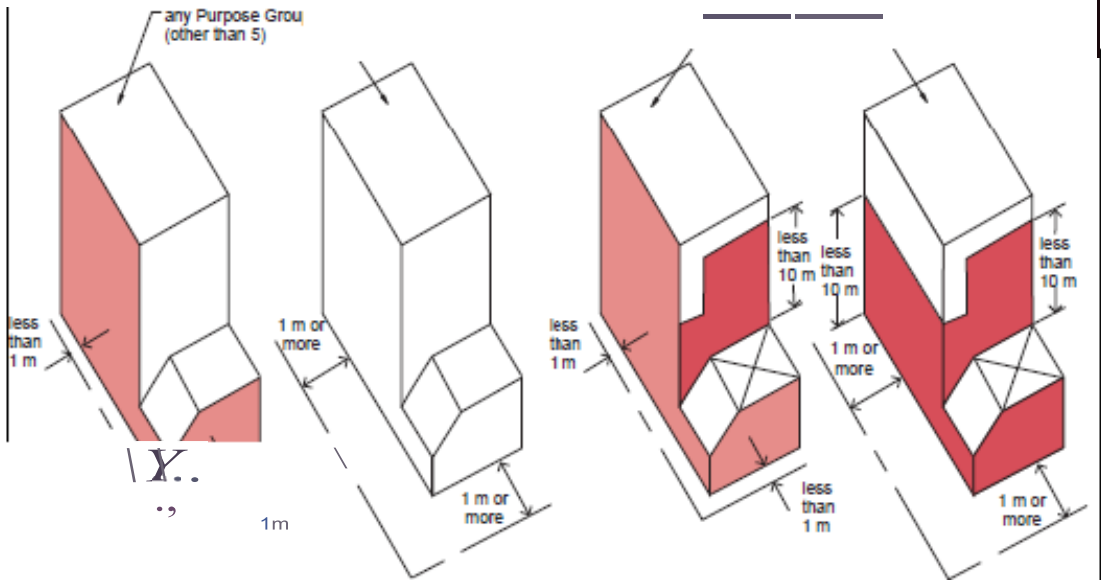
Maximum height of building (m)	Distance of wall from any point on the relevant boundary	
	Less than 1 m	1 m or more
Less than 18	Class 0 (National class) or Class B-s3,d2 or higher (European class)	(a) Purpose Group 5 -no requirement other than as described in Note 1 (b) All other purpose groups -no requirement
18 or more	Class 0 (National class) or Class B-s3,d2 or higher (European class)	(a) Surfaces 18m or more above ground level- Class 0 (National class) or Class B-s3,d2 or higher (European class) (b) Surfaces less than 18m above ground level- see Note 2

Notes:

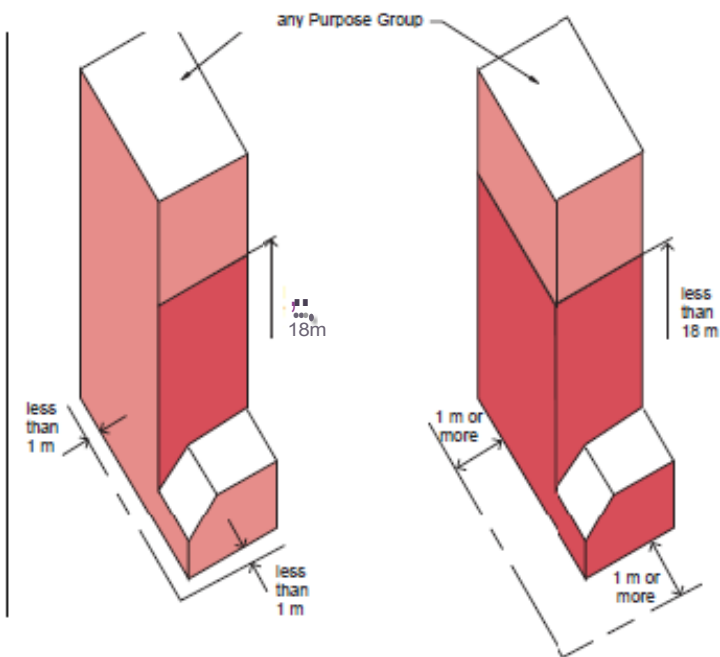
- In a Purpose Group 5 building of more than one storey any part of a wall which is less than 10 m above - (a) the ground;  
(b) a roof to which the public have access; or  
(c) any other part of the building to which the public have access, should have an index of performance (I) of not more than 20 when tested to BS 476:Part 6 (National class); have a classification of Class C-s3,d2 or higher (European class) surface; or be timber cladding at least 9 mm thick.
- Surfaces less than 18m above the ground should be of a material which has an index of performance (I) of not more than 20 when tested to BS 476:Part 6 (National class); be of a classification Class C-s3,d2 (European class) or higher; or be timber cladding at least 9 mm thick.
- The National classifications do not automatically equate with the equivalent European classifications, therefore products cannot typically assume a European class unless they have been tested accordingly.
- When a classification includes 's3,d2', this means that there is no limit set for smoke production and/or flaming droplets/particles.

**Diagram 5.1 Provisions for external surfaces of walls**


see para 5.3



Maximum height of building - less than 18m




Maximum height of building - 18m or more

- relevant boundary
-  roof to which the public have access

External wall surface classification

**D** Class 550 (National Fire Protection Association) or Class 556-63 (International Fire Protection Association) (EN 13501-2)

**D** non-combustible in its construction

 In accordance with EN 13501-2 (EN 13501-2) or EN 13501-3 (EN 13501-3) or EN 13501-4 (EN 13501-4) or EN 13501-5 (EN 13501-5)

**England**

**Current Regulation (Requirements)** - Building Regulations 2010 (as amended)

- 4.3 External Fire Spread – Regulation B.4 (1) - The external walls of the building shall adequately resist the spread of fire over the walls and from one building to another, having regard to the height, use and position of the building.

**Guidance** – Approved Document B (Fire safety) 2006 – Buildings other than dwelling houses

- 4.4 The current guidance in England states:
- External walls should either meet the guidance given in paragraphs 12.6 to 12.9 or meet the performance criteria given in the BRE Report Fire performance of external walls of multi storey buildings (BR135) for cladding systems using full scale fire test data from BS8414-1:2002 or BS 8414-2:2005.

Clause 12.6 and 12.7 state as follows:

**External surfaces**

- 4.5 The external surfaces of walls should meet the provisions in diagram 40. Where a mixed use building includes Assembly and recreation purpose group(s) accommodation, the external surfaces of walls should meet the provisions in diagram 40c.

**Insulation Materials/Products**

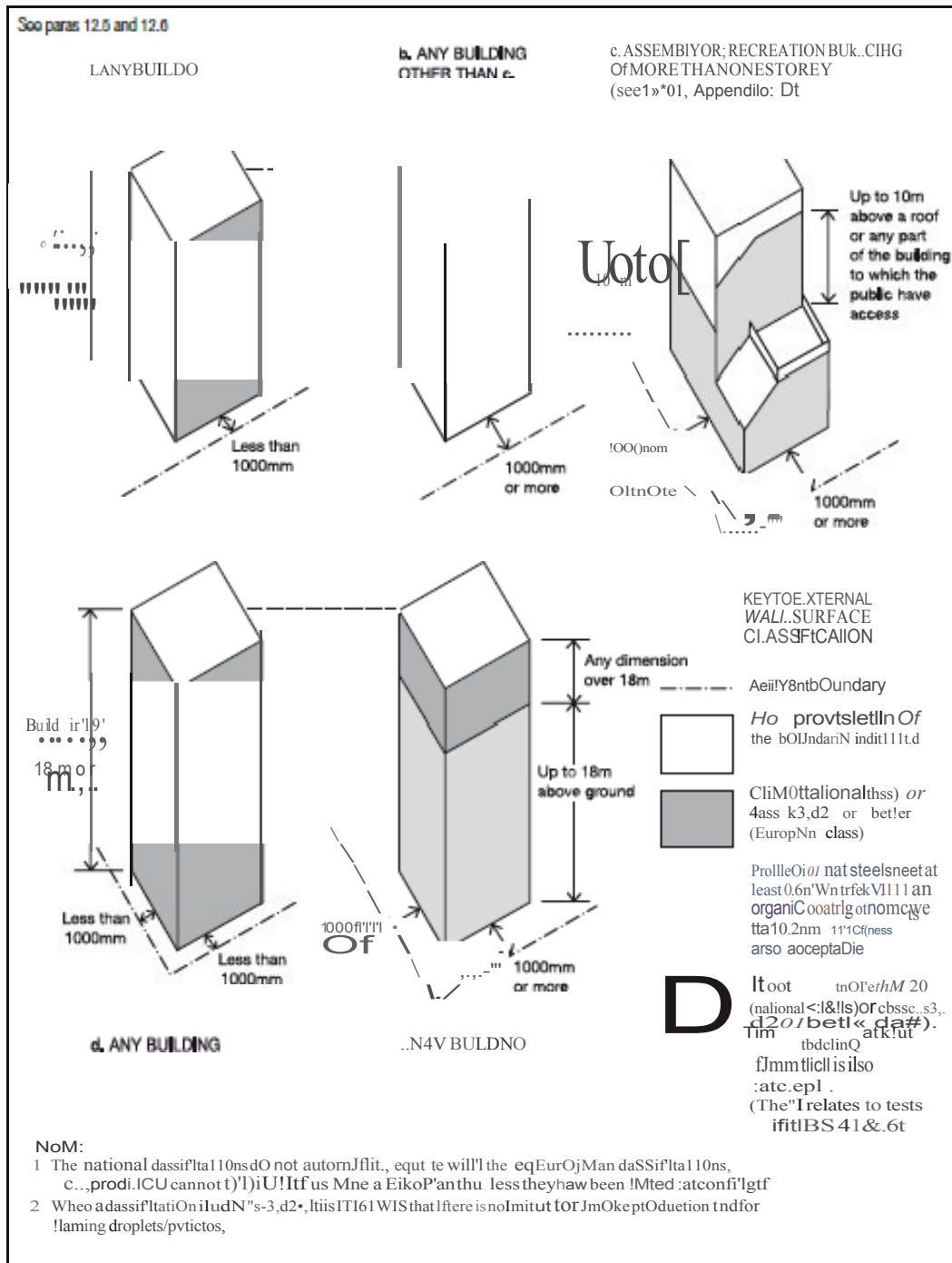
- 4.6 In a building with a storey 18m or more above ground level any insulation product filler material (not including gaskets, sealants and similar) etc. used in the external wall construction should be of limited combustibility. Clause 12.8 and 12.9 relate to the provision of cavity barriers.

Diagram 40 is included below.

Building Regulations Guidance in England - Approved Document B

CONSTRUCTION OF EXTERNAL WALLS

Diagram 40 Provisions for external surfaces or walls



## **APPENDIX 6 - BUILDING REGULATIONS - RELEVANT REQUIREMENTS AND GUIDANCE**

### **Scotland**

**Current Regulation (Requirements)** - Building (Scotland) Regulations 2004 (as amended)

- 4.7 Mandatory Standard - Every building must be designed and constructed in such a way that in the event of an outbreak of fire within the building, or from an external source, the spread of fire on the external walls of the building is inhibited.

**Guidance** - Technical Handbook 2017 Non-Domestic - Fire

- 4.8 The current guidance in Scotland states:
- External wall cladding not more than 1m from a boundary should have a non-combustible classification;
  - Where the cladding is more than 1m from the boundary and is constructed from combustible products more than 1mm thick, that have a low, medium, high or very high risk, the cladding should be constructed from materials with a reaction to fire in accordance with table 2.9.
- 4.9 In addition it states:
- In a building with any storey at a height of more than 18m above the ground, any insulation material situated or exposed in a cavity formed by external wall cladding should be non-combustible. However an insulation product need not achieve a non-combustible classification where:
    - the insulation product is located between two leaves of masonry or concrete at least 75mm thick;
    - the external wall is provided with cavity barriers around all openings and at the top of the wall-head.
- 4.10 As an alternative to this it states:
- BR 135, 'Fire Performance of external thermal insulation for walls of multi-storey buildings' and BS 8414: Part 1: 2002 or BS 8414: Part 2: 2005 have been updated to include the most up-to-date research into fire spread on external wall cladding. The guidance provided in these publications may be used as an alternative to non-combustible or low risk classifications (as described in clauses 2.7.1 and 2.7.2) and for materials exposed in a cavity, as described in clause 2.4.6.

Table 2.9 and the reaction to fire categories (Table 2.20) are included below.

## APPENDIX 6 - BUILDING REGULATIONS - RELEVANT REQUIREMENTS AND GUIDANCE

**Table 2.9 Reaction to fire of external wall cladding more than 1m from boundary**

Building height	Building type	Location	Maximum level of risk
Not more than 18m above the ground	Entertainment and assembly buildings	Not more than 10m above the ground (or above a roof or any part of the building to which the general public have access)	Low risk
		10 -18m above the ground	Very high risk
	Residential care buildings and hospitals	Any	Low risk
	All other buildings	Any	Very high risk
more than 18m above the ground	Any	Any	Low risk

**Table 2.20 Reaction to Fire**

Risk	British Standards	European Standards (1)
Noncombustible	<p>The material is certified non-combustible according to the test specified in BS 476 Part 4: 1970 (1984) throughout; or</p> <p>The material does not flame or cause any rise in temperature on either the centre (specimen) or furnace thermocouples according to the test specified in BS 476: Part 11: 1982 (1988).</p>	<p>The material has achieved a classification of A1 when tested in accordance with BS EN ISO:1182:2002 and BS EN ISO:1716:2002 or</p> <p>The material has achieved a classification of A2-s3,d2 when tested in accordance with BS EN: 13823: 2002 and BS EN ISO:1182:2002 or BS EN ISO:1716:2002, or</p> <p>Products made from only 1 or more of the materials considered as Class A1 without the need for testing, as defined in Commission Decision 96/603/EC of 4<sup>th</sup> October 1996 establishing the list of products belonging to Class A1 "No contribution to fire provided for in the Decision 94/611/EC implementing Article 20 of the Council Directive 89/106/EEC on the construction products. None of the materials contain more than 10% by weight or volume (whichever is the lower) of</p>
Low risk	The surface material (or where it is bonded throughout to a substrate,	The material has achieved a classification of B-s3,d2 or better when tested in

## APPENDIX 6 - BUILDING REGULATIONS - RELEVANT REQUIREMENTS AND GUIDANCE

Risk	British Standards	European Standards (1)
	the surface material (combined with the substrate) has a surface of Class 1 and, when tested in accordance with BS 476: Part 6: 1981 or BS 476: Part 6: 1989 has an index of performance (I) not more than 12 and a sub-index (i) not more than 6.	accordance with BS EN: 13823:2002 and BS EN ISO 11925-2:2002.
Medium risk	The material of the wall or ceiling when tested to BS 476: Part 7: 1987 (1993), attains a Class 1 surface spread of flame.	The material has achieved a classification of C-s3,d2 or better when tested in accordance with BS EN: 13823:2002 and BS EN ISO 11925-2:2002.
High risk	The material of the wall or ceiling when tested to BS 476: Part 7: 1987 (1993), attains a Class 2 or Class 3 surface spread of flame.	The material has achieved a classification of D-s3,d2 or better when tested in accordance with BS EN: 13823:2002 and BS EN ISO 11925-2:2002.
Very high risk	A material which does not attain the recommended performance for high risk.	

### Wales

#### **Current Regulation (Requirements) - Building Regulations 2010 (Amended)**

- 4.11 External fire spread - Regulation B4.(1) The external walls of the building shall adequately resist the spread of fire over the walls and from one building to another, having regard to the height, use and position of the building.

**Guidance** – Approved Document B 2006 (Amended) – Buildings other than dwelling houses

- 4.12 The current guidance in Wales states:
- External walls should either meet the guidance given in paragraphs 13.6 to 13.9 or meet the performance criteria given in the BRE Report *Fire performance of external thermal insulation for walls of multi storey buildings* (BR 135) for cladding systems using full scale test data from BS 8414-1:2002 or BS 8414-2:2005.

Clause 13.6 and 13.7 state as follows:

#### External surfaces

- 4.13 The external surfaces of walls should meet the provisions in Diagram 40. Where a mixed use building includes Assembly and Recreation Purpose Group(s) accommodation, the external surfaces of walls should meet the provisions in Diagram 40c.

#### Insulation Materials/Products

- 4.14 In a building with a storey 18m or more above ground level any insulation product, filler material (not including gaskets, sealants and similar) etc. used in the external wall construction should be of limited combustibility. This restriction does not apply to masonry cavity wall construction which complies with Diagram 34 in Section 10.

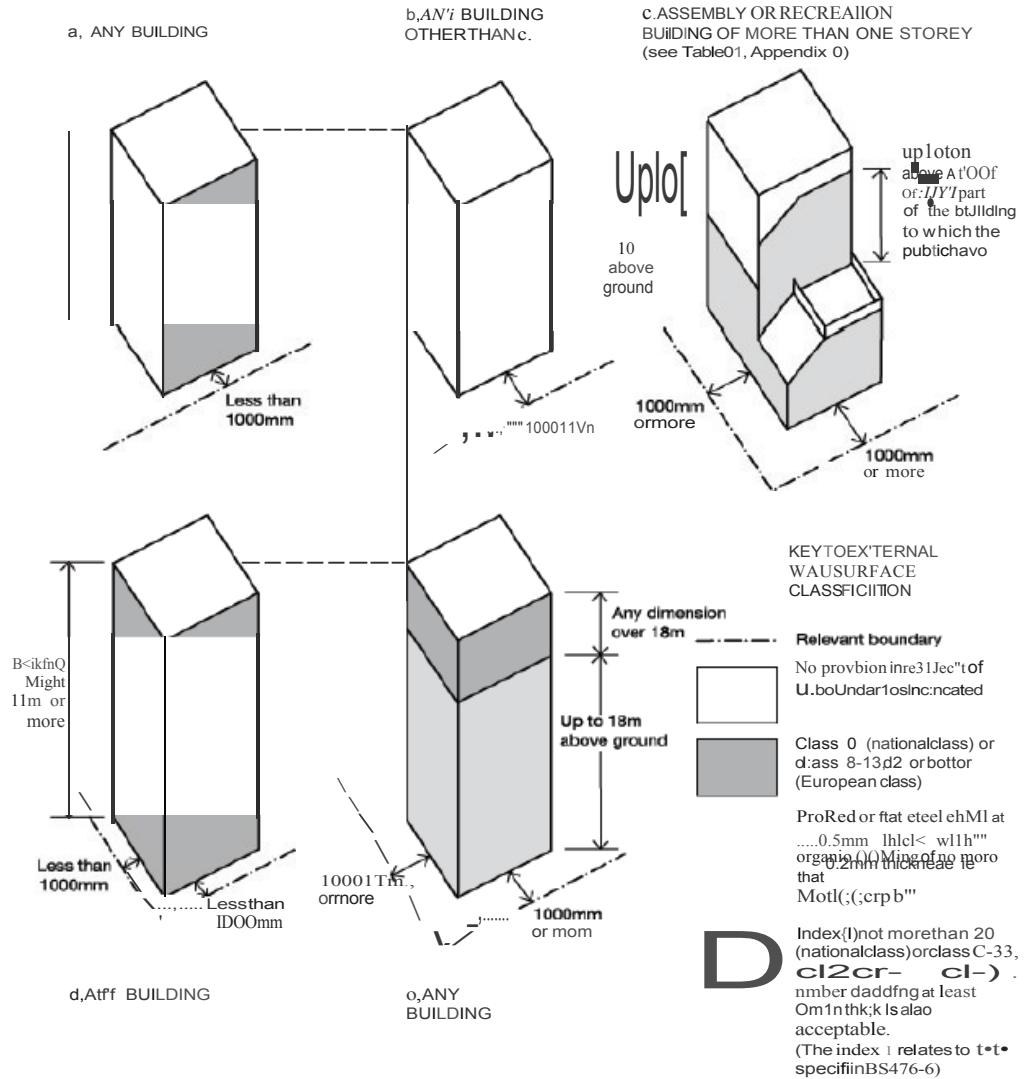
Clause 13.8 and 13.9 relate to the provision of cavity barriers. Diagram 40 is included below.

# APPENDIX 6 - BUILDING REGULATIONS - RELEVANT REQUIREMENTS AND GUIDANCE

## Building Regulations Guidance in Wales- Approved Document B 2006 (Amended)

Diagram 40 Provisions for external surfaces or walls

See para 13.5 and 13.6





### **Review of Requirements and Guidance**

#### Difference in 'Requirements'

- 4.15 The requirements (regulation) in relation to external fire spread over the surface of a building are very similar across the UK. These are currently functional performance based standards in NI, England, Scotland and Wales. It would be difficult to argue that any difference exists in the mandatory functional requirement which is to limit or resist fire spread over the surface of a building. Whilst there are minor variations in wording the requirements are effectively the same.

#### Difference in 'Guidance'

- 4.16 All regulatory systems across the UK operate a guidance based system with technical guidance documentation giving solutions which if followed should in normal circumstances satisfy the requirements cited in the regulations.
- 4.17 None of the measures described in guidance can be deemed mandatory however they do provide the means by which each country in the UK set the benchmark standards for compliance with regulations.
- 4.18 Currently in England, Scotland and Wales there are two clear options provided in guidance documentation for the design of the external façade of a building in relation to fire spread over the surface. These can be summarised as follows:

#### Option 1 – Full Scale Fire Test Approach

- 4.19 For cladding systems an option is given to test the whole system to measure against a performance criteria given in the BRE Report Fire performance of external thermal insulation of multi storey buildings (BR135) for cladding systems using full scale test data from BS8414-1:2002 or BS8414-2:2005

#### Option 2 – Elemental Approach

- 4.20 This is a method contained in England, Scotland and Wales guidance to look at individual components within the wall and apply minimum standards to the materials in terms of combustibility and have a minimum external surface classification depending on building height, type and proximity to boundary. This is an alternative to option 1, not an addition to.

The elemental approach looks at two distinct areas:

- External Surfaces;
- Insulation Materials/Products.

### External Surfaces

- 4.21 In England and Wales the guidance provided in terms of the surface classification of external walls is the same with the highest classification Class 0 (National class) or Class B-s3,d2 (European class) or better applying to any building elevations which are less than 1m from the boundary irrespective of building height.
- 4.22 In Scotland they take a slightly different approach to the cladding and use different terminology. It states that the cladding should be constructed from materials with a reaction to fire classification ranging from non-combustible to very high risk depending on the distance to the boundary. A material attains a specific reaction to fire risk category depending on its performance against National or European standard fire tests.
- 4.23 In Scotland any external wall cladding which is less than 1m from a boundary should have a non-combustible classification. A non-combustible classification in Scotland is a product which complies with European Class A1 or A2-s3,d2. This is a higher standard than in England and Wales which stipulates European Class B-s3,d2 or better in this situation.
- 4.24 In terms of building facades more than 1m from the boundary the requirements in Scotland are generally for low risk cladding assemblies for any building over 18m high (the entire building) and for any residential care buildings/hospitals under 18m high. A low risk classification is a product complying with European Class B-s3,d2 or better. This would be a higher standard than in England and Wales which only requires this classification on the part of the elevation above 18m.

### Insulation Materials/Products

- 4.25 In England and Wales the guidance would advise that in a building with a storey 18m or more above ground level any insulation product, filler material (not including gaskets, sealants and similar) etc. used in the external wall construction should be of limited combustibility as defined by guidance. A material of limited combustibility is a material which complies with European Class A2-s3,d2 or better.
- 4.26 In Scotland in a building with any storey at a height of more than 18m above the ground, any insulation material situated or exposed in a cavity formed by external wall cladding should be non-combustible. However it should be noted that the definition of non-combustible under the guidance in Scotland is a material which complies with European Class A2-s3,d2 or better.
- 4.27 The standard in terms of the insulation is therefore the same in Scotland as in England and Wales when following the elemental approach.
- 4.28 It is also important to highlight that DCLG in their note to Local Authority Chief Executives and Housing Association Chief Executives on 'Safety checks following Grenfell Tower fire' took the opportunity to clarify the intention of the guidance in ADB regarding insulation material and products as follows.

## **APPENDIX 6 - BUILDING REGULATIONS - RELEVANT REQUIREMENTS AND GUIDANCE**

- 4.29 “For the avoidance of doubt; the core (filler) within an Aluminium Composite Material (ACM) is an “insulation material/product”, “insulation product”, and/or “filler material” as referred to in Paragraph 12.7 (“Insulation Materials/Products”) in Section 12 “Construction of external walls” of Approved Document B (Fire safety) Volume 2 Buildings other than dwelling houses. (The important point to note is that Paragraph 12.7 does not just apply to thermal insulation within the wall construction, but applies to any element of the cladding system, including, therefore, the core of the ACM)”.
- 4.30 In Northern Ireland the current guidance (TBE 2012 edition) does not describe two options for compliance but rather focuses on option 1 - elemental approach. The external surface classification is the same as that above for England and Wales.
- 4.31 In relation to insulation it would recommend that any insulation material incorporated within the wall construction and any materials used for supporting cladding should be a material of limited combustibility i.e. a material under European classification classified as Class A2-s3,d2 or higher.
- 4.32 In terms of BR135 the Northern Ireland guidance references the 1998 version for advice as opposed to guidance. The 1988 version of BRE 135 has been superseded by the second and third editions which have now moved away from the methodology outlined in the 1988 document and detail a method for establishing the performance of a cladding system using full scale fire tests as described in guidance in England, Scotland and Wales. The approach using full scale fire testing may be acceptable in Northern Ireland although not offered as a solution in guidance as with other parts of the UK.



Department for  
Communities and  
Local Government

20 July 2017

Dear Sir or Madam

Since the Grenfell Tower tragedy the government has been working with BRE to help establish where there may be safety concerns in other high rise buildings, as a result of what we know from that fire.

BRE is undertaking an initial screening programme of Aluminium Composite Material (ACM) panels, to identify which panels do not meet the requirements for limited combustibility. The government has now commissioned BRE to undertake a set of large scale BS8414 tests to understand better how different wall systems – including cladding and insulation - behave in a fire.

The purpose behind the large scale tests is to give landlords more information to help them make decisions – for example on whether they need to replace their cladding and/or insulation. However, the set of six tests government is commissioning will only ever be illustrative and landlords will need to take their own advice on further action they may need in their particular circumstances. To help inform these decisions further, I would like to ask for your help. I understand you have previously undertaken BS8414 tests with BRE. I realise that there may be commercial sensitivities with sharing this information, but given the circumstances and public interest at stake I would appreciate it if you were willing to share the results of your tests publicly.

The CPA are supporting this approach.

Yours

Tamara Finkelstein

26 July 2017

Our Ref. DCLG0717

## **FIRE PERFORMANCE OF EXTERNAL CLADDING SYSTEMS**

I am writing to you as you have previously successfully carried out testing at BRE in accordance with BS 8414 and have an associated BR 135 classification report for your cladding system(s). As such, I have been asked to contact you by the Department for Communities and Local Government to pass on the attached letter which has been produced in the aftermath of the Grenfell fire tragedy.

Obviously, we are subject to the terms and conditions of our testing contract(s) with yourself and are bound by Client confidentiality and therefore not in a position to release any of your reports without your express permission. If you are content to release your reports in the context of public interest so that the information can be shared with local authorities, housing associations, landlords and building owners who may have specific concerns about the external cladding systems on their properties, please can you confirm to me in writing (by email to my email address below) as soon as possible, with specific reference to your BR 135 report number(s) and we will then make them available on your behalf.

If you have any questions or concerns about what has been requested, then please don't hesitate to contact me.

Yours sincerely

Debbie

Dr D A Smith OBE  
Managing Director  
For and on behalf of BRE Global  
Telephone: +44 (0)1923 664923  
E-mail: debbie.smith@bre.co.uk

## APPENDIX 7 - CORRESPONDENCE WITH BRE



**Piperhill Construction Limited**

Unit 7 Annagh Business Centre  
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BT62 3BQ

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Fax. (028) 3833 9466  
Email. [info@piperhill-construction.co.uk](mailto:info@piperhill-construction.co.uk)  
Web. [www.piperhillconstruction.com](http://www.piperhillconstruction.com)

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Thanks Debbie,

Further to your circular we can advise that our Client is very aware of the situation and has already carried out their own inspections of the cladding solutions that we have installed on their properties.

They are aware that the cladding used does not employ ACM panels.

We have already furnished our Client with the specific reports for the Piperhill system tested at BRE. The Client has also been copied into this response.

Regards,

*Brian Burns*

**Brian Burns**

Piperhill  
Construction Ltd  
Mob  
07885  
964365  
Tel 028 3833 2151  
email [brian.burns@piperhill-construction.co.uk](mailto:brian.burns@piperhill-construction.co.uk)

---

**From:** Smith, Debbie [<mailto:Debbie.Smith@bre.co.uk>]

**Sent:** 28 July 2017 09:25

**To:** Brian Burns

**Subject:** RE: URGENT: Request regarding your large-scale cladding fire test and classification reports

Dear Brian

Please see attached letters from myself and the Department of Communities and Local Government regarding your large-scale cladding fire test and classification reports. Can you please consider this request as a matter of urgency and refer to anyone else within your company as required.

Kind regards

Debbie

Dr D A Smith  
OBE Managing  
Director of BRE  
Global

For and on

## APPENDIX 7 - CORRESPONDENCE WITH BRE

behalf of BRE

Global Ltd T

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Department for  
Communities and  
Local Government

Melanie Dawes CB  
Permanent Secretary

Department for Communities and Local  
Government  
2 Marsham Street  
London SW1P 4DF

To: Local Authority Chief Executives &  
Housing Association Chief Executives  
Via email

Date: 18 June 2017

### **Safety checks following Grenfell Tower**

Thank you for all the work you have done with the department since the horrific fire at Grenfell Tower. I know that you are urgently carrying out fire safety checks on your tower blocks and ensuring the appropriate safety and response measures are in place. The Grenfell Tower police-led investigation is underway, but it will be some time before we fully understand how the fire started or why it took hold in the way it did. We know that in the meantime there is significant anxiety amongst residents about whether their own blocks are safe.

There has been much public concern and comment about potential flaws in the cladding that was on Grenfell Tower. While the exact reasons for the speed of the spread of fire have yet to be determined, we have concluded that there are additional tests that can be undertaken with regard to the cladding. We are therefore asking local authorities and other registered providers of social housing to identify whether any panels used in new build or refurbishment are a particular type of cladding made of Aluminium Composite Material (ACM). More details on how to identify this cladding are in the attached technical note and the Homes and Communities Agency can offer expert support in surveying your properties if necessary. It is important to stress that ACM cladding is not of itself dangerous, but it is important that the right type is used.

If you identify that cladding on any of your buildings is made of ACM, then a sample will need to be tested. We have put in place a testing process for any samples, which will be at no cost to local authorities and housing associations. Please contact the department at [housingchecks@communities.gsi.gov.uk](mailto:housingchecks@communities.gsi.gov.uk) if you have any queries. In addition, we will follow up with you individually on the morning of Monday 19 June to establish if you require any further assistance. We have been working closely with the Local Government Association, the National



## **APPENDIX 8 - CORRESPONDENCE WITH DCLG**

Housing Federation and the Homes and Communities Agency who can also offer you support. We will provide further information on Monday.

We are making this testing facility available to any other residential landlords and you should ensure that they are aware of this offer.

As well as this work I would remind local authorities that they should be well advanced in checking they have robust fire assessments for their stock. I should point out that assessments carried out to comply with the Fire Safety Order are unlikely to have considered the building's cladding. The Local Government Association's *Fire safety in purpose-built blocks of flats* remains the most comprehensive guidance on ensuring fire safety in these types of buildings<sup>1</sup>.

Once inspections are completed and necessary work identified, DCLG will work with housing associations and local authorities to identify the most appropriate options for supporting funding

Thank you for all you have done so far.

Yours sincerely



**MELANIE DAWES**

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<sup>1</sup> <https://www.local.gov.uk/fire-safety-purpose-built-flats>

## **APPENDIX 8 - CORRESPONDENCE WITH DCLG**

### **Annex A**

#### **Identification of Aluminium Composite Material Cladding**

**By the end of day on Monday 19<sup>th</sup> June**, local authority and registered providers of social housing should:

- Identify and record the number of properties that are more than 18 metres high
- Identify and record the properties that have been clad with aluminium type panels
- Inspect those identified to establish whether they are panels made of an Aluminium Composite Material (ACM) and record this
- Use the enclosed return form - *New Build and Refurbished Building Information Check List* - to report all of the above findings for each building to DCLG at [housingchecks@communities.gsi.gov.uk](mailto:housingchecks@communities.gsi.gov.uk) Please complete and return parts 1 and 2 by close 19 June and subsequent parts as soon as possible thereafter.

Aluminium Composite Material (ACM) is a type of flat panel that consists of two thin aluminium sheets bonded to a non-aluminium core, typically between 3 and 7mm thick. The panels can have a painted or metallic finish (eg copper or zinc effects).

It can be differentiated from solid aluminium sheet by looking at a cut edge whereby the lamination is visible. It may be necessary to cut a hole in a panel if a cut edge is not readily accessible.

On buildings with a floor over 18m above ground level, where ACM panels are identified, it is necessary to establish whether the panels are of a type that complies with the Building

Regulations guidance ie the core material should be a material of limited combustibility or Class A2<sup>2</sup>.

To allow for the identification of core materials we are putting in place Government-funded testing capacity that will allow a small sample of the cladding to be tested and its type identified. **From Tuesday 20<sup>th</sup> June onwards, where ACM panels have been identified, local authorities and registered providers of social housing should begin taking steps to establish that they are of limited combustibility, and to submit samples for testing. DCLG will provide further detailed information about the procedures for submitting test samples**

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<sup>2</sup> Material of Limited combustibility as described in Table A7 of Approved Document B (Vol 2)

Class A2-s3,d2 or better in accordance with BS EN 13501-1

## **APPENDIX 8 - CORRESPONDENCE WITH DCLG**

on Monday 19<sup>th</sup> June. If you have any queries, please contact [housingchecks@communities.gsi.gov.uk](mailto:housingchecks@communities.gsi.gov.uk)

**Please get in touch right away if you require any further advice, or if you require expert support in surveying your properties.**

## **APPENDIX 8 - CORRESPONDENCE WITH DCLG**



Department for  
Communities and  
Local Government

Melanie Dawes CB  
Permanent Secretary

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To Local Authority Chief Executives and  
Housing Association Chief Executives  
By Email

22 June 2017

### **Safety checks following Grenfell Tower fire**

Thank you all for your continued work following the appalling tragedy in North Kensington. Our priority must continue to be checking on the safety of buildings and listening to and being open with residents, and reassuring them as much as possible.

My letter of 18 June asked that local authorities and other registered providers of social housing identify whether any panels used in new build or refurbishment are of a particular type of cladding made of Aluminium Composite Material (ACM).

The testing process for samples of cladding is underway and the attached note sets out the action that an independent panel of experts advise must immediately be taken if it is determined that the insulation within Aluminium Composite Material (ACM) is unlikely to be compliant with the requirements of the current Building Regulations. This advice has been endorsed by the National Fire Chiefs Council who will be circulating it separately to their members.

These interim mitigating measures must immediately be implemented to ensure the safety of residents, pending replacement of the cladding.

If you have any questions about the testing process for the cladding please email [housingchecks@communities.gsi.gov.uk](mailto:housingchecks@communities.gsi.gov.uk)

If you have questions about the advice on action which needs to be taken please contact [safetychecks@communities.gsi.gov.uk](mailto:safetychecks@communities.gsi.gov.uk).

Yours sincerely

**MELANIE DAWES**

## **APPENDIX 8 - CORRESPONDENCE WITH DCLG**

### **Annex A: EMERGENCY FIRE SAFETY REVIEW**

If it is determined that the insulation within Aluminium Composite Material (ACM)<sup>1</sup> is unlikely to be compliant with the requirements of the current Building Regulations guidance, it is essential that you **immediately** implement the following interim mitigating measures to ensure the safety of residents, pending replacement of the cladding.

#### **Interim measures recommended by independent panel of experts**

Notify Fire and Rescue Service.

Inform your local fire and rescue service fire safety/protection department. Failure to do so may put fire-fighters as well as residents at risk. The fire and rescue service will carry out an urgent inspection with the 'responsible person' to ensure that they are identifying and introducing appropriate interim measures, as set out below. The fire service will carry out a further inspection once the interim measures have been completed:

- Check that the fire risk assessment has been carried out within the previous 12 months and that the recommendations within the action plan of the assessment have been completed; also, confirm that there have been no material changes (to the building, the fire safety measures or the occupancy) that could, potentially, undermine the validity of the fire risk assessment. If no fire risk assessment has been carried out, you must **immediately** arrange for a fire risk assessment to be carried out by a competent person (eg by a person who is listed on a register of fire risk assessors operated by a professional body or certification body, or, preferably, by a company that is certified by a third party certification body, that is, itself, accredited by the United Kingdom Accreditation Service to operate the certification scheme). Guidance on choosing a competent assessor is here <http://www.cfoa.org.uk/19532>
- Engage with residents to ensure they fully understand the emergency fire procedures in the building, particularly the meaning of "stay put". Ensure that fire procedure notices are accurate.
- Check that, at ground level, or on any balconies, there are no combustible materials (eg storage of refuse) in the vicinity of the cladding. Ensure that there are measures to prevent combustible materials in such locations (eg by temporary barriers or instructions to residents). Instruct residents that they must not have any barbeques on any balcony.
- Check that all flat entrance doors, and doors that open onto escape corridors and stairways, are fire-resisting and effectively self-closing against any resistance of a latch (or, for example, in the case of plant rooms or cupboards, are kept locked shut.) For guidance on these doors, consult the Local Government Association guidance on fire

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<sup>1</sup> For the avoidance of doubt; the core (filler) within an Aluminium Composite Material (ACM) is an "insulation material/product", "insulation product", and/or "filler material" as referred to in Paragraph 12.7 ("Insulation Materials/Products") in Section 12 "Construction of external walls" of Approved Document B (Fire safety) Volume 2 Buildings other than dwelling houses. (The important point to note is that Paragraph 12.7 does not just apply to thermal insulation within the wall construction, but applies to any element of the cladding system, including, therefore, the core of the ACM).

## APPENDIX 8 - CORRESPONDENCE WITH DCLG

safety in purpose-built blocks of flats - <https://www.local.gov.uk/fire-safety-purpose-built-flats> - but, in general, doors that were deemed to be fire-resisting at the time of construction of the block will be satisfactory. Replace any non-fire-resisting doors (such as non-fire-resisting upvc doors) immediately with doorsets (i.e. doors and frames) that are third party certificated as providing at least 30 minutes fire resistance.

- Check all walls that separate flats, plant and store rooms, etc from escape routes to ensure there are no obvious routes for fire or smoke spread (eg, holes where services, such as pipes and cables, pass through walls).
- Check that any smoke control systems, including associated fire detection systems, are operating correctly.
- Check all facilities provided for fire-fighters, including fire-fighting lifts and dry or wet rising mains. If you have **ANY** concerns you should contact your local fire and rescue service, who will, if they have not already done so, carry out an inspection to ensure functionality.
- Ensure that there is sufficient roadway access and hardstanding for firefighting vehicles attending incidents and to be set up to fight any fire externally.
- Check that insulation or other materials that form the façade meet all relevant standards.

If the building is protected by an automatic sprinkler system (or equivalent fire suppression system) you might not need to take any further interim measures before replacement of the cladding.

If the building is not protected by a suitable suppression system you must consider the need for interim measures. The measures adopted need to be based on an assessment of the risk by a competent person, but the following must, at least, be considered:

- Residents to be advised to ensure all smoke alarms are present and working in their flat; to report concerns about fire safety measures in the building (eg presence of combustible materials in escape routes) to their landlord and, understand the purpose of any interim measures begin taken.
- Closure of car parks in which a vehicle fire could impinge on cladding.
- Provision of a temporary communal fire alarm system, comprising smoke detectors in circulation areas and plant rooms, and fire detectors (possibly heat detectors, rather than smoke detectors) in conjunction with fire alarm sounders in each flat. This will enable the entire block to be evacuated simultaneously in the event of fire. This option is unlikely to be suitable for tall blocks, in which a large number of people would need to use escape routes at the same time. The system may comprise a wireless system, using radio to link devices.
- Provision of a fire watch by appropriately trained patrolling security officers/wardens.

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- In the case of the most serious risk, consideration must be given to moving all residents out of the block until satisfactory remedial work has been done.

**GOVERNMENT BUILDING SAFETY PROGRAMME – EXPLANATORY NOTE**

**Summary**

- Government is acting to support owners and residents of high rise buildings to ensure fire safety in the light of the Grenfell Tower tragedy.
- Landlords are engaging in a checking and testing process for Aluminium Composite Material cladding.
- The testing process is identifying whether the filler material in Aluminium Composite Material submitted for testing is of a type that would meet the limited combustibility requirements of current Building Regulations guidance.
- Landlords have been given advice on the immediate steps they should take and we encourage them to follow that advice.
- We have set up an expert panel to advise us on other urgent steps we should take to improve fire safety and will be issuing more advice imminently to clarify further steps landlords could take to inform their decisions on the cladding systems they have in place, and on checking insulation and other components of typical wall construction.
- We are engaging landlords and industry to examine what more can be done to support necessary remedial work.

**Introduction**

1. Immediately after the tragic fire at Grenfell Tower on 14 June, it was clear that the façade of that building had created risks to fire safety.
2. It was also clear that many local authorities and other landlords responsible for tower blocks were acting to check the fire safety of their buildings and reassure their tenants. The Government took immediate steps to conduct an audit of high-rise social housing tower blocks across the country, to ensure that any other similar risks were immediately identified and acted upon.
3. This note explains the checking and testing programme that has been set up and is now underway, and the wider steps that are being taken to ensure safety in all relevant buildings, in the light of the early test results. It explains:
  - i) The checking and testing process the Government has put in place to help landlords ensure the safety of residents and other occupants in high rise buildings and the actions landlords have been asked to follow.
  - ii) The immediate action that the Government has recommended to landlords and fire and rescue services in response to a test result.



## **APPENDIX 8 - CORRESPONDENCE WITH DCLG**

iii) The further action that is underway to support landlords and councils including working with suppliers to replace cladding and other materials where that is necessary.

4. The Government has been in close contact with local government, housing associations, other public and private sector landlords, fire and rescue services and a number of fire and building safety experts to work through the implications arising from the Grenfell Tower fire for other high rise buildings. It is also engaging wider industry bodies and organisations on next steps and would welcome comments or suggestions on the elements contained in this note. These should be directed to [housingchecks@communities.gsi.gov.uk](mailto:housingchecks@communities.gsi.gov.uk).

### **i) Checking and testing Aluminium Composite Material (ACM) cladding**

5. On Saturday 17th June, the Department for Communities and Local Government convened a group of technical experts to provide advice on the best immediate steps Government could take to help local authorities and other landlords address the fire safety concerns that tenants living in tower blocks similar to Grenfell Tower would undoubtedly have.

6. While it was too early for the full and exact reasons for the speed of the spread of the Grenfell Tower fire to be known, the experts agreed that, from the information available, additional tests should be undertaken urgently on Aluminium Composite Material cladding. On the advice of the experts, the Department wrote to local authority and housing association landlords on 18 June, asking them to

- identify all their residential tower blocks (properties over 18 metres in height<sup>1</sup>),
- identify those with aluminium type external cladding and inspect those to establish whether the panels were made of an Aluminium Composite Material, so that they could be submitted for testing through a process being established by the Department,
- provide a wider range of information about their tower blocks, and
- continue checking that they have robust fire assessments for their stock, drawing attention to the Local Government Association's comprehensive guidance, *Fire Safety in purpose-built blocks of flats*.

7. The Department wrote again to all social landlords on 19 June setting out the process they should follow to submit samples of ACM cladding to the Building Research Establishment for testing and the first samples were received and tested on Wednesday 22 June.

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<sup>1</sup> The height at which relevant and additional fire safety requirements are triggered in paragraph 12.7 of Building Regulations Fire Safety Approved Document B guidance.

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8. The Department has also extended this checking and testing approach to residential tower blocks owned by private landlords and to tall buildings in the public sector, including hospitals and schools.

9. We are aware that there has been some uncertainty about and criticism of the tests being applied to ACM panels at the Building Research Establishment. By the end of Thursday 29 June, 100% of the panels that had been tested did not have the limited combustibility required to meet building regulations guidance. With such a high failure rate, Government, landlords, residents and others naturally want to be sure that the tests are right and accurate.

10. The test was designed and put in place on the advice of the expert group to provide a quick and reliable way to help landlords identify the type of ACM cladding present on their buildings in order to take appropriate action. Annex A to this note sets out in more detail the testing process and how it relates to fire safety and the Building Regulations.

11. In summary, the Building Regulations guidance sets a requirement for external walls on all buildings not to allow fire spread. And it identifies the use of combustible materials in a cladding system – insulation product, filler materials, etc - as a risk to fire spread in tall buildings. The Department's view, supported by expert and legal advice, is that external walls in a tower block can meet the Building Regulations requirement for resisting fire spread in two ways, set out in more detail in Annex A.

- The first is for each individual component of the wall (insulation, filler, etc) to be of limited combustibility, and to each meet set standards for this.
- The second is to ensure that all the combined elements of a wall, when tested as whole system, have sufficient fire spread resistance to meet a set standard.

12. The tests being conducted at BRE are testing only whether the core or filler of ACM panel samples being submitted are of a type that would fail the limited combustibility test for an individual element of a wall in a tall building (the first of the requirements summarised above). It is possible, therefore, that ACM panels that have a core material that is not of limited combustibility, might be safe if installed as part of a whole wall system that meets the second test described above. We are not aware of any such systems having passed the necessary tests but have asked a newly established expert advisory panel to look into this further.

13. We are also aware that some ACM panels are accredited as having a 'Class 0' rating for the surface. But that, in the Department's view, supported by expert advice, is a rating for the surface only and does not cover the limited combustibility requirement for the core or filler material within an ACM panel.

**ii) Action landlords should take**

14. On 22 June, the Department wrote to all local authorities and housing associations with advice, drawn up by the group of experts we convened on 17 June, on the immediate steps they should take if it is assessed that they have buildings with ACM cladding of the type that would not meet limited combustibility requirements.

15. It includes engaging residents, seeking the support of the Local Fire and Rescue Service and undertaking urgent fire risk assessments, as well as checking physical fire safety measures (such as fire doors, smoke control systems and fire fighting facilities) and building construction components such as the integrity of walls that act to prevent fire spread and the safety of insulation and other materials in the façade of the building.

16. In particular, this advice also reflects emerging findings from the Grenfell Tower fire investigation in relation to the importance of fire doors and smoke extraction, accessibility to the base of tower blocks for fire fighting appliances, and checking insulation materials in the exterior facade.

17. We encourage all landlords with tower blocks with ACM cladding to act on this advice, repeated at Annex B of this note, to ensure the safety of residents.

**iii) Further action underway**

18. Understandably, local authorities and other landlords want greater clarity on whether ACM panels on their tower blocks could be part of a wider, safe wall system despite having been identified as likely to fail the limited combustibility test for individual wall components. That is a matter which landlords should consider carefully, consulting the original specifications and designs for the cladding, the designers, engineers and contractors who carried out the work, and the building inspectors who certified it.

19. We want to support landlords in this position. So we have drawn together a panel of experts to advise us on further steps which could be taken to improve the safety of tower blocks in advance of further findings emerging from the Grenfell Tower fire investigation and the public inquiry. This panel of experts met for the first time on Thursday 29<sup>th</sup> June and agreed to consider urgently what further advice or testing could be provided to help landlords conclude whether cladding systems that included ACM panels could be regarded as sufficiently safe. We expect that further advice to be available next week to help landlords consider what further steps they should take.

20. Following its initial meeting on 29<sup>th</sup> June, the panel concluded that:

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“The tests that are currently being conducted are a screening test to identify which ACM panels are of concern. It tests the filler – the core of the panel – to check if it is of limited combustibility (category 1) or not (category 2 or 3). This is in line with the requirement of the Building Regulations guidance. The filler is one element of the overall cladding system.

If the panel core fails the test we would expect the landlord to take the recommended interim fire safety measures issued on 22<sup>nd</sup> June.

Early next week the Expert Panel will consider whether these panels can be used safely as part of a wider building external wall system, and therefore could remain on a building under certain approved circumstances. If, in the meantime, a landlord chooses to take down and replace cladding, care should be taken to consider the impact that removal may have on the other wall elements, especially insulation, and therefore on the overall fire integrity of the building as well as other Building Regulation requirements.”

21. The expert panel have also been asked to consider whether there is any further practical advice or support that could be offered to landlords to help them check the fire safety of insulation and other materials in the façade of tower blocks.
22. In addition to the work of the expert panel, the Department is engaging further with landlords and industry to examine what further steps can be taken to facilitate remedial action necessary to improve the fire safety of tower blocks.
23. We will report progress with this work on a regular basis.

Annex A

**ALUMINIUM COMPOSITE MATERIAL CLADDING SCREENING TEST  
METHODOLOGY**

1. This note describes the methodology employed for the tests of Aluminium Composite Material (ACM) cladding panels currently being undertaken by the Building Research Establishment on behalf of the Department for Communities and Local Government.
2. The Department received advice from a group of experts that three types of ACM panels were on the market (each with a different core material), and likely to have been used in recent works, and that the core of only one of these would satisfy the definition for a material of limited combustibility<sup>2</sup>, as would be necessary to satisfy the guidance for high-rise buildings (over 18m in height) in Approved Document B (Fire Safety) guidance (ADB).
3. Limited combustibility is a term used in the UK and defined in table A7 of ADB against both national and European standards. ADB notes that, for the purpose of ADB, a material that is classified as A2 in the relevant European test standard, EN 13501-1 (or the national standards also set out in table A7), would also be acceptable as a material of limited combustibility. While the surface of a panel may be classified as Class 0, this does not address whether the filler material in the core of the panel meets the definition of limited combustibility.
4. The Building Research Establishment (BRE) was asked to develop a screening test to determine which type of Aluminium Composite Material had been used in the cladding. The screening test is not stricter than those set out in the Approved document. It will show whether the core of the sample provided has flame retardant properties and this provides a high degree of certainty as to the type of panel that has been screened.
5. The equipment and procedures used in the screening tests are based on the BS EN ISO 1716:2010<sup>3</sup> test standard. As the purpose of this testing was to quickly and reliably screen the core material within the panel, the full procedures set out in the BS EN ISO 1716:2010 test standard have not been followed as they are unnecessary to determine which type of panel has been submitted for the screening test. These screening tests should not be confused with a formal classification test against this standard.

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<sup>2</sup> Material of limited combustibility is defined in table A7 of Approved Document B. This allows for products to be tested using the procedures given in BS 476-11:1982 or classified A2 using the procedures given in BS EN 13501-1:2007.

<sup>3</sup> The BS EN ISO 1716:2010 test standard is one of the suite of standards set out in BS EN 13501-1:2007 used to classify the reaction to fire performance of construction products.

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6. The result of the screening test indicates the performance achieved for the core material in terms of three categories which relate to the three types of ACM panel available:

- **Category 1** means that the result is in line with the definitions of materials of limited combustibility (defined in paragraph 3 above).
- **Category 2** means that the result does not achieve the definitions of category 1 but does have some limited flame retardant properties.
- **Category 3** means that the result does not achieve the definitions of materials of limited combustibility and has no flame retardant properties. Commonly, the core in this case comprises polyethylene without the addition of the flame retardants that enable achievement of the Category 2 result.

7. These categories were defined by calibrating the results of the screening test against samples of ACM filler with a known performance.

8. A specific report is being provided for the landlord for each sample tested, accompanied by advice on steps that may need to be taken. For material found to be in Categories 2 or 3, landlords have been requested to take action as set out in the advice note which the Department issued on 22 June, attached as Annex B to this document.

9. We are aware that some landlords have questioned whether an ACM panel's failure to meet the definitions for limited combustibility means in all cases that it is not compliant with the building regulations.

10. To ensure building regulations requirements have been met as regards external fire spread, Schedule 1 Section B4(1) of the Building Regulations 2010 requires that: "The external walls of the building shall adequately resist the spread of fire over the walls and from one building to another, having regard to the height, use and position of the building". Approved Document B (ADB) provides guidance on how to meet that requirement. For external wall construction, there are two ways under ADB to achieve this:

Option 1: Ensuring that each individual component of the wall meets the criteria for limited combustibility set out in the ADB paragraphs 12.5 to 12.9; or

Option 2: Ensuring the facade system has met the acceptance criteria in BR 135, in accordance with BS 8414.

11. To date we have not been provided with any evidence that the ACM panels in category 2 or 3 of the screening test have been shown to meet the BR135 Criteria. However, it may be possible for individual materials that do not meet the limited combustibility definitions to be used where they form part of a system that meets the requirements set out in Option 2 above. In order to determine if a specific cladding assembly meets the expected performance, building owners will need to seek

## **APPENDIX 8 - CORRESPONDENCE WITH DCLG**

specialist advice from a competent professional who specialises in the fire performance of cladding assemblies.

**David Sterling**  
**Head of the Civil Service**  
Room FD.34, Stormont Castle  
Stormont Estate, Belfast  
BT4 3TT, Northern Ireland  
Tel: 028 9037 8133  
E-mail: [hocs@executiveoffice-ni.gov.uk](mailto:hocs@executiveoffice-ni.gov.uk)

HCS-100-17

NICS Permanent Secretaries  
Council Chief Executives

**By email only**

3 July 2017

To who it may concern,

**URGENT: SAFETY CHECKS ON ACM CLADDING SYSTEMS ON HIGH RISE BUILDINGS**

As part of the actions in the aftermath of the Grenfell Tower Tragedy, the UK Government has commissioned all Government Departments in England to commission public sector estate safety checks on ACM cladding systems that may be in place on their high rise accommodation and on certain other buildings. This note is to commission similar action in respect of public sector buildings in Northern Ireland.

Background information and guidance is attached at Annex A: "Identification of buildings for testing of ACM and what to do if they fail".

Drawing on the information and guidance at Annex A, all NI Departments and Councils need immediately to take forward three actions:

- Identify whether any of your buildings and those in your Arm's Length Bodies have what is known as Aluminium Composite Material (ACM) cladding and whether they are in the first priority category shown.
- Send any ACM cladding samples for testing in accordance with the table at Annex A.
- Arrange for the survey at Annex C to be completed on each building where testing is necessary and returned to the contacts detailed in



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Annex B and are copied to [firesafetychecks@finance-ni.gov.uk](mailto:firesafetychecks@finance-ni.gov.uk) by noon on July 6.

In respect of the actions that test results and surveys may then require, Departments will be advised in due course.



**DAVID STERLING**  
Head of the Northern Ireland Civil Service

**Annex A – Identification of buildings for testing of ACM and what to do if they fail**

Aluminium Composite Material (ACM) is a type of flat panel that consists of two thin aluminium sheets bonded to a non-aluminium core, typically between 3 and 7mm thick. The panels can have a painted or metallic finish (eg copper or zinc effects). It can be differentiated from solid aluminium sheet by looking at a cut edge whereby the lamination is visible. It may be necessary to cut a hole in a panel if a cut edge is not readily accessible.

On buildings with a floor over 18m above ground level, where ACM panels are identified, it is necessary to establish whether the panels are of a type that complies with the Building Regulations guidance: i.e. the core material should be a material of limited combustibility or Class A2.<sup>1</sup>

If a building has ACM you should consult the table below which is based on Technical Booklet E and information received from DCLG.

<b>Trigger heights for investigation of ACM Cladding Systems</b>			
<b>Building Use</b>	<b>Overnight accommodation</b>	<b>Trigger Height/storey*</b>	<b>Test?</b>
Schools	Yes	Any height	Yes
	No	18 metres or more	Yes
Health care facilities (including Hospitals)	Yes	2 storeys or more	Yes
	No	18 metres or more	Yes
All other buildings	Yes	18 metres or more	Yes

*\* Height is measured from ground level at its lowest point to the upper surface of the top storey (excluding plant rooms)*

Please ensure that you communicate this to the relevant people in charge of the buildings in your wider sector and all of your ALBs which meet the criteria above and ask that they send samples off immediately. Any costs involved will fall to departments or their ALBs.

<sup>1</sup> 'Material of limited combustibility' is as described in paragraphs 1.9 and 1.10 of Technical Booklet E (Fire safety) October 2012 and includes materials of Class A2-s3, d2 or better in accordance with BS EN 13501-1.

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### **How to take a sample and send for testing**

Where the surveyor undertaking assessment of a composite panel determines that it is necessary for cladding to be subjected to laboratory screening they should follow this process:

1. Cut out two samples of at least 250x250mm in size from each location sampled. Take photographs as necessary to identify the location of the sample. You should take samples from above and below 18m above ground level as appropriate and check multiple panels where you have concern that material specification varies.
2. Using an indelible ink pen, note the building name / number, postcode and a unique identifier (i.e. initials of your organisation followed by unique sample number e.g. ABC/001) traceable to the specific location within the building of each sample. Add the name of the relevant organisation that manages the building and a direct dial telephone or mobile contact number to be used in the event that there are any queries on the sample.
3. You must make good by closing the hole using a non-combustible sheet such as steel fixed with self-tapping screws or rivets.
4. Complete the survey at Annex C and return to [ *the Executive Office* ] in an email headed "ACM: [ORGANISATION NAME]" You should provide as much information as is readily available, but not if this will delay submitting samples for testing.
5. Place one of the samples from each location in a padded envelope with a copy of the data return form (attached with this letter). Clearly mark the envelope URGENT – CLADDING TEST SAMPLE.
6. Send the test samples by recorded delivery or courier to:  
BRE  
Bucknalls Lane  
Garston  
Watford  
Herts, WD25 9XX
7. For any testing related queries please email [material.screening@bre.co.uk](mailto:material.screening@bre.co.uk)
8. Keep a second sample from each location for your records/in case samples are lost in transit.

### **What to do if a sample fails a test or you suspect that it will fail**

If it is determined that the insulation within Aluminium Composite Material (ACM)<sup>2</sup> is unlikely to be compliant with the requirements of the current Building Regulations guidance, it is essential that you **immediately** implement the following interim mitigating measures to ensure the safety of occupants, pending replacement of the cladding.

#### **Interim measures recommended by independent panel of experts**

Notify the Fire and Rescue Service. Inform your local fire and rescue service fire safety/ protection department. Failure to do so may put fire-fighters as well as occupants at risk. The fire and rescue service or the HSENI will carry out an urgent inspection with the 'responsible person' to ensure that they are identifying and introducing appropriate interim measures, as set out below. The fire service or the HSENI will carry out a further inspection once the interim measures have been completed:

- Check that the fire risk assessment has been carried out within the previous 12 months and that the recommendations within the action plan of the assessment have been completed; also, confirm that there have been no material changes (to the building, the fire safety measures or the occupancy) that could, potentially, undermine the validity of the fire risk assessment. If no fire risk assessment has been carried out, you must **immediately** arrange for a fire risk assessment to be carried out by a competent person (e.g. by a person who is listed on a register of fire risk assessors operated by a professional body or certification body, or, preferably, by a company that is certificated by a third party certification body, that is, itself, accredited by the United Kingdom Accreditation Service to operate the certification scheme).
- Ensure that occupants fully understand the emergency fire procedures in the building, particularly. Ensure that fire procedure notices are accurate.
- Check that, at ground level, or on any balconies, there are no combustible materials (eg storage of refuse) in the vicinity of the cladding. Ensure that there are measures to prevent combustible materials in such locations (e.g. by temporary barriers or instructions to occupants). Instruct occupants e.g. that they must not have any barbeques on any balcony.
- Check that all entrance doors, and doors that open onto escape corridors and stairways, are fire-resisting and effectively self-closing against any resistance of a

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<sup>2</sup> Paragraph 5.4, Construction of external walls of Technical Booklet E(Fire Safety), notes that "where a building has a storey the floor of which is 18m or more above ground level, any materials used for supporting cladding and **any insulation material** incorporated within the wall construction... should be a material of limited combustibility".

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latch (or, for example, in the case of plant rooms or cupboards, are kept locked shut.). For advice on these doors, consult with the Fire Safety Section or your competent person for fire safety. Replace any non-fire-resisting doors (such as non-fire-resisting upvc doors) immediately with doorsets (i.e. doors and frames) that are third party certificated as providing at least 30 minutes fire resistance.

- Check all walls that separate, plant and store rooms, etc. from escape routes to ensure there are no obvious routes for fire or smoke spread (e.g. holes where services, such as pipes and cables, pass through walls).
- Check that any smoke control systems, including associated fire detection systems, linked to the fire alarm system, are operating correctly.
- Check all facilities provided for fire-fighters, including fire-fighting lifts, fire hydrants and dry or wet rising mains. If you have **ANY** concerns you should contact your local fire and rescue service or HSENI, as appropriate, who will, if they have not already done so, carry out an inspection to ensure functionality.
- Ensure that there is sufficient roadway access and hardstanding for firefighting vehicles attending incidents and to be set up to fight any fire externally.
- Check that insulation or other materials that form the façade meet all relevant standards.
- If the building is protected by an automatic sprinkler system (or equivalent fire suppression system) you might not need to take any further interim measures before replacement of the cladding. Checks on water main feeds, sprinkler header or main tanks and in sprinkler pump houses, should be up-to-date and facilities operational.
- If the building is not protected by a suitable suppression system you must consider the need for interim measures. The measures adopted need to be based on an assessment of the risk by a competent person, but the following must, at least, be considered:
  - Closure of car parks in which a vehicle fire could impinge on cladding.
  - Provision of a temporary communal fire alarm system, comprising smoke detectors and breakglass fire alarm call points (if applicable) in circulation areas and plant rooms, and fire detectors (possibly heat detectors, rather than smoke detectors) in conjunction with fire alarm sounders in each flat (where relevant). This will enable all occupants to

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be evacuated simultaneously in the event of fire. This option is unlikely to be suitable for tall blocks, in which a large number of people would need to use escape routes at the same time. The system may comprise a wireless system, using radio to link devices.

- Provision of a fire watch by appropriately trained patrolling security officers/wardens.
- In the case of the most serious risk, consideration must be given to not using the block until satisfactory remedial work has been done.

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### Annex B GPU Survey Overview

You and your ALBs should complete the Building Information Checklist survey at Annex C. This should include details of your organisation and key contacts, and details of all buildings you identify as containing ACM and meet the following criteria:

<b>Trigger heights for investigation of ACM Cladding Systems</b>			
<b>Building Use</b>	<b>Overnight accommodation</b>	<b>Trigger Height/storey*</b>	<b>Test?</b>
Schools	Yes	Any height	Yes
	No	18 metres or more	Yes
Health care facilities (including Hospitals)	Yes	2 storeys or more	Yes
	No	18 metres or more	Yes
All other buildings	Yes	18 metres or more	Yes

*\* Height is measured from ground level at its lowest point to the upper surface of the top storey (excluding plant rooms)*

This has the advantages of:

- collecting key information and other details that we may need in coming weeks; and
- ensuring that the outcomes of tests from building samples are sent to the contact for the building, to you, to GPU and DCLG and are copied to [firesafetychecks@finance-ni.gov.uk](mailto:firesafetychecks@finance-ni.gov.uk).

The survey will enable each department to have their own overview and for the entire picture to be centrally monitored.

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### **Annex C - FORM TO BE USED FOR PUBLIC SECTOR ESTATE**

Please see attached Excel document.



**GOVERNMENT BUILDING SAFETY PROGRAMME – EXPLANATORY NOTE**

**Summary**

- Government is acting to support owners and residents of high rise buildings to ensure fire safety in the light of the Grenfell Tower tragedy.
- Landlords are engaging in a checking and testing process for Aluminium Composite Material cladding.
- The testing process is identifying whether the filler material in Aluminium Composite Material submitted for testing is of a type that would meet the limited combustibility requirements of current Building Regulations guidance.
- Landlords have been given advice on the immediate steps they should take and we encourage them to follow that advice.
- We have set up an expert panel to advise us on other urgent steps we should take to improve fire safety and will be issuing more advice imminently to clarify further steps landlords could take to inform their decisions on the cladding systems they have in place, and on checking insulation and other components of typical wall construction.
- We are engaging landlords and industry to examine what more can be done to support necessary remedial work.

**Introduction**

1. Immediately after the tragic fire at Grenfell Tower on 14 June, it was clear that the façade of that building had created risks to fire safety.
2. It was also clear that many local authorities and other landlords responsible for tower blocks were acting to check the fire safety of their buildings and reassure their tenants. The Government took immediate steps to conduct an audit of high-rise social housing tower blocks across the country, to ensure that any other similar risks were immediately identified and acted upon.
3. This note explains the checking and testing programme that has been set up and is now underway, and the wider steps that are being taken to ensure safety in all relevant buildings, in the light of the early test results. It explains:
  - i) The checking and testing process the Government has put in place to help landlords ensure the safety of residents and other occupants in high rise buildings and the actions landlords have been asked to follow.
  - ii) The immediate action that the Government has recommended to landlords and fire and rescue services in response to a test result.

## **APPENDIX 8 - CORRESPONDENCE WITH DCLG**

iii) The further action that is underway to support landlords and councils including working with suppliers to replace cladding and other materials where that is necessary.

4. The Government has been in close contact with local government, housing associations, other public and private sector landlords, fire and rescue services and a number of fire and building safety experts to work through the implications arising from the Grenfell Tower fire for other high rise buildings. It is also engaging wider industry bodies and organisations on next steps and would welcome comments or suggestions on the elements contained in this note. These should be directed to [housingchecks@communities.gsi.gov.uk](mailto:housingchecks@communities.gsi.gov.uk).

### **i) Checking and testing Aluminium Composite Material (ACM) cladding**

5. On Saturday 17th June, the Department for Communities and Local Government convened a group of technical experts to provide advice on the best immediate steps Government could take to help local authorities and other landlords address the fire safety concerns that tenants living in tower blocks similar to Grenfell Tower would undoubtedly have.

6. While it was too early for the full and exact reasons for the speed of the spread of the Grenfell Tower fire to be known, the experts agreed that, from the information available, additional tests should be undertaken urgently on Aluminium Composite Material cladding. On the advice of the experts, the Department wrote to local authority and housing association landlords on 18 June, asking them to

- identify all their residential tower blocks (properties over 18 metres in height<sup>1</sup>),
- identify those with aluminium type external cladding and inspect those to establish whether the panels were made of an Aluminium Composite Material, so that they could be submitted for testing through a process being established by the Department,
- provide a wider range of information about their tower blocks, and
- continue checking that they have robust fire assessments for their stock, drawing attention to the Local Government Association's comprehensive guidance, *Fire Safety in purpose-built blocks of flats*.

7. The Department wrote again to all social landlords on 19 June setting out the process they should follow to submit samples of ACM cladding to the Building Research Establishment for testing and the first samples were received and tested on Wednesday 22 June.

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<sup>1</sup> The height at which relevant and additional fire safety requirements are triggered in paragraph 12.7 of Building Regulations Fire Safety Approved Document B guidance.

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8. The Department has also extended this checking and testing approach to residential tower blocks owned by private landlords and to tall buildings in the public sector, including hospitals and schools.

9. We are aware that there has been some uncertainty about and criticism of the tests being applied to ACM panels at the Building Research Establishment. By the end of Thursday 29 June, 100% of the panels that had been tested did not have the limited combustibility required to meet building regulations guidance. With such a high failure rate, Government, landlords, residents and others naturally want to be sure that the tests are right and accurate.

10. The test was designed and put in place on the advice of the expert group to provide a quick and reliable way to help landlords identify the type of ACM cladding present on their buildings in order to take appropriate action. Annex A to this note sets out in more detail the testing process and how it relates to fire safety and the Building Regulations.

11. In summary, the Building Regulations guidance sets a requirement for external walls on all buildings not to allow fire spread. And it identifies the use of combustible materials in a cladding system – insulation product, filler materials, etc - as a risk to fire spread in tall buildings. The Department's view, supported by expert and legal advice, is that external walls in a tower block can meet the Building Regulations requirement for resisting fire spread in two ways, set out in more detail in Annex A.

- The first is for each individual component of the wall (insulation, filler, etc) to be of limited combustibility, and to each meet set standards for this.
- The second is to ensure that all the combined elements of a wall, when tested as whole system, have sufficient fire spread resistance to meet a set standard.

12. The tests being conducted at BRE are testing only whether the core or filler of ACM panel samples being submitted are of a type that would fail the limited combustibility test for an individual element of a wall in a tall building (the first of the requirements summarised above). It is possible, therefore, that ACM panels that have a core material that is not of limited combustibility, might be safe if installed as part of a whole wall system that meets the second test described above. We are not aware of any such systems having passed the necessary tests but have asked a newly established expert advisory panel to look into this further.

13. We are also aware that some ACM panels are accredited as having a 'Class 0' rating for the surface. But that, in the Department's view, supported by expert advice, is a rating for the surface only and does not cover the limited combustibility requirement for the core or filler material within an ACM panel.

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### **ii) Action landlords should take**

14. On 22 June, the Department wrote to all local authorities and housing associations with advice, drawn up by the group of experts we convened on 17 June, on the immediate steps they should take if it is assessed that they have buildings with ACM cladding of the type that would not meet limited combustibility requirements.

15. It includes engaging residents, seeking the support of the Local Fire and Rescue Service and undertaking urgent fire risk assessments, as well as checking physical fire safety measures (such as fire doors, smoke control systems and fire fighting facilities) and building construction components such as the integrity of walls that act to prevent fire spread and the safety of insulation and other materials in the façade of the building.

16. In particular, this advice also reflects emerging findings from the Grenfell Tower fire investigation in relation to the importance of fire doors and smoke extraction, accessibility to the base of tower blocks for fire fighting appliances, and checking insulation materials in the exterior facade.

17. We encourage all landlords with tower blocks with ACM cladding to act on this advice, repeated at Annex B of this note, to ensure the safety of residents.

### **iii) Further action underway**

18. Understandably, local authorities and other landlords want greater clarity on whether ACM panels on their tower blocks could be part of a wider, safe wall system despite having been identified as likely to fail the limited combustibility test for individual wall components. That is a matter which landlords should consider carefully, consulting the original specifications and designs for the cladding, the designers, engineers and contractors who carried out the work, and the building inspectors who certified it.

19. We want to support landlords in this position. So we have drawn together a panel of experts to advise us on further steps which could be taken to improve the safety of tower blocks in advance of further findings emerging from the Grenfell Tower fire investigation and the public inquiry. This panel of experts met for the first time on Thursday 29<sup>th</sup> June and agreed to consider urgently what further advice or testing could be provided to help landlords conclude whether cladding systems that included ACM panels could be regarded as sufficiently safe. We expect that further advice to be available next week to help landlords consider what further steps they should take.

20. Following its initial meeting on 29<sup>th</sup> June, the panel concluded that:

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"The tests that are currently being conducted are a screening test to identify which ACM panels are of concern. It tests the filler – the core of the panel – to check if it is of limited combustibility (category 1) or not (category 2 or 3). This is in line with the requirement of the Building Regulations guidance. The filler is one element of the overall cladding system.

If the panel core fails the test we would expect the landlord to take the recommended interim fire safety measures issued on 22<sup>nd</sup> June.

Early next week the Expert Panel will consider whether these panels can be used safely as part of a wider building external wall system, and therefore could remain on a building under certain approved circumstances. If, in the meantime, a landlord chooses to take down and replace cladding, care should be taken to consider the impact that removal may have on the other wall elements, especially insulation, and therefore on the overall fire integrity of the building as well as other Building Regulation requirements."

21. The expert panel have also been asked to consider whether there is any further practical advice or support that could be offered to landlords to help them check the fire safety of insulation and other materials in the façade of tower blocks.
22. In addition to the work of the expert panel, the Department is engaging further with landlords and industry to examine what further steps can be taken to facilitate remedial action necessary to improve the fire safety of tower blocks.
23. We will report progress with this work on a regular basis.

Annex A

**ALUMINIUM COMPOSITE MATERIAL CLADDING SCREENING TEST  
METHODOLOGY**

1. This note describes the methodology employed for the tests of Aluminium Composite Material (ACM) cladding panels currently being undertaken by the Building Research Establishment on behalf of the Department for Communities and Local Government.
2. The Department received advice from a group of experts that three types of ACM panels were on the market (each with a different core material), and likely to have been used in recent works, and that the core of only one of these would satisfy the definition for a material of limited combustibility<sup>2</sup>, as would be necessary to satisfy the guidance for high-rise buildings (over 18m in height) in Approved Document B (Fire Safety) guidance (ADB).
3. Limited combustibility is a term used in the UK and defined in table A7 of ADB against both national and European standards. ADB notes that, for the purpose of ADB, a material that is classified as A2 in the relevant European test standard, EN 13501-1 (or the national standards also set out in table A7), would also be acceptable as a material of limited combustibility. While the surface of a panel may be classified as Class 0, this does not address whether the filler material in the core of the panel meets the definition of limited combustibility.
4. The Building Research Establishment (BRE) was asked to develop a screening test to determine which type of Aluminium Composite Material had been used in the cladding. The screening test is not stricter than those set out in the Approved document. It will show whether the core of the sample provided has flame retardant properties and this provides a high degree of certainty as to the type of panel that has been screened.
5. The equipment and procedures used in the screening tests are based on the BS EN ISO 1716:2010<sup>3</sup> test standard. As the purpose of this testing was to quickly and reliably screen the core material within the panel, the full procedures set out in the BS EN ISO 1716:2010 test standard have not been followed as they are unnecessary to determine which type of panel has been submitted for the screening test. These screening tests should not be confused with a formal classification test against this standard.

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<sup>2</sup> Material of limited combustibility is defined in table A7 of Approved Document B. This allows for products to be tested using the procedures given in BS 476-11:1982 or classified A2 using the procedures given in BS EN 13501-1:2007.

<sup>3</sup> The BS EN ISO 1716:2010 test standard is one of the suite of standards set out in BS EN 13501-1:2007 used to classify the reaction to fire performance of construction products.

## **APPENDIX 8 - CORRESPONDENCE WITH DCLG**

6. The result of the screening test indicates the performance achieved for the core material in terms of three categories which relate to the three types of ACM panel available:

- **Category 1** means that the result is in line with the definitions of materials of limited combustibility (defined in paragraph 3 above).
- **Category 2** means that the result does not achieve the definitions of category 1 but does have some limited flame retardant properties.
- **Category 3** means that the result does not achieve the definitions of materials of limited combustibility and has no flame retardant properties. Commonly, the core in this case comprises polyethylene without the addition of the flame retardants that enable achievement of the Category 2 result.

7. These categories were defined by calibrating the results of the screening test against samples of ACM filler with a known performance.

8. A specific report is being provided for the landlord for each sample tested, accompanied by advice on steps that may need to be taken. For material found to be in Categories 2 or 3, landlords have been requested to take action as set out in the advice note which the Department issued on 22 June, attached as Annex B to this document.

9. We are aware that some landlords have questioned whether an ACM panel's failure to meet the definitions for limited combustibility means in all cases that it is not compliant with the building regulations.

10. To ensure building regulations requirements have been met as regards external fire spread, Schedule 1 Section B4(1) of the Building Regulations 2010 requires that: "The external walls of the building shall adequately resist the spread of fire over the walls and from one building to another, having regard to the height, use and position of the building". Approved Document B (ADB) provides guidance on how to meet that requirement. For external wall construction, there are two ways under ADB to achieve this:

Option 1: Ensuring that each individual component of the wall meets the criteria for limited combustibility set out in the ADB paragraphs 12.5 to 12.9; or

Option 2: Ensuring the facade system has met the acceptance criteria in BR 135, in accordance with BS 8414.

11. To date we have not been provided with any evidence that the ACM panels in category 2 or 3 of the screening test have been shown to meet the BR135 Criteria. However, it may be possible for individual materials that do not meet the limited combustibility definitions to be used where they form part of a system that meets the requirements set out in Option 2 above. In order to determine if a specific cladding assembly meets the expected performance, building owners will need to seek

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specialist advice from a competent professional who specialises in the fire performance of cladding assemblies.



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### Annex B

#### **EMERGENCY FIRE SAFETY REVIEW**

If it is determined that the insulation within Aluminium Composite Material (ACM)<sup>4</sup> is unlikely to be compliant with the requirements of the current Building Regulations guidance, it is essential that you **immediately** implement the following interim mitigating measures to ensure the safety of residents, pending replacement of the cladding.

#### **Interim measures recommended by independent panel of experts**

Notify Fire and Rescue Service.

Inform your local fire and rescue service fire safety/protection department. Failure to do so may put fire-fighters as well as residents at risk. The fire and rescue service will carry out an urgent inspection with the 'responsible person' to ensure that they are identifying and introducing appropriate interim measures, as set out below. The fire service will carry out a further inspection once the interim measures have been completed:

- Check that the fire risk assessment has been carried out within the previous 12 months and that the recommendations within the action plan of the assessment have been completed; also, confirm that there have been no material changes (to the building, the fire safety measures or the occupancy) that could, potentially, undermine the validity of the fire risk assessment. If no fire risk assessment has been carried out, you must **immediately** arrange for a fire risk assessment to be carried out by a competent person (eg by a person who is listed on a register of fire risk assessors operated by a professional body or certification body, or, preferably, by a company that is certificated by a third party certification body, that is, itself, accredited by the United Kingdom Accreditation Service to operate the certification scheme). Guidance on choosing a competent assessor is here <http://www.cfoa.org.uk/19532>
- Engage with residents to ensure they fully understand the emergency fire procedures in the building, particularly the meaning of "stay put". Ensure that fire procedure notices are accurate.
- Check that, at ground level, or on any balconies, there are no combustible materials (eg storage of refuse) in the vicinity of the cladding. Ensure that there are measures to prevent combustible materials in such locations (eg by

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<sup>4</sup> For the avoidance of doubt; the core (filler) within an Aluminium Composite Material (ACM) is an "insulation material/product", "insulation product", and/or "filler material" as referred to in Paragraph 12.7 ("Insulation Materials/Products") in Section 12 "Construction of external walls" of Approved Document B (Fire safety) Volume 2 Buildings other than dwelling houses. (The important point to note is that Paragraph 12.7 does not just apply to thermal insulation within the wall construction, but applies to any element of the cladding system, including, therefore, the core of the ACM).

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temporary barriers or instructions to residents). Instruct residents that they must not have any barbeques on any balcony.

- Check that all flat entrance doors, and doors that open onto escape corridors and stairways, are fire-resisting and effectively self-closing against any resistance of a latch (or, for example, in the case of plant rooms or cupboards, are kept locked shut.) For guidance on these doors, consult the Local Government Association guidance on fire safety in purpose-built blocks of flats - <https://www.local.gov.uk/fire-safety-purpose-built-flats> - but, in general, doors that were deemed to be fire-resisting at the time of construction of the block will be satisfactory. Replace any non-fire-resisting doors (such as non-fire-resisting upvc doors) immediately with doorsets (i.e. doors and frames) that are third party certificated as providing at least 30 minutes fire resistance.
- Check all walls that separate flats, plant and store rooms, etc from escape routes to ensure there are no obvious routes for fire or smoke spread (eg, holes where services, such as pipes and cables, pass through walls).
- Check that any smoke control systems, including associated fire detection systems, are operating correctly.
- Check all facilities provided for fire-fighters, including fire-fighting lifts and dry or wet rising mains. If you have **ANY** concerns you should contact your local fire and rescue service, who will, if they have not already done so, carry out an inspection to ensure functionality.
- Ensure that there is sufficient roadway access and hardstanding for firefighting vehicles attending incidents and to be set up to fight any fire externally.
- Check that insulation or other materials that form the façade meet all relevant standards.

If the building is protected by an automatic sprinkler system (or equivalent fire suppression system) you might not need to take any further interim measures before replacement of the cladding.

If the building is not protected by a suitable suppression system you must consider the need for interim measures. The measures adopted need to be based on an assessment of the risk by a competent person, but the following must, at least, be considered:

- Residents to be advised to ensure all smoke alarms are present and working in their flat; to report concerns about fire safety measures in the building (eg

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presence of combustible materials in escape routes) to their landlord and, understand the purpose of any interim measures begin taken.

- Closure of car parks in which a vehicle fire could impinge on cladding.
- Provision of a temporary communal fire alarm system, comprising smoke detectors in circulation areas and plant rooms, and fire detectors (possibly heat detectors, rather than smoke detectors) in conjunction with fire alarm sounders in each flat. This will enable the entire block to be evacuated simultaneously in the event of fire. This option is unlikely to be suitable for tall blocks, in which a large number of people would need to use escape routes at the same time. The system may comprise a wireless system, using radio to link devices.
- Provision of a fire watch by appropriately trained patrolling security officers/wardens.
- In the case of the most serious risk, consideration must be given to moving all residents out of the block until satisfactory remedial work has been done.



Department for  
Communities and  
Local Government

13 July 2017

## **RECLADDING OF TALL BUILDINGS**

The purpose of this Circular Letter is to:

- draw attention to the likely issues which will arise when building owners carry out recladding work on tall buildings (above 18m in height); and
- make building control bodies aware of the guidance which the Department has provided to building owners following the Grenfell Tower fire

This Circular does not give advice on the technical requirements in the Building Regulations as these are matters covered by Approved Documents.

### ***Scope of this Circular Letter***

The guidance in this Circular Letter applies to buildings and building work in England, and also to excepted energy buildings in Wales.<sup>1</sup>

### ***Introduction***

If building owners consider that they need to re-clad their building, for example following the results of the screening test, this is very likely to be building work as defined in regulations 3 and 23 of the Building Regulations 2010 and therefore subject to Building Regulations' requirements, in particular those relating to: structure (Schedule 1, Part A); fire safety (Part B); site preparation and resistance to contaminants and moisture (Part C); and conservation of fuel and power (Part L).

Materials and workmanship must also comply with Regulation 7.

This note flags common issues for building control bodies to consider when reviewing building regulation applications for cladding work.

The Department has provided advice for building owners on building safety matters which can be found at the links below:

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<sup>1</sup> Excepted energy buildings are defined in the schedule to the Welsh Ministers (Transfer of Functions) (No.2) Order 2009 (S.I. 2009/3019)

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<https://www.gov.uk/government/publications/safety-checks-following-the-grenfell-tower-fire-22-june-2017>

<https://www.gov.uk/government/publications/explanatory-note-on-safety-checks-and-testing>

### ***Replacing individual or sample panels***

In assessing the safety of the cladding system it may be necessary to remove isolated panels either to reveal the construction build up or for testing purposes. In doing so, care should be taken not to create conditions which may worsen the integrity of the cladding system. This could include exposing insulation or other materials to rain which can affect structural integrity and water tightness, or leaving material exposed which could reduce fire performance.

Where sample panels are removed, they should be replaced immediately with a suitable material which ensures continued compliance with all the applicable Parts of Schedule 1 to the Building Regulations including Approved Document B guidance.

### ***Structural safety***

Replacement cladding may be heavier than the existing system and cladding panels, or insulation materials may have a lower resistance to fixings pulling through than the original panels. For example, replacement insulation may be heavier, particularly if it can absorb water (e.g. from rain during installation or rain penetration through the outer cladding). In addition, removal of the original panels may damage fixings, the fixing system or the building substrate.

If fixings or a fixing system is to be reused, the original design and suitability for the new application should be checked. This should also include an assessment of resistance to wind loads. It should not be assumed that the original specification of fixings was adequate as there is always a risk that the original system was not designed or installed correctly. Fixings should take account of the condition of the building substrate and performance in a fire.

Guidance on wall cladding is given in Section 3 of Approved Document A *Structure*. This references other industry guidance which building owners and building control bodies may find useful.

### ***Fire safety***

The requirements of Part B will apply in respect of recladding and guidance in paragraphs 12.5 to 12.9 of approved Document B applies. In particular;

- External surfaces should meet the performance set out in Diagram 40,
- Each element of the cladding system including any insulation product, filler material etc. should be of limited combustibility (as defined in table A7 – eg Class A2 to BS EN 13501-1).
- Cavity barriers should be provided to close the edges of cavities, around openings, and in line with every compartment floor and wall.

## **APPENDIX 8 - CORRESPONDENCE WITH DCLG**

Or alternatively:

- Cladding systems (including any necessary compartmentation and cavity barriers) shown to meet the performance criteria in BR 135 using full scale test data from BS 8414 -1 or -2 as appropriate will be acceptable.

Where directly applicable BS8414 test data is not available and a proposal for cladding or re-cladding a building includes, as an alternative to compliance with 12.6-12.9 of AD B, an assessment of performance for a system this should be checked rigorously. Guidance in this respect is available in "Guide to Undertaking Assessments In Lieu Of Fire Test" published by the passive fire protection federation:

[http://pfpf.org/pdf/publications/guide\\_to\\_uailoft.pdf](http://pfpf.org/pdf/publications/guide_to_uailoft.pdf)

Further information is available in BRE report BR135 and in Building control Alliance (BCA) Guidance Note 18.

### ***Moisture***

The building structure, insulation and cladding should be designed and installed to minimize risks from moisture. This includes ensuring that alterations to the cladding system protect the structure and substructure from rain penetration, and particular attention should be paid to coping, flashing and drainage details to ensure that insulation material is not at risk of becoming wet and that structural materials are not at risk of rot or corrosion.

Consideration also needs to be given to the risk of interstitial condensation (condensation within the wall/cladding structure) which can result from a change in fabric performance where alternative materials (particularly insulation) are substituted. Guidance is given in Approved Document C, BRE Report 262 *Thermal insulation: avoiding risks* and BS 5250 *Code of practice for the control of condensation in buildings*.

Cladding and insulation can make a building more airtight and so reduce the amount of ventilation inside the building. This can potentially lead to condensation, mould growth and ill health. Additional ventilation may be needed and guidance on this is given in Approved Document F.

### ***Conservation of heat and power***

Where an external wall, roof or (ground) floor) is being renovated, Regulation 23 of the Building Regulations 2010 requires it to meet minimum energy efficiency standards where that is technically, functionally and economically feasible. ADL1B provides guidance and examples on what may be considered technically, functionally and economically feasible.

### ***Building control process***

Building control Bodies are reminded that depending on the nature and extent of works to be undertaken Fire and Rescue Services should be appropriately consulted.

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### ***Planning requirements***

The replacement or alteration of cladding may require planning permission. The local planning authority will be able to advise on the need for planning permission associated with any work and should be contacted at the earliest opportunity.

### ***Enquiries***

Any enquiries on this Circular Letter should be addressed to:

[towercaseworkteam@communities.gsi.gov.uk](mailto:towercaseworkteam@communities.gsi.gov.uk)

Yours faithfully

Bob Ledsome.

**Bob Ledsome**  
Deputy Director  
Building Regulations and Energy Performance Division

## APPENDIX 8 - CORRESPONDENCE WITH DCLG



To: Chief Executives of -

- District Councils,
- Northern Ireland Housing Executive,
- Housing Associations,
- Construction Professional and Trade Bodies

Properties Division  
Enterprise Shared Services  
Northland House  
3-5a Fredrick Street  
Belfast BT1 2NR  
Date: 27/09/2017  
Tel: 028 9025 7048  
info.bru@finance-ni.gov.uk

Dear Sir/Madam

### **INFORMATION NOTE: CLADDING OR RE-CLADDING OF BUILDINGS.**

I am writing to draw your attention to a new Information Note available on the Department's website <https://www.finance-ni.gov.uk/articles/information-notes-0> and to highlight this to your members/relevant staff.

The purpose of this latest Information Note is to flag common building regulations issues to consider when reviewing cladding work, or where cladding systems are to be installed, renewed or replaced, particularly on tall buildings.

The note has been developed in light of recent concerns raised around issues of external fire spread and wind loading on cladding and external wall insulation systems, in particular.

Queries on any particular applications or buildings should be addressed to the relevant District Council Building Control Office.

Regards



JOHN NEELY  
Head of Building Standards Branch



September 2017

## **BUILDING REGULATIONS**

### **CLADDING OR RE-CLADDING OF BUILDINGS**

#### **BACKGROUND**

Following the Grenfell tower fire, building designers and installers are likely to be paying particular attention to cladding of buildings. Building owners may also be reviewing existing cladding on their buildings with support from building professionals.

Further information on testing of Aluminium Composite Materials and the UK government's building safety programme can be found at [www.gov.uk/guidance/building-safety-programme](http://www.gov.uk/guidance/building-safety-programme).

A separate recent investigation has re-emphasised the need to properly assess wind design calculations for cladding systems, particularly for high rise buildings and buildings in exposed locations. This follows investigations into recent incidents of failure in the UK.

#### **PURPOSE**

The purpose of this Information Note is to flag common building regulations issues to consider when reviewing cladding work or where cladding systems are to be renewed or replaced, particularly on tall buildings (e.g. above 18 m in height).

This note does not give advice on the technical requirements in the Building Regulations as these are matters covered by Technical Booklets (TBs).

#### **REPLACING INDIVIDUAL OR SAMPLE PANELS**

In assessing the safety of an existing cladding or external wall insulation (EWI) system, it may be necessary to remove isolated panels either to reveal the construction build up or for testing purposes. In doing so, care should be taken not to create conditions which may worsen the integrity of the cladding system. This could include exposing insulation or other materials to rain which can affect structural integrity and water tightness, or leaving material exposed which could reduce fire performance.

Where sample panels are removed, they should be replaced immediately with a suitable material which ensures continued compliance with all the applicable Parts of the Building Regulations.

### **CLADDING OR RE-CLADDING OF BUILDINGS**

If a cladding system is proposed or if building owners consider that they need to re-clad their building, this is very likely to be building work as defined in regulation 2 of the Building Regulations (Northern Ireland) 2012 (as amended) and therefore subject to all relevant requirements of Building Regulations, in particular those relating to: Materials and workmanship (Part B), Site preparation and resistance to contaminants and moisture (Part C), Structure (Part D), Fire safety (Part E), Conservation of fuel and power (Part F) and Ventilation (Part K).<sup>1</sup>

#### **Moisture and ventilation**

The building structure, insulation and cladding should be designed and installed to minimise risks from moisture. This includes ensuring that alterations to the cladding system protect the structure and substructure from rain penetration. Particular attention should be paid to coping, flashing and drainage details to ensure that insulation material is not at risk of becoming wet and that structural materials are not at risk of rot or corrosion.

Consideration also needs to be given to the risk of interstitial condensation (condensation within the wall/cladding structure) which can result from a change in fabric performance where alternative materials (particularly insulation) are substituted. Guidance is given in Technical Booklet C, *BRE Report 262 Thermal insulation: avoiding risks* and *BS 5250 Code of practice for the control of condensation in buildings*.

Cladding and insulation can make a building more airtight and so reduce the amount of ventilation inside the building. This can potentially lead to condensation, mould growth and ill health. Additional ventilation may be needed and guidance on this is given in Technical Booklet K.

#### **Structural safety**

##### **Regulation 30 (Stability)**

Regulation 30 in Part D (Structure) of the Building Regulations requires that buildings shall be designed and constructed so that combined dead, imposed and wind loads are sustained and transmitted to the ground safely. If followed, the relevant design codes and standards provided in Section 2 of Technical Booklet D should normally demonstrate compliance with the requirements of regulation 30 for common building situations.

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<sup>1</sup> Other parts, such as Part V (Glazing) and Part H (Stairs, ramps, guarding and protection from impact), may be relevant where glazing is used, or depending on the location of the cladding.

## **APPENDIX 8 - CORRESPONDENCE WITH DCLG**

### **Wind loading calculations and structural design of cladding systems**

Concerns have been raised about potentially inadequate consideration of wind load and structural design calculations. Inadequate calculations could result in external wall insulation EWI/cladding systems failing due to high wind loads which, on high rise and exposed buildings in particular, gives rise to life safety risks.

Design standards for wind loading calculations are referenced in paragraph 2.2 of Technical Booklet D as BS EN 1991-1-4 2005<sup>2</sup>. Paragraph 2.12 also recognises the withdrawn/superseded BS 6399 Part 2 1997 as an alternative code, however this is only appropriate '*where a designer can demonstrate the appropriate use of this withdrawn standard in the circumstances of the building work*'.<sup>3</sup> In most cases the appropriate code will be cited in a current product Agrément Certificate or manufacturer's information for the proposed system.

It is therefore important to consider carefully how wind loadings have been factored into the structural design of cladding systems. The following can be important factors in the assessment of structural design by those responsible for designing and installing the system.

- The design system is demonstrated to be capable of resisting the calculated wind loading.
- Insulation to render bond strength is adequately considered in render systems.
- Design pull-through values are considered and used appropriately.
- Fixing numbers/pattern are correctly specified and defined.
- Design pull out value is correctly calculated at all levels of the building.
- The correct safety factors are applied as set out in relation to the specific system being used.
- The methodology for installation and design is clearly expressed.
- Sufficient detail of the building and its site context is available.
- Sufficient data is available to enable a detailed assessment to be carried out.
- Consideration is given to the need for a detailed site survey to be undertaken including specific pull out and/or adhesion tests.
- Wind pressures zones on the building are adequately described.
- Care is taken to avoid calculation errors resulting in over engineering of the system (which can cause failure e.g. where pull out zones overlap).

Failure to properly take into account each of these factors can mean that the safety factors used during calculation and design to meet anticipated wind loads can be significantly eroded or, in some cases, reduced to zero. Where safety factors are marginalized, only a perfectly installed system will be likely to resist predictable peak wind loads.

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<sup>2</sup> To be read in conjunction with the associated UK National Annex and BS EN 1990

<sup>3</sup> Refer to paragraph 2.11 Technical Booklet D

## **APPENDIX 8 - CORRESPONDENCE WITH DCLG**

This leads to an increased risk of render systems (or any type of cladding) delaminating or falling from the building. Debris falling from height could pose a substantial risk to life.

It is therefore particularly important that -

1. Design calculations are undertaken by a competent designer in accordance with Technical Booklet D guidance. BS EN 1991-1-4<sup>4</sup> (or alternatively BS 6399 Part 2, where deemed appropriate) is particularly important in relation to wind loading.
2. Fixing designs should conform with a relevant European Technical Approval (ETA) or a relevant British Standard (e.g. BS 8539 2012).
3. The structural design of cladding systems is rigorously checked by a suitably qualified person.
4. The specific site conditions and nature of the building are fully understood and factored into calculations.
5. Where necessary, site tests are undertaken to assess design pull out and adhesion strength underpinning design assumptions.
6. There is adequate site supervision and inspection to ensure that the system is installed in line with the system design.

### **Replacement cladding elements**

In some circumstances remedial measures may be proposed, due to concerns about existing cladding. Replacement cladding may be heavier than the existing system and cladding panels, or insulation materials, may have a lower resistance to fixings pulling through than the original panels. For example, replacement insulation may be heavier, particularly if it can absorb water (e.g. from rain during installation or rain penetration through the outer cladding). In addition, removal of the original panels may damage fixings, the fixing system or the building substrate.

If fixings or a fixing system is to be reused, the original design and the suitability for the new application should be checked. This should include an assessment of resistance to wind loads, as above. It should not be assumed that the original fixing system remains adequate as there is always a risk that the original system was not designed or installed correctly. The fixing system should take account of the condition of the building substrate and performance in a fire.

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<sup>4</sup> To be read in conjunction with the associated UK National Annex and BS EN 1990

### **Fire safety**

The requirements of Part E will apply in respect of cladding/re-cladding and guidance in paragraphs 4.36 and 5.1 to 5.4<sup>5</sup> of Technical Booklet E is particularly relevant. This notes that;

- Cavity barriers should be provided in line with paragraph 4.36 to 4.43 to close the edges of cavities, around openings, and in line with every compartment floor and wall.
- External surfaces should meet the performance set out in Diagram 5.1.
- Where the building has a storey the floor of which is 18 m or more above ground level, any materials used for supporting cladding and any insulation material incorporated within the wall construction should be of limited combustibility (as defined in paragraphs 1.9 and 1.10 of Technical Booklet E - e.g. Class A2 to BS EN 13501-1).

### **Alternatives to the guidance in Technical Booklet E.**

- Compliance via a BR 135:2003/2013 and full scale test data from BS 8414 - 1 or - 2 is not offered as an alternative solution in Technical Booklet E unlike the guidance in other regions of the UK. However, cladding systems (including any necessary compartmentation and cavity barriers) shown to meet all the performance criteria by this alternative solution may be acceptable, provided suitable consideration has been given to all aspects of the test performance report and the particular circumstances of use in the building; or
- Where directly applicable BS 8414 test data is not available and a proposal for cladding or re-cladding a building includes, as an alternative to compliance with Technical Booklet E, an assessment of performance for a system, this should be checked rigorously. Guidance in this respect is available in *Guide to Undertaking Assessments In Lieu Of Fire Test* published by the Passive Fire Protection Federation:

[http://pfpf.org/pdf/publications/guide\\_to\\_uailoft.pdf](http://pfpf.org/pdf/publications/guide_to_uailoft.pdf)

Further information is available in BRE report BR 135 (2003 or 2013) and in *Building Control Alliance (BCA) Technical Guidance Note 18: Use of Combustible Cladding Materials on Buildings Exceeding 18 m in Height*.

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<sup>5</sup> A reference is made to BR 135:1988 in paragraph 5.4 of Technical Booklet E. This is for advice only as opposed to guidance required to be adhered with if following the solution of TBE. Updated advice incorporating performance criteria to the full scale test of BS8414-1 or -2 is available in BR 135:2003 or BR 135:2013 and may be more useful.

### **Conservation of fuel and power**

Where an external wall, roof or (ground) floor is being renovated, regulation 43 of the Building Regulations (Northern Ireland) 2012 (as amended) requires it to meet minimum energy efficiency standards where that is technically, functionally and economically feasible. Technical Booklets F1 and F2 provide guidance and examples on what may be considered technically, functionally and economically feasible.

### **OTHER STATUTORY PROCESSES**

Depending on the nature and extent of works to be undertaken other statutory processes may be affected and require consideration.

Fire and rescue services should be appropriately consulted.

Planning permission may be required (further advice can be found at [www.nidirect.gov.uk/articles/planning-permission-when-to-apply](http://www.nidirect.gov.uk/articles/planning-permission-when-to-apply)).

### Advice for building owners: External Wall Insulation (EWI) systems with a render or brick-slip finish

This Advice Note is for the attention of anyone responsible for the maintenance of a building with External Wall Insulation (EWI) systems with either a render or brick-slip finish, particularly those over 18m tall or in an exposed location.

It has been developed in consultation with DCLG's Independent Expert Advisory Panel and the Standing Committee on Structural Safety (SCOSS).

1. It has been brought to the attention of DCLG that External Wall Insulation (EWI) systems with either a render or brick-slip finish may in some circumstances be vulnerable to deterioration, resulting in parts of the EWI system falling from buildings.
2. We are not aware of any injuries arising from these concerns but building owners should note the following information and take appropriate action to ensure the safety of their building. There is no suggestion that the overall structural safety of these buildings is compromised.

#### Summary

3. All EWI systems need to be designed to resist pressure from predicted wind loads in the location and at the height that they are installed. The fixing system of the EWI system must be adequately designed to deal with predicted loads, including the weight of the system itself. Guidance on how to achieve this is provided in paragraphs 3.3-3.8 of Approved Document A *Structure* of the Building Regulations [www.gov.uk/government/collections/approved-documents](http://www.gov.uk/government/collections/approved-documents). This includes undertaking suitable design calculations.
4. Design calculations for EWI systems typically include safety factors to ensure that even where an installation is not perfect, or in the event that unusual circumstances occur (such as high winds), the system will remain safe. This information should be available from system manufacturers. However, evidence submitted to Government suggests that in some circumstances these safety factors are being eroded by inadequate design (structural calculation methodologies) and / or poor installation.
5. Where inadequate design and / or installation reduces safety factors, EWI systems are more vulnerable to: damage from high wind speeds; other installation defects such as poor water-tightness (which can lead to insulation becoming water-logged and heavier as a result); and variations in the design and installation quality of mechanical or adhesive fixings. These potential defects increase the risk of the EWI system becoming detached from the building and falling from height. This in turn poses risks to life safety. With

render or brick-slip EWI systems there is a heightened risk of the render or brick-slip layer detaching from the insulation underneath where these defects are present.

6. We are aware of a small number of instances where inadequate design and / or inadequate installation has resulted in parts of EWI systems falling from tall buildings. Building owners should therefore consider the actions listed below.

### Which buildings could be affected?

7. It is good practice to periodically check the condition of any EWI system (see note **Annex A**) on any building of any height and all building owners should consider the need to undertake such checks as part of their regular maintenance and management plan.
8. Due to the nature of the problems that have been identified, this advice is particularly relevant for tall buildings subject to high wind loading due to high wind speeds. Specifically this advice should be followed if you own a building which has an EWI system, particularly if it is over 18m tall or in an exposed location.
9. If not undertaken recently, building owners should consider an immediate audit or review of the buildings for which they are responsible to identify their height, construction, location and wind exposure. It is likely that you will need to seek expert advice from a suitably qualified person such as a Chartered Structural Engineer or Chartered Building Surveyor. A link to the relevant section of the Institute of Structural Engineers and Royal Institution of Chartered Surveyors (RICS) websites are provided below:  
[www.istructe.org/finding-a-structural-engineer/notice-to-building-owners](http://www.istructe.org/finding-a-structural-engineer/notice-to-building-owners)  
[www.ricsfirms.com](http://www.ricsfirms.com)
10. There is no prescribed definition of an exposed location but typically this would include buildings in an elevated or hill-top location, sea side locations, areas where the surrounding terrain will not provide sheltering from wind, or a combination of these factors. In dense cities, funnelling will need to be considered, which could increase the wind effect.

### New External Wall Insulation installations

11. In order to ensure risks are mitigated in future installation the Government has written to all Building Control Bodies and all certification schemes for EWI systems to highlight the need to ensure adequacy of structural design and installation in accordance with the requirements of the Building Regulations – the relevant circular letter can be found at the link below:  
[www.gov.uk/government/publications/wind-loading-calculation-for-cladding](http://www.gov.uk/government/publications/wind-loading-calculation-for-cladding)



### Existing External Wall Insulation system with a render or brick-slip finish

12. Steps also need to be taken to assess existing installations. It is recommended that for relevant buildings, assessment should be undertaken to reassure building owners of the structural integrity of their EWI systems. Visual condition inspections may still be advisable for owners of buildings of any height with an EWI system (see below).
13. In general, the key steps for building owners are as follows (further guidance is provided at Annex A), however building owners should also take their own professional advice:
  - Undertake a visual recorded survey of EWI system condition, including checking that waterproofing is adequate and that the system is not absorbing moisture (which can increase risk of structural failure). EWI systems are likely to fail gradually rather than catastrophically, meaning that ongoing visual inspection will also be important in identifying any at risk EWI systems in the longer term.
  - Obtain design records, construction details, structural calculations, specifications, system certification for the EWI system, and appoint suitable expert advisors to assess the adequacy of the design and installation.
  - On the basis of both of the above, establish what further non-invasive or invasive investigations are needed to confirm that the EWI system is installed in a way which can safely resist all likely actions, including wind-loads and dead loads.
  - If necessary, commission remedial work to address inadequacies in the design or installation of the EWI system. Also consider mitigating measures to protect people moving around the outside of the building until remedial work is complete.
  - Consider what ongoing inspection regime is advisable.
14. Government is working with the Independent Expert Advisory Panel and the Standing Committee on Structural Safety (SCOSS) and in co-ordination with the devolved administrations to assess whether further guidance on the structural design, installation and maintenance of EWI systems is necessary.

### Maintenance and alterations

15. Building owners with an EWI system with a render or brick-slip finish also need to review procedures for making alterations or additions to walls where this involves fixing to or making holes in the surface. Maintenance manuals for EWI systems should provide further detail on specific considerations in relation to each type of system.
16. In general, wherever work is undertaken, care must be taken to ensure that fixings or penetrations (such as fixings for a satellite dish, hanging basket,

## **APPENDIX 8 - CORRESPONDENCE WITH DCLG**

washing line or penetrations for cables or pipes) are sealed with a durable finish and do not permit water to enter into the EWI system.

### **Next steps**

17. We have written to all local authorities and housing associations. We will also write to organisations representing private sector building owners. Local authorities should also consider circulating this advice to other tall building owners in their area.
18. Where building owners identify that their building may have inadequate design or poor installation of EWI systems, they are invited to contact the tower case work team [towercaseworkteam@communities.gsi.gov.uk](mailto:towercaseworkteam@communities.gsi.gov.uk) so that the issues can be logged.

### **Annex A: Visual inspection and condition survey of External Wall Insulation (EWI) systems with a render or brick-slip finish**

1. This annex provides initial advice on considerations in undertaking a visual condition survey of External Wall Insulation (EWI) systems with a render or brick-slip finish. This guidance is not comprehensive, and you should consider seeking expert professional advice from a suitably qualified professional such as a Chartered Structural or Façade Engineer, or Chartered Building Surveyor.

#### What is a visual condition survey? How is this done?

2. A visual condition survey is a non-intrusive inspection of the key elements of the rendered EWI system to assess whether there is any deterioration that could lead to the system failing in some way.
3. As a first step, you should obtain inspection and maintenance guidance information from the manufacturer/installer for the specific EWI system that has been used on your building. This will normally provide advice on how often visual inspections should be undertaken and key features to look for. If you already have regular inspections undertaken of the building, you should obtain the inspection records and review these.
4. The type and frequency of all inspections should be as advised by the system manufacturer/approved installer. Typically visual checks should be undertaken on at least an annual basis, encompass a full review of the exterior and a representative sample of key junctions and features. Increasingly drones with high fidelity cameras, thermal imaging and other sensor packages are available to undertake this type of work. It is generally considered good practice for a full condition survey by a suitably qualified professional to be undertaken at least every ten years.
5. Due to the fact that a visual survey of the EWI system might not identify the potential for wet insulation or insufficient fixings, an intrusive inspection should be considered. However, initial steps may include those listed below.

#### General

6. Access via a cherry picker, Mobile Extendable Working Platform (MEWP) or local portable scaffolding might be required to provide a safe work environment (consideration should be given to relevant requirements of the Construction Design and Management (CDM) regulations: [www.hse.gov.uk/construction/cdm/2015/index.htm](http://www.hse.gov.uk/construction/cdm/2015/index.htm)).

#### Inspection

7. Inspection sequence (staged as required):

- a. Identify manufacturers (markings/signage/stickers etc.), consult building manuals, and operation and maintenance documentation.
  - b. Inspect externally for wet patches or discolouration of the finish.
  - c. Inspect for any cracks or gaps at junctions in the finish that could let rainwater in, ideally investigate width and depth of the cracks using a crack width ruler.
  - d. Consider using special infrared thermographic camera (mid to high resolution) equipment that might show insufficient insulation or wet insulation. The temperature difference between inside and outside would require ideally to be 20° Kelvin. Hence this assessment is generally best performed during winter months.
8. If necessary to undertake intrusive investigations, you should seek professional advice on a case by case basis but this might include:
- a. Identify/select randomly approximately 10% of the EWI system for intrusive survey via micro-invasive access, endoscopic equipment and sample extraction, which shall be sealed afterwards adequately.
  - b. Extract a core sample of the build-up (~50mm diameter and full depth of the EWI system); store in adequately sealed container; and submit for examination by specialist sub-contractor.

### What is a visual condition survey looking to identify?

9. EWI systems need to remain watertight in order to avoid water penetrating behind the render layer. This can cause failure in a number of ways including by making the insulation layer heavier; by weakening the bond between the render/brick-slips and insulation (or insulation and substrate) or spalling caused by freezing of rain water.
10. There are also a number of other common indicators that the EWI system is failing or has problems which might – for instance – indicate inadequate fixings, excessive wear and tear caused by repeated exposure to wind loads, or differential movement in the underlying structure that has not been accounted for in the design of the system.

11. A visual inspection will typically be looking for common features such as:
- Cracking of render allowing water penetration or suggesting underlying movement.
  - Brick slips or render falling away from the insulation.
  - Cracking or deterioration of seals at junctions between the EWI system and adjacent features such as windows, doors, service penetrations etc. Deterioration could allow water to penetrate into the EWI system.
  - Damaged or incomplete waterproofing e.g. damaged or missing copings, cappings or seals that could allow water to penetrate into the EWI system.
  - Spalling – where small pieces of render are falling from the EWI system.
  - Blowing – bulges or distortions in the render finish indicating that it has pulled away from the underlying insulation, often confirmed by tapping giving a hollow sound compared to other areas of non-blown render.
  - Bubbling – groups of bubbles under the surface of the render finish, which can be indicative of water penetration.
  - Effervescence – effervescence often manifests as salt staining due to the migration of salts from the substrate into the finish, and can be indicative of water penetration in the insulation / substrate.
  - Mould – on the inside of external walls.
12. The above list is not exhaustive and you should seek further professional advice as necessary. All necessary health and safety precautions should be followed when undertaking a visual inspection, particularly when working at height. A full risk assessment will be necessary in accordance with the requirements of the current Construction Design and Management (CDM) Regulations and advice notes from the Health and Safety Executive.

### What should I do if I identify problems / defects?

13. You should contact the original system manufacturer for advice and assistance, and to obtain guidance on how to undertake any necessary repairs to the EWI system. You may also need to expert professional advice from a suitably qualified professional such as a Chartered Structural or Façade or Building Engineer in order to be able to interpret the extent to which any defects or damage may give rise to a risk of any part of the EWI system failing.
14. You may want to consider contacting the installer and notify them of the suspected faults/defects, before any remedial works are carried out. You should consider taking independent legal advice prior to undertaking any remedial actions, particularly in relation to your position with regard to latent defects and warranty provision.



15. If you are unable to contact the original installer, you may want to contact the Insulated Render and Cladding Association for further advice, at: [www.inca-ltd.org.uk/](http://www.inca-ltd.org.uk/).
16. If you believe there is any imminent danger of parts of the EWI system falling from the building you should contact your Local Authority Building Control Body, who have a duty to advise on dangerous structures. Residents inside the building are unlikely to be at any increased risk but you should immediately consider what mitigation measures are necessary to protect people moving around the exterior of the building (including on balconies), such as controlling movement or access in the immediate vicinity below the area of EWI system that is of concern.
17. You should then consider:
  - What further non-intrusive or intrusive investigations are needed.
  - Whether repairs or remedial works are necessary.
  - What further advice is required on how to proceed.

**Advice for building owners on external wall systems that do not incorporate Aluminium Composite Material**

This Advice Note is for the attention of anyone responsible for residential buildings over 18m in height who are concerned about the fire safety implications of external wall systems that do not incorporate Aluminium Composite Material. It has been developed in consultation with DCLG's Independent Expert Advisory Panel.

1. The Grenfell Tower tragedy has raised concerns amongst building owners and residents about the fire safety of external wall systems on high-rise residential buildings. The Government's Building Safety Programme has to date focussed on identifying and advising on interim and remedial measures for high-rise building with Aluminium Composite Material (ACM) cladding systems, where such systems do not meet current Building Regulations guidance for resisting fire spread across external wall surfaces.
2. This advice is for owners of high-rise residential buildings where the external wall system of their building does not incorporate ACM. Building owners will want to satisfy themselves and their residents that buildings are safe.
3. Building owners should take their own professional advice on any further action, reflecting their building's particular circumstances.

Summary

4. With a series of large scale fire system tests for ACM cladding systems now complete and advice issued to building owners [<https://www.gov.uk/government/publications/building-safety-programme-update-and-consolidated-advice-for-building-owners-following-large-scale-testing>], the Government, supported by the Independent Expert Advisory Panel, has been considering whether there may be heightened risks linked to other external wall systems.
5. The potential that there may be incorrectly specified or substituted products installed on tall buildings should not be ignored. Building owners will want to satisfy themselves and their residents that buildings are safe, and may therefore wish to carry out the checks set out below.

### Advice

6. As with ACM cladding systems, the Independent Expert Advisory Panel recommends that building owners seek professional advice where there is any uncertainty about the fire safety of their external wall systems. The expert panel maintains the view that the clearest ways of ensuring an external wall system adequately resists external fire spread are to use materials either of limited combustibility<sup>1</sup>, or an external wall system which can be shown to have passed a large scale test conducted to the BS 8414 standard; and where the construction of the building also meets the other provisions of Building Regulations guidance, including fire stopping between floors and the required cavity barriers being in place (see Section 9 of Approved Document B volume 2).
7. Where only a technical assessment (sometimes referred to as a desktop study) of the likely performance of particular external wall systems has been undertaken and where directly applicable BS 8414 test data is not available, the technical basis of such assessments should be checked.
8. Building owners should understand the construction of their buildings and how best to maintain their safety in use. To do so, building owners should check their records for information about the external wall systems used on their buildings. It should also be possible to obtain advice and information from the product manufacturers and/or contractors about the fire performance, correct installation and maintenance of materials used.

### Common external wall systems

9. ACM is part of a wider range of Metal Composite Materials (MCM) faced with other metals such as zinc, copper, and stainless steel. Like ACM, the filler or core material of MCM panels varies between products and can include combustible materials. In addition, the facing materials of MCM have different melting points, therefore the fire performance may differ depending on the type of metal facing. Building owners should seek professional advice over the suitability of MCM cladding.
10. There are many different types of components used in the construction of external wall systems, for example, High Pressure Laminates (HPL) and

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<sup>1</sup> Materials of limited combustibility would either include a material or product which is at least Class A2-s3, d2 in accordance with BS EN 13501-1:2007; or has achieved a national equivalent classification in accordance with Table A7 of Approved Document B volume 2.



Rendered Insulation systems and all perform differently when exposed to a fire. It is, therefore, important that the right combination of products has been installed and maintained correctly, to ensure they adequately resist the spread of fire over the wall to the standard required by current Building Regulations guidance. Building owners should seek to confirm the combination of products within the external wall system and the type of cladding (rainscreen or render) system on the building. Where there is potential for a product to have been substituted from what was originally specified at the design stage, onsite checks can help provide confirmation of product type. Where the product type (and associated fire classification) cannot be confirmed or there is doubt, then manufacturers' advice on the identification of their different products, systems and their fire performance details may be needed.

### BS8414 tests

11. Some external wall systems incorporate insulation and other components, which do not meet the limited combustibility requirements of current Building Regulations guidance (on external fire spread). This may include rigid foam insulation or other components such as rainscreen panels. To determine whether the standards for external wall systems set out in current Building Regulations guidance would be met in cases where combustible components are included as part of an external wall system, building owners should determine if the external wall system has completed a BS 8414 test and successfully attained BR 135 classification. In support of this we have asked the laboratories that offer BS 8414 testing to list those systems they have tested and classified. This should help professionals in identifying whether a system on a building has or has not been tested and to identify product manufacturers and/or external wall system suppliers.
12. The Building Research Establishment's catalogue of historical data of external wall systems, which have completed a BS 8414 test and successfully attained BR 135 classification can be accessed on their website [<https://www.bre.co.uk/regulatory-testing>].

External wall systems which have been tested to BS 8414, and shown to adequately resist fire spread, rely upon design detailing such as cavity barriers and in some cases external renders to inhibit fire spread. Building owners with BS 8414 tested external wall systems should seek professional advice on whether the external wall system has been installed and maintained as recommended by the manufacturer/supplier. For example, missing or

incorrectly fitted cavity barriers, or damaged render can compromise the fire performance of an external wall system.

Further advice on fire safety

13. Helpful advice on how to manage fire safety in blocks of flats is set out in *fire safety in purpose built blocks of flats* published by the Local Government Association. This advice can be accessed on their website [<https://www.local.gov.uk/fire-safety-purpose-built-flats>].
14. This Advice Note is for building owners to act on now. However, the Government is commissioning further research to support further understanding in the industry of the fire performance of external wall systems. This will be developed with a view to publication in summer 2018.