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1. PURPOSE

- 1.1 The aim of this requirement is to investigate the fire dynamics of selected types of cladding materials, to enable the Authority to consider the risk of fire spread, when these materials are used as part of an external wall system for a building; and to ensure that guidance to building owners is adequate.
- 1.2 The initial contract period will be nine (9) months with an option to extend for a further nine (9) months subject to the agreement of both parties. Potential Providers will be asked to provide a fully costed schedule of work (according to the tasks identified in 6.4).

2. BACKGROUND TO THE CONTRACTING AUTHORITY

- 2.1 The contracting Authority is the Department for Communities and Local Government (DCLG), who are responsible for creating great places to live and work and giving more power to local people to shape what happens in their area. The Authority is also responsible for the Building Safety Programme, established following the tragic incident at Grenfell Tower, with the aim of ensuring high-rise residential buildings are safe and residents feel safe in them.

3. BACKGROUND TO REQUIREMENT

- 3.1 The Government has committed to keeping the Building Regulations 2010 and associated statutory guidance up to date, relevant and founded on sound evidence.
- 3.2 External wall assemblies have evolved to meet the demands of modern buildings. Innovations in material technology, design and installation have introduced a range of new products onto the market. Today, designers can select from a large range of cladding products to help meet the architectural and functional needs of their building.
- 3.3 Under requirement B4 of the Building Regulations 2010, external walls of the building must resist the spread of fire over the walls and from one building to another.
- 3.4 Statutory guidance given in Approved Document B *Fire Safety* (AD B) on how to comply with requirement B4 highlights the need for the external envelope of the building to have adequate fire performance, particularly for tall buildings.
- 3.5 Fire performance comprises two characteristics:
 - Reaction to fire (i.e. how the material will contribute to the development of a fire)
 - Resistance to fire (i.e. the ability to resist the passage of fire from one area to another)
- 3.6 Many cladding materials sold across Europe are already tested and classified to the harmonised BS EN 13501-1:2007 (or national equivalent) in relation to reaction fire.



- 3.7 However, these standard tests might not always detect burning behaviours in materials that would result in an unacceptable risk of fire spread. The Authority needs to make sure that Building Control Bodies, designers and building owners have adequate information to help assess whether the cladding materials, incorporated as part of an overall external wall system, complies with requirement B4.
- 3.8 The Authority also has a role to play in addressing public concerns over the fire safety of buildings.

4. DEFINITIONS

Expression or Acronym	Definition
ACM	Aluminium Composite Material
DCLG	Department for Communities and Local Government.
Cladding material	Material or product type used to form part of an overall external wall assembly (e.g. rainscreen panel, insulation, membrane)
Cladding system	The overall external wall assembly comprising a number of products/materials.

5. SCOPE OF REQUIREMENT

- 5.1 The aim of this requirement is to investigate the burning behaviour of selected types of cladding materials (specifically non-ACM), using physical testing at bench/intermediate scale in a laboratory setting, so that the Authority can consider the risk of external fire spread and ensure that its guidance is adequate.
- 5.2 The results of the research are intended to be used to consider the risk of fire spread that selected materials (incorporated as part of a cladding system) could present and, in particular, any risks that might not be readily apparent from standardised small and medium scale classification tests.
- 5.3 This research relates only to the external cladding of buildings. Cladding of other structures, such as bridges, is outside the scope of this contract.
- 5.4 The Authority may also require ad-hoc advice about the fire performance of cladding, or additional testing or research being undertaken on materials either directly related to the test programme, more general research may also be required, this will be agreed with the supplier on an ad-hoc basis.

6. THE REQUIREMENT

- 6.1 The aim of the research is to provide technical information about the fire performance of cladding that can be used to demonstrate compliance with requirement B4 of the Building Regulations 2010.
- 6.2 The project objectives are to:
- 6.2.1 Improve the understanding of the burning behaviour for selected cladding system samples.



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- 6.2.2 Improve the understanding of implications on safety levels within the buildings in which the selected cladding materials are installed.
- 6.2.3 Identify cladding materials that require further investigation.
- 6.3 The specific tasks (set out in more detail at 6.4) required for the project are:
- 6.3.1 Establish and manage an expert steering group to advise on the project.
- 6.3.2 Establish the current state of knowledge about the fire performance of cladding materials.
- 6.3.3 Review the cladding materials suggested by the Authority and identify other cladding materials that could present unacceptable fire spread.
- 6.3.4 Develop a bench/intermediate-scale test methodology to assess the fire performance of identified materials when incorporated as part of cladding system.
- 6.3.5 Undertake bench/intermediate-scale testing of agreed types of cladding materials.
- 6.3.6 Based upon the results of bench/intermediate scale tests and expert knowledge, assess whether the fire performance of each of the types of cladding material tested is likely to comply with the external fire spread requirement B4 of the Building Regulations 2010.
- 6.3.7 Select cladding materials (based on fire dynamics identified in the bench/intermediate testing), that would benefit from further investigation, such as via large scale system testing to British Standard BS8414-1, in order to demonstrate a wall system's compliance with Building Regulations guidance.
- 6.3.8 Assess likely fire interactions of each of the cladding materials tested with common fixing systems, other building elements (e.g. windows) and other materials used in the external wall construction (e.g. insulation, membranes).
- 6.4 Programme of work:
- Task 1 Start up**
- Meet with the Authority for initial discussions.
 - Update and submit for approval the milestone schedule, and keep it updated throughout the duration of the contract
 - Describe how the work will be undertaken in a Project Plan and keep this up to date throughout the duration of the contract
 - Agree formats of reports.
 - Refine the risk assessment provided with the proposal and then keep it updated throughout the duration of the contract.



Task 2 Establish an Project Steering Group

- Form a representative steering group of industry experts, including representatives from the Government's expert panel, to support and advise the project.

Task 3 Literature search

- Undertake a literature search to identify relevant information on the subject.
- Contact manufacturers, academic institutions and other testing laboratories in the UK and abroad, to establish if other similar research is being undertaken or planned.
- Prepare a technical report summarizing the state of knowledge of the fire performance of cladding materials.
- Discuss the results with the Authority and the Project Steering Group.

Task 4 Agree the types of cladding to be assessed

- Review the selected cladding systems identified by the Authority
- Identify any other cladding materials and systems with the potential to present uninhibited fire spread.
- Agree with the Authority the cladding materials for testing and assessment.
- Prepare a technical report explaining the rationale used to decide which materials should be tested and assessed.

CONTRACT BREAK (see section 11.1)

Task 5 Agree test methodology and performance criteria

- Agree procedures for bench/intermediate scale sample testing with the Authority and obtain feedback.
- Prepare a technical report detailing the test methodology and explaining how the performance criteria were derived.

Task 6 Testing

- Undertake testing of agreed cladding materials.
- Discuss the results of each test with the Authority and steering group.
- Review the test methodology and performance criteria after each test.
- Prepare a technical report of the testing.

Task 7 Assessment

- Compare the test results against the performance criteria for each of the materials tested.
- Identify typical construction build-ups for each material tested.
- Based upon the indicative bench/intermediate scale test results and expert judgment, assess whether the fire performance of each of the materials tested could be expected to comply with requirement B4 if used in each of the typical build-ups.
- Identify where additional testing (e.g. large scale testing to BS 8414) is needed, e.g. for borderline cases.

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- Prepare a technical report on the assessment.

Task 8 Publishable report

- Prepare a draft publishable report, intended for a non-specialist readership, based on the technical reports.
- Agree the report with the Authority
- Address any Authority comments and submit a final publishable report. This report should be in accordance with the guidance set out at Annex A, proof read and ready for publication.

Task 9 Ad-hoc advice

- Provide ad-hoc advice as requested by the Authority.

7. KEY MILESTONES

7.1 This contract will run for an initial period of nine **(9) months** from **January 2018**, with the option to extend for up to a further nine (9) months.

7.2 An indicative timeframe is given below. Potential Providers may suggest alternative timings, where they consider appropriate.

Milestone	Description	Timeframe
1	Task 1 (Start-up) complete	Within 2 weeks of Contract Award
2	Task 2 (Establish Project Steering Group) complete	Establish Project Steering Group within 2 weeks of Contract Award, then maintain throughout the duration of the contract
3	Task 3 (Literature search) complete	Within 6 weeks of Contract Award
4	Task 4 (Agree types of cladding) complete	Within 8 weeks of Contract Award
5	Task 5 (Test methodology) complete	Within 10 weeks of Contract Award
Contract break		
6	Task 6 (Testing) complete	Within 8 weeks of Contract Restart
7	Task 7 (Assessment) complete	Within 12 weeks of Contract Restart
8	Draft publishable report (Task 8) complete	Within 20 weeks of Contract Restart
9	Final publishable report (Task 8) complete	Within 24 weeks of Contract Restart



10	Contract completion	Within 24 weeks of Contract Restart
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7.2 The programme should be developed during the start-up phase of the contract.

8. AUTHORITY'S RESPONSIBILITIES

8.1 The Authority will provide the Supplier with information about the methodology for the ACM testing undertaken by the Building Research Establishment (BRE). This will, for example, include methodology for the screening tests used to identify whether ACM cladding samples from buildings met the limited combustibility requirements of current Building Regulations guidance. Further information is available on the Building Safety Programme webpage at <https://www.gov.uk/guidance/building-safety-programme>.

9. VOLUME OF TESTING

9.1 The number of cladding types to be tested is not expected to exceed 6. This will be confirmed as part of Task 4.

10. QUALITY

10.1 The Supplier should operate under an appropriate quality management system, such as ISO (9000 series), or equivalent.

11. PRICE

11.1 Work under this contract falls into three categories:

Category One Work that is not dependent upon the test methodology or the number of samples tested and will be paid for on a lump sum basis. Tasks 1, 2, 3, 4, 5, 7 and 8 fall into this category.

Category Two Work that is dependent upon the test methodology or the number of samples tested. This will be paid for on a lump sum per test basis. Task 6 falls into this category. The contract break after Task 5 is intended to allow renegotiation of these lump sums if the agreed methodology differs significantly from that described in the tender. The Authority will retain the option to end the contract at this point.

Category Three Work that is not possible to specify in sufficient detail at this time. This includes Task 9. This will be paid for using time charge rates submitted in the tender, up to a ceiling given in the Task Request Form given in Annex B, which should be agreed prior to starting the work.

11.2 Price schedule Appendix E must be completed. The total sum costs submitted in the table will be used for payment of Category One work and for the time-charge rates for the Category Two and Three work.

11.3 Time charge rates (i.e. the submitted day rate for each contractor priced in Appendix E) should be exclusive of Travel & Subsistence, which will be reimbursed separately on the basis of actual expenditure on Authority rates details of which can be found at <https://intranet.dclg.gov.uk/task/travel-and-subsistence/>



11.4 Prices given in Appendix E should exclude VAT.

12. STAFF AND CUSTOMER SERVICE

12.1 Throughout the contract, the Supplier should provide staff with the necessary experience and expertise to undertake the work. In particular, the Supplier's staff should have:

- experience and expertise in fire testing
- detailed knowledge of the construction industry, construction techniques, technology and design.

13. SECURITY REQUIREMENTS

13.1 The Authority's office is part of the Home Office Building, which has enhanced security arrangements, including baggage searches and photo-ID being needed for entry. The Supplier should make allowances for delays caused by security when attending meetings at the Authority's office.

13.2 The successful Supplier will also be required to exercise due care in the use of information that is acquired during the course of their duties and to protect information held in confidence.

14. INTELLECTUAL PROPERTY RIGHTS (IPR)

14.1 Intellectual Property Rights of material produced under this contract shall remain the property of the Authority.

15. PAYMENT

15.1 During the start-up phase, the Supplier must update the milestone payment schedule provided with their proposal. This must then be submitted for approval to the Authority and updated throughout the length of the contract and any extension. The schedule should include T&S payments. All milestones must have a specific date (day, month and year).

15.2 An invoice cannot be submitted for payment until the milestone deliverable and a draft invoice have been accepted by the Authority's contract manager.

15.3 Once a deliverable has been accepted by the Authority contract manager, the invoice, which should include a detailed elemental breakdown of work completed and the associated costs, should be submitted to:

Invoice Processing,
High Trees, 4th Floor, Hillfield Road,
Hemel Hempstead,
Hertfordshire,
HP2 4XN.

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The invoice must quote the purchase order number.

15.4 Any request for ad-hoc advice shall be made in writing by the Authority's contract manager, who will agree the fee for the work before the task work is undertaken.

15.5 All costs should be exclusive of VAT.

16. ADDITIONAL INFORMATION

16.1 This requirement can be undertaken by a single firm or a consortium.

16.2 In the case of consortium, the Authority will only enter into a contract with the lead contractor and all formal contacts between the Authority and members of the consortium should be made through the lead contractor.

16.3 Professional Indemnity Insurance shall be provided and maintained to cover claims resulting from this contract and shall be limited to £2,000,000 in aggregate.

17. LOCATION

17.1 The location of the Services will be carried out generally at the Supplier's offices, although there may be a need for some tasks to be undertaken at the Authority's office (currently 2 Marsham Street, London SW1P 4DF).