

Tender for Moisture Analysis Report to inform S.R. 325

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**Context/
Rationale
for the
Study**

Context

This tender is issued in response to Recommendation 6 of the Report of the Expert Panel on concrete blocks, in June 2017, which calls for “a full review of Part C (Site Preparation and Resistance to Moisture) of the Building Regulations and the associated Technical Guidance Document C be undertaken”.

Technical Guidance Document C, in turn, relies heavily on S.R. 325 for guidance on the moisture resistance of masonry construction and external renderings. It is intended that the development of a Moisture Analysis Report covering these matters will inform and support the development of the National Standards Authority of Ireland’s ongoing review of Standards Recommendation, S.R. 325.

DHLGH also seeks to expand the content of its current Technical Guidance Document C, which deals with Site Preparation and Resistance to Moisture, to include a range of wall types appropriate for use in different climatic exposure conditions found in Ireland. The guidance will identify which wall types are appropriate for each geographic exposure zone, how to adjust exposure ratings to allow for locally exacerbating or ameliorating site conditions and/or the types of renders that can be used.

In 2022, DHLGH commissioned research from Met Éireann to update the Driving Rain Index for Ireland in the light of climate change and now wishes to re-examine the basis on which the previous driving rain index has informed the development of SR 325. Additionally, since the last review of S.R 325, considerable advances have been made in both the availability of software/hardware to undertake the complex numerical modelling of moisture transport within walls and in the availability of skills necessary to undertake such analysis. DHLGH is therefore intent on using hygrothermal modelling in accordance with EN 15026 to check the suitability of different wall types within each climatic exposure zone in this study to increase the robustness and accuracy of the guidance.

The development of a table identifying where each wall type, and each variant of each

wall type, can be used safely is a specific outcome of this study, which is intended to support the industry in constructing buildings that are appropriately adapted to climate change.

Description:

The Moisture Analysis Report will inform the development of S.R. 325:2013+A2:2018 in relation to the application of the 2024 Driving Rain Index to standard forms of construction used in Ireland.

This will assist the National Standards Authority of Ireland's Masonry Panel to update S.R. 325:2013+A2:2018 in relation to the acceptable geographic spread of different forms of masonry construction and their external renderings, based on the updated Driving Rain Index.

The Moisture Analysis Report is intended to build on the work of the UK Government in their publication of Table 4 of Approved Document C and enable a similar approach to be adopted in Ireland to determine the performance requirements for different forms of masonry construction based climatic exposure risk. The forms of pointing identified in BS 5628-3: 2005 are a contributory factor in determining the moisture resistance properties of masonry and need to be included. The effects of coatings, particularly hydrophobic coatings, on the moisture resistance of masonry, as measured by the FabTrads research project, are also to be considered.

Rationale

Understanding the impact that exposure to driving rain has on the durability and performance of masonry is key to ensuring that minimum performance standards are achieved over the lifecycle of masonry buildings. Including this information in an updated S.R. 325 will help designers of buildings to establish which forms of masonry construction meet the requirement of Building Regulation D3 for "proper materials"

"... which are fit for the use for which they are intended and for the conditions in which they are to be used."

This will provide designers of buildings in Ireland with prescriptive guidance on the forms of masonry construction that are suitable for different exposure risk. It will also help to determine which forms of render may be required to sufficiently improve the performance of masonry to adequately resist the effects of driving rain.

The proposed document will enable S.R. 325 to provide the information necessary to enable designers to achieve the performance requirement of Building Regulation C4:

"The floors, walls and roof of a building shall be so designed and

constructed as to prevent the passage of moisture to the inside of the building or damage to the fabric of the building.”

Objectives of the Study

The purpose of this Moisture Analysis Report will be to bridge the knowledge gap to enable S.R. 325:2013+A2:2018 to be revised to suitably support the decision making of specifiers of masonry construction.

It will propose revisions of Tables 10 and 12 of S.R. 325:2013+A2:2018 for inclusion in the revised standard, to achieve a similar level of guidance as is currently available in Table 4 of UK Approved Document C, “Maximum recommended exposure zones for insulated masonry walls”, but based on the Irish Driving Rain Index and using contour values rather than numbered exposure zones.

It will establish a method whereby a future revision of the UK Driving Rain Index, when carried out in accordance with I.S. EN ISO 15927-3:2009, will allow similar forms of construction to meet similar performance requirements on either side of the Irish border, based on their respective Driving Rain Indices.

Methodology:

The methodology to be employed is a matter for the successful tenderer to propose but must be transparent, based on ISO, EN, Irish and British standards and be publishable in its entirety on the DHLGH website to allow for public consultation, as required.

All supporting documents and modelling used to assess suitability of forms of construction will be made available publically for academic and industry research purposes.

Material properties chosen for modelling purposes should be representative of the lowest performing currently available materials in each product category, which are consistent with the EU Construction Products Regulation. The specific hygrothermal properties for Irish concrete blocks necessary to complete the modelling will be provided to the successful tenderer by 1 November 2026, following the completion of a separate study.

It is envisaged that 7 wall types will be modelled and that an average of 5 variants will apply to each, based on the scope of the construction described in DHLGH’s Acceptable Construction Details Part 1 and Part 2. The critical exposure for each model will be established by applying different driving rain exposures cross-referenced to UK Approved Document C, Table 4 and based on Met Éireann’s Climatological Note 17,

The following conversion chart may be useful to tenderers in cross-referencing exposure metrics in various UK and Irish documents:

Six Exposure Classes	S.R. 325:2013+ A2:2018 (NSAI, 2018) - Driving rain index (Walsh, 2010) ($m^2 sec^{-1} year^{-1}$)	DD 93: 1984 (BSI, 1984) - Local Spell Index (l/m^2)	UK Approved document C (l/m^2 per spell) (e.g. National House Building Council, 2010)	UK exposure zones Table 4 Approved Document C (BS 5628-3:2005 (withdrawn))	Met Éireann - Driving Rain Index for Vertical Surfaces (Map spell index, I.S. EN ISO 15927-3:2009)
Very sheltered		< 24			≤ 20
Sheltered	< 3	24 – 37	< 33	1	20 – 25
Moderate	4 – 7	38 – 46	33 – 56.5	2	25 – 30
Severe	> 7	47 – 98	56.5 – 99	3	30 – 35
Extreme	40 – 45				

It is anticipated that using the contour values established by Met Éireann (rather than zones or descriptors) will avoid the terminological confusion engendered by the use of descriptive classes for exposure risk and contribute to the development of a science-based approach to declaring and managing exposure risk. This may also allow for a more precise range of adjustments to risk, based on a range of mitigation or exacerbation measures deployed by designers.

Stakeholder Engagement and Report Review	Engagement will be required with expert advisors from DHLGH, Met Éireann and NSAI. DHLGH may facilitate engagement with other public bodies. Engagement with other expertise will be considered post-tender. DHLGH will invite identified stakeholders to review two versions of the draft report during the project prior to publication with individual meetings with stakeholders convened as required.
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Time for review and observations on draft reports by DHLGH and stakeholders to be included in the project plan (tender submission 2) and agreed at the initial meeting with the successful tenderer. Each formal review by DHLGH at a project milestone will take two weeks minimum. Interim responses to queries between milestones, where not of

an extensive nature, may be returned within a matter of days.

It is expected that consultants will meet at either weekly or two-weekly intervals as needed with DHLGH project team either in-person or online. Four initial meetings of 2 hours each will be held in person at DHLGH offices in the Customs House, Dublin 2, Ireland in advance of milestone 2 (MS-2). Consultants may be requested on occasion to present at senior official meetings online during the course of the project.

A deliverable under this project will be a pre-publication presentation in person to industry and Government stakeholders in Dublin, and a final in-person presentation based on the Moisture Analysis Report at an industry event or conference in Ireland.

Expert professional advisers will be consulted by the appointed tendered on the Driving Rain Index, the hygrothermal methodologies to EN 15026:2007 used in Ireland, Met Éireann's [Climatological Note 17](#) updating the Driving Rain Index for Ireland, the Irish Building Regulations and related numerical calculations for forms of construction described in the 2021 edition of the supplementary guidance document to Part L entitled [Acceptable Construction Details](#).

All proposed wall assemblies, the range of allowable insulation types and thicknesses and their associated render options, will be subject to hygrothermal analysis in accordance with I.S. EN ISO 15026:2007 using the standard material properties database available in the Wufi (or equivalent) software together with the supplementary traditional material properties database established by the [FabTrads research project in University College Dublin](#), or CIBSE published values where appropriate. All numerical hygrothermal models will be run over a 30-year timeframe.

Copies of all hydrothermal models will be provided in image, PDF and native software formats on completion.

Deliverables Seven deliverables will be required under the contract, as follows:

1. An illustrated written technical report entitled **“Moisture Analysis Report to support S.R 325”** in MS Word format consisting of a circa. 80-pages with an executive summary outlining the forms of construction studied and the result of the analysis undertaken and containing a tabulated summary of findings similar to Table 4 of UK Approved Document C cross-referenced to Ireland's Driving Rain Index contour values for inclusion in S.R. 325 and/or TGD C.

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2. A **Digital Illustrations Folder** containing all illustrations of the models used in the report in a publishable quality, A4 size, full colour, minimum 600dpi and saved in JPEG or PNG file formats. The folder is to be provided on a USB thumb drive readable on MS Windows operating systems.
 3. A separate **Technical Appendix** to the report containing the relevant ACD drawing, a written description of the specific construction modelled, a material properties schedule and screen shots of each assembly's projected hydrothermal performance after 30 years.
 4. A **Digital Modelling Folder** containing the native Wufi (or equivalent) files used to generate the models in the Technical Appendix. The folder is to be provided on a USB thumb drive readable on MS Windows operating systems.
 5. Proposal for a replacement for **Table 10** of S.R. 325:2013+A2:2018 formatted to suit reproduction in a national standard and based on the tabulated values identified in deliverable 1.
 6. Proposal for a replacement for **Table 12** of S.R. 325:2013+A2:2018 formatted to suit reproduction in a national standard and based on the tabulated values identified in deliverable 1.
 7. **Slide Presentation** of the report and delivery of a technical explanation of the study and its implications in person at a half-day industry event post-publication which will be recorded for dissemination purposes.

The Moisture Analysis Report will contain the analysis and outputs described in the methodology section of this report.

All reports, illustrations, models, etc. produced in the course of the project will be the property of DHLGH and submission of digital, or hard copy, versions to DHLGH will include transfer of copyright to DHLGH for publication or reproduction by it under CC0 Public Domain Dedication licencing. Each deliverable shall therefore contain the following license text: "Copyright CC0: This work has been marked as dedicated to the public domain."

Numeric models for each construction assembly should be designed so as they can be readily updated with revised material properties by third parties at a future date.

Budget Up to a maximum of €100,000 excluding VAT

Timeline and payment schedule **Tendering Process**

MS-1 – Aug/Sep 2026 – Successful tenderer appointed.

Performance milestones (MS-2 to MS-5)

MS-2 – end-Nov 2026 - 50% draft of deliverables 1 & 3 submitted for review.

MS-3 - Feb 2027 - 90% draft of deliverables 1, 3, 5 & 6 submitted for review.

MS-4 - Mar 2027 - Publication of deliverable 1 and 3 (MS-4)

MS-5 - Apr 2027 – Completion of all deliverables (MS-5)

All dates are provisional and depend on achievement of all preceding milestones.

Payment schedule

It is proposed that payments will be made in four stages as follows:

Payment	Deliverable							Total
	1	2	3	4	5	6	7	
On appointment (MS-1)								20%
Stage 1 (MS-2) (50% draft of all texts/models)	✓		✓					30%
Stage 2 (MS-4) (final text)	✓		✓		✓	✓		20%
Stage 3 (MS-5) (completion)		✓		✓			✓	30%

All payments will be contingent on meeting the performance milestone described.

Project Management

All communication in connection with the project will be with the DHLGH project manager Simon McGuinness, simon.mcguinness@housing.gov.ie.

A face-to-face initiation meeting will be scheduled with the DHLGH project managers to

refine the scope of the project. DHLGH will be open to suggestions by the successful tenderer in relation to operationalising the research work. Following this meeting, a detailed project plan, building on that provided in the tender submission, as well as the discussion in the initiation meeting, must be developed by the successful tenderers and provided to DHLGH.

Once the assignment is underway, DHLGH will manage the project and be responsible for day-to-day liaison with the successful tenderer, ensuring that all aspects of the project brief are being addressed and that the timetable agreed in the detailed project plan is being met.

The successful tenderer will be required to have regular weekly or fortnightly online meetings with the project managers and invited topic experts to progress the study and resolve any queries related to the study.

Requirements and Specifications

Format of Response

Tender documents should provide specific responses to the following four specific submission requests:

1. Range and depth of previous relevant experience

Experience and details of previous policy work carried out for a Government Department, including report writing;
Confirmation of ability and availability to deliver within the proposed timeframe;

2. Quality of tender's proposed methodology

Data sources, proposed management, hygrothermal modelling capacity and measures for ensuring technical quality;

Demonstration of an understanding of the requirements and an outline of the approach proposed to meet the requirements;

A project plan presented as a Gantt Chart with timeline and key milestones, including start and finish dates;

Outline of the proposed content and structure (table of contents) of the Application Scoping Document.

3. Quality, relevant expertise and level of resources to be applied to the project

An overview of the specific personnel in the different specialisms, together with

current CVs which should specify a clear outline of the relevant qualifications, skills and experience;

Table of hours per month to be allocated to the project by all team members, for a total of 7 months, together with a one-line description of their role on the team;

One team member (which may be additional to the 4 above) with a specific copy-edit, proofreading or editorial qualification (or demonstrated expertise in technical writing and/or international standards development in English) must be identified, with proof of qualifications.

Designation of a senior representative to act as a single point of contact to liaise with DHLGH. All reporting to DHLGH shall be through the senior consultant. The nominee's contact details must be provided.

4. Cost

All prices must be in Euro;

The tender price must be clearly stated and shown exclusive of VAT; the VAT rate applicable must also be shown;

A breakdown showing the cost associated with each deliverable is to be included;

The tender price must be all-inclusive: no additional costs for travel, subsistence, secretarial support, software, or the like, will be permitted.

Evaluation of Tenders

The proposals will be reviewed by an evaluation team and tenderers will be notified shortly thereafter.

Clarification Meeting

Tenderers may be invited to clarify certain aspects of their tenders either via face-to-face or online meetings, or via phone. A contact name with full contact details to liaise with the Department in respect of clarifications must be provided.

**Award
Criteria
and
Tender
Evaluation**

Tenders will be evaluated by an evaluation team composed of employees of the Department of Housing, Local Government and Heritage (DHLGH), together with advisors, consultants and such other persons engaged or nominated by DHLGH for the purposes of this tender. The Contract will be awarded from the qualifying tenders on the basis of the most economically advantageous tender (MEAT) using the following award criteria (maximum score for each criterion and minimum requirement in parenthesis):

In order to qualify, the successful tender must meet the minimum points required under the first three award criteria. The capability of the tenderer to meet the **“Requirements and Specifications”** and material submitted related to **“Tender Process: Format of Response”** below will be evaluated as part of the evaluation process.

Criteria	Format of Response	Scoring and thresholds
1. Range and depth of previous relevant experience	No more than three A4 pages	Max. score= 20 (Min. required = 15)
2. Quality of tender’s proposed methodology including data sources, proposed management, hygrothermal modelling capacity and measures for ensuring technical quality.	No more than three A4 pages	Max. score = 20 (Min. required = 15)
3. Quality, relevant expertise and level of resources to be applied to the project	(A) 1-page CV for each of the 4 staff members most involved in the study with nominated senior contract manager contact details (4-page A4 max).	Max. score = 20 (Min. required = 15)
	(B) Table of hours per month per team member with roles (1-page A4 max).	Max. score = 5
	(C) Confirmation of copy-edit/proofreading resource, with proof of qualifications (1-page A4 max).	Max score = 5
4. Cost	No more than one A4 page	Max score = 30

Total available	13 pages A4 max	100
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Payments Payment will be based on completion of deliverables defined above and confirmed by the successful tenderer in their tender project plan. Payments will only be made upon satisfactory completion of the agreed deliverables. The timelines outlined above are for the sole purpose of establishing a schedule of stage deliverables, not for making payments.

Submissions at interim and final stage of study should be made in electronic format by email or by uploading to a share drive.

The Government of Ireland operates within a secure data environment and access to public share drives is restricted. Consequently, sharing large digital files will entail transfer via physical USB thumb drive for a subsequent quarantine and scanning step. This should be anticipated in the tender.

The contract will be deemed to have been completed satisfactorily, and final payment authorised, when the DHLGH judges that the final report is of a sufficiently high standard in all aspects, including, but not limited to, content, presentation and editorial quality.

Reference Documents	Technical Guidance Document C (2023) https://assets.gov.ie/static/documents/technical-guidance-document-c-site-preparation-and-resistance-to-moisture-2023-amendme.pdf S.R. 325:2013+A2:2018/AC:2019 https://www.thenbs.com/PublicationIndex/documents/details?Pub=NSAI&DocId=325495, or https://shop.standards.ie/en-ie/standards/s-r-325-2013-a2-2018-ac-2019-876959_saig_nsai_nsai_2756917/ UK Approved Document C https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/431943/BR_PDF_AD_C_2013.pdf Driving Rain Index 2024 Met Éireann Climatological Note No 17 - Distribution of Driving Rain in Ireland (Rev 2.1)
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https://www.researchgate.net/publication/384628455_Distribution_of_driving_rain_in_Ireland

FabTrads Research (2022-2025)

<https://www.ucd.ie/biace/projects/fabtrads/>
