

Case for the extension of I.S. 465 and associated Grant Scheme beyond Donegal and Mayo

16th December 2020

Summary

The I.S. 465 Register and Grant Scheme are now in operation in Donegal and Mayo and recommendations have been made for more than 200 damaged dwellings, mostly demolition to foundation level and rebuilding. Responding to an Engineers Ireland survey, registered engineers reported the presence of these deleterious materials in concrete blocks in other counties, especially in the Mid-West (more than 80 damaged buildings in Clare, Limerick and Tipperary). Engineers Ireland requests that I.S. 465 and the Grant Scheme be extended beyond Donegal and Mayo for the health, safety and equity of these affected citizens.

1. Introduction

I.S. 465 is the Irish Standard for the 'Assessment, testing and categorisation of damaged buildings incorporating concrete blocks containing certain deleterious materials'. Regulations for the associated grant scheme are 'Dwellings Damaged by the Use of Defective Concrete Blocks in Construction (Remediation) (Financial Assistance) Regulations 2020' (S.I. 25 of 2020). The I.S. 465 Register lists Chartered Engineers who have the necessary direct professional experience, competence and specialist training in accordance with the requirements set out in I.S. 465.

The I.S. 465 register and grant scheme are now operational in counties Donegal and Mayo. In December 2020, Engineers Ireland surveyed registered engineers on the I.S. 465 register to better understand the current operation of the register. Of the 36 registrants, there were 20 responses (a response rate of 56%).

2. Operation of the Register in Donegal and Mayo

Registered engineers were asked "In Donegal and Mayo, for how many buildings have you recommended each of the following remediation options?"

Option	Recommendations
1 - Demolish entire dwelling to foundation level and rebuild	142
2 - Demolish and rebuild external walls (both outer and inner leafs) down to foundation on a phased basis and re-render	11
3 - Demolish and rebuild external walls (both outer and internal leafs) down to top of rising wall on a phased basis and re-render	5
4 - Demolish and rebuild external walls (outer leaf only) down to top of rising wall on a phased basis and re-render	46
5 - Demolish and rebuild outer leaf of affected walls only and re-render	6

In total, there were recommendations made for 210 damaged buildings and the most common recommendation was to demolish the entire dwelling to foundation level and rebuild (Option 1; 68% of recommendations). Of the 20 registered engineers who responded, 13 have made at least one recommendation (the average per registered engineer was 10.5). It should be noted that some of the remaining seven registered engineers who responded have not been working in Donegal or Mayo.

3. Deleterious materials outside Donegal and Mayo

Registered engineers were then asked “Have you found these deleterious materials in concrete blocks in counties other than Donegal and Mayo? Please list the counties, the number of damaged buildings inspected and comment on the extent of the issues.” Of the 20 registered engineers who responded, 10 answered ‘no’ (some of these respondents have only been working in Donegal and/or Mayo or have not carried out any assessments to date). Of the 10 who answered ‘yes’, there were three trends in the responses.

3.1 Mid-West (Clare, Limerick, Tipperary)

Registered engineers reported more than 80 buildings damaged by these deleterious materials in counties Clare, Limerick and Tipperary:

- *“Co. Limerick, Co. Clare - In excess of 50 damaged buildings in the mid-west (Limerick & Clare) with damage consistent with the presence of deleterious materials in the blockwork.”*
- *“I have encountered 10 - 15 buildings which are exhibiting failures and crack patterns consistent with Pyrite in Concrete Blocks across Counties Clare, Limerick and Tipperary. The damage appears to have been exacerbated following the injection of pumped insulation in cavity walls. The extent of damage has varied from relatively minor cracking to extensive cracking and bulging of walls (which will likely require replacement of the external leaf). The damage is generally concentrated on one gable or elevation.”*
- *“Limerick 9 (Geological report completed on 1). Clare 4 (Geological reports completed on 2). Tipperary 1 (Insurance cover declined on the basis of poor materials). I have carried out urgent, limited remedial works using option 5 (down to top of rising walls) on affected walls only. 1 in Tipperary, 4 in Limerick and 1 in Clare. These works were funded by the clients themselves on limited budgets and are not certifiable by my office.”*
- *“4 properties in Co Clare. Damage to outer and inner leaf ranging from minor to significant”*
- *“Yes, Abbeyfeale on the Kerry Limerick border. 1 building inspected. Property is very badly affected and will need to be fully demolished.”*
- *“Limerick, Clare”*
- *“Limerick City”*

3.2 North West (counties adjacent to Donegal and Mayo)

Three registered engineers reported issues arising in adjacent counties from blocks sourced from Donegal or Mayo:

- *“West Sligo there are a small number of dwellings that have been supplied with blocks from the quarry at the centre of the issue in Mayo”*
- *“Some dwellings in Derry that had purchased blocks from Co. Donegal. Inspected two damaged buildings with similar defects to those in Donegal.”*

- “Yes – Sligo 1”

3.3 Other counties

Issues were also reported in Louth, Dublin, Monaghan and Wexford:

- “4 properties in Co Louth ranging from significant to extensive requiring demolition or rebuild of external walls. 1 property in Co Monaghan with extensive damage recommended demolish. 2 properties in north Co Dublin with extensive damage recommended demolish or rebuild of external walls.”
- “Dublin - pyrite in hollow blocks”
- “Louth”
- “Yes, 22 properties to date, ranging from Enniscorthy in Wexford, to Limerick City to Ballinasloe to Dublin and Louth.”

4. Extending I.S. 465 and the Grant Scheme beyond Donegal and Mayo

In I.S. 465 and SI25 of 2020, applicability is restricted to certain geographic areas (‘dwellings located in the administrative area of a relevant local authority’, Co. Donegal and Co. Mayo). However, as outlined in the results of this survey, assessments carried out by I.S. 465 registered engineers found damage similar to that set out in the standard and SI but in different geographic areas, particularly counties Clare, Limerick and Tipperary.

As noted by one registered engineer: *“I have found that, in the absence of an operational Redress Scheme in counties Clare, Limerick and Tipperary, homeowners are reluctant to embark on a full testing schedule. I believe the Redress Scheme should be extended to respond to the presence of Deleterious Agents in Concrete Blocks wherever in the country a homeowner encounters the problem once analytical testing, undertaken in accordance with the requirements of I.S.465, has proven the presence of reactive pyrite/mica in the damaged blockwork.”*

This damage to dwellings poses a risk of harm and is causing significant distress and financial cost (as reported in several media outlets, such as the *Clare Champion* on 10th September 2020). These citizens, through no fault of their own, are suffering severely as a result of the disintegration of the concrete blockwork in their dwellings.

Engineers Ireland requests the extension of the application of the Grant Scheme to cover dwellings similarly affected in other counties so that homeowners are not disadvantaged. This will require amendment to I.S. 465 and SI 25 of 2020. To this end, Engineers Ireland would like to engage with Local Authorities, the Department of Housing, Local Government and Heritage and the National Standards Authority of Ireland.

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Background to Engineers Ireland

With over 25,000 members, Engineers Ireland is the voice of the engineering profession in Ireland. Engineers Ireland was established in 1835 making us one of the oldest and largest professional bodies in the country. Members come from every discipline of engineering, and range from engineering students to fellows of the profession.

Our responsibility is to

- Promote knowledge of engineering
- Establish and maintain standards of professional engineering and engineering education
- Provide opportunities for Continuing Professional Development (CPD)
- Maintain standards of professional ethics and conduct
- Ensure that professional titles are granted to qualified candidates
- Act as the authoritative voice of the engineering profession in Ireland

Our Vision Statement

Engineers Ireland: a community of creative professionals delivering solutions for society.

Our Mission Statement

Engineers Ireland is an organisation that enables the engineering community to progress their professional development, make an impact on society and encourage and educate the future generations of engineers.