

# Home Energy Grants: Technical Bulletin

## Internal Wall Insulation

Series 2023-03-001 IWI



## Introduction

The Better Energy Homes programme team have noted an increase in the number of non-compliant internal wall insulation upgrades being installed on the scheme. In particular, there has been a rise in the number of installations where an insufficient depth of dry-lining has been installed and continued issues with ventilation.

This is leading to an increase in reworks and penalty points, contractor de-registrations and a number of homeowners have had their grants declined as a result.

We request that all contractors registered to install internal wall insulation review the following information and ensure that U-value calculations and Declaration of Works forms are accurately completed for all grant works. Further information can be found in the [Domestic Technical Standards and Specification](#) (DTSS) document, Section 6.3.

### Internal wall insulation requirements

Below is a reminder of some of the key criteria when installing internal wall insulation:

- Required U-Value = 0.27 W/m<sup>2</sup>K
- Insulation materials must be certified by the NSAI Agrément or equivalent
- A whole-element solution must be installed i.e. *all* heat loss walls must be insulated
- Consider the wall type and consult the product manufacturer or supplier regarding the suitability of the product being installed
- Ventilation must be properly assessed and addressed as part of each internal wall insulation upgrade
- Traditional Buildings: Homes constructed before 1940, may require special consideration and modern insulation methods may not be appropriate. Alternative insulation methods must be carefully considered as they may not qualify for grant support.

### Sample u-value calculation (ref: Better Energy Homes *Contractors Code of Practice*)

#### Internal Dry-lining insulation

215mm solid block (medium weight) wall is insulated with 72mm of insulated plasterboard with a thermal conductivity of 0.023 W/mK. The wall also has 19mm external render and 13mm lightweight plaster on the internal wall. The following tables outline the U-value calculation for this structure and show the effects on the wall U-value when the insulation is installed.

#### Before insulation:

Surface	Thickness (m)	Conductivity (W/mK)	Resistance (m <sup>2</sup> K/W)
External Surface			0.040
External Render	0.019	0.57	0.033
Concrete Block	0.215	0.57	0.377
Plaster	0.013	0.18	0.072
Internal Surface			0.130
Total Resistance			0.65
<b>U-Value of Structure = 1/0.65 = 1.53 W/m<sup>2</sup>K</b>			

#### After 72mm of insulated plasterboard installed:

Surface	Thickness (m)	Conductivity (W/mK)	Resistance (m <sup>2</sup> K/W)
External Surface			0.040
External Render	0.019	0.57	0.033
Concrete Block	0.215	0.57	0.377
Plaster	0.013	0.18	0.072
Insulation	0.072	0.023	3.130
Internal Surface			0.130
Total Resistance			3.78
<b>U-Value of Structure = 1/3.78 = 0.26 W/m<sup>2</sup>K</b>			

## Additional guidance

### U-values

[TGD Part L](#) and [NSAI SR 54: Code of practice for the energy efficient retrofit of dwellings](#), Annex B also provide indicative U-Values for different wall types and insulation products. However, U-Value calculations must be completed for each home and may be requested by SEAI as evidence of compliance with the programme criteria.

Additional information is also available in *BR 443: Conventions for u-value calculations* and the DEAP manual.

### Ventilation

Inadequate provision of ventilation remains a common issue on internal wall insulation works. Please ensure you are familiar with the ventilation requirements of the programme and that suitable ventilation has been installed as part of the grant works, where required. Exact specifications are available in the [DTSS](#) and [NSAI S.R. 54:2014 Code of practice for the energy efficient retrofit of dwellings](#).

A guidance note on ventilation was issued in August 2022 to all wall insulation contractors. The note provides useful 'rule-of-thumb' guidance on wall ventilation requirements and can be viewed here: <https://www.seai.ie/grants/supports-for-contractors/Ventilation-Guidance.pdf>

### Declaration of works

A significant number of Declaration of Works forms submitted by homeowners are incomplete or not signed by contractors. This leads to delays in processing grant payments as these forms must be returned to homeowners for correction.

Please remember to accurately complete and sign *all* relevant fields in **Section 2** of the Declaration of Works form before you return the document to the homeowner, bearing in mind that only nominated personnel are permitted to sign these forms.

Further guidance on proper completion of the Declaration of Works is provided below:

#### 2. Sections to be completed by your CONTRACTOR

(a) Energy Upgrade Cost AND Dwelling Type

Total Cost of Internal Dry Lining Insulation including Labour and VAT		€
Please Confirm Dwelling Type	Detached House <input type="checkbox"/>	Semi-Detached <input type="checkbox"/>
	Mid Terrace <input type="checkbox"/>	Apartment (Top, Mid or Ground Floor) <input type="checkbox"/>

1. Enter cost of works (grant-related costs only) & dwelling type.

#### (b) Energy Upgrade Specification

(Please **COMPLETE ALL** of the following)

	Before Works	After Works
% Total Wall Area of Home Insulated	%	%*
(Average) Depth / Thickness of Insulation (typically minimum 70 mm excl. plasterboard required)	mm	mm
(Average) Calculated U-Value for Wall	W/m²K	W/m²K
Name of insulation product used by you for this property		
Area of wall INTERNALLY DRY LINED by you		

2. Enter accurate details of upgrade works, adding supplementary information as required.

\*If less than 100% (e.g. mixed wall measure), please provide detailed explanation in comments box below, or attach on a separate sheet, noting that the grant requires a whole-house solution.

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**(c) Contractor Declarations**

Registered Contractor ID Number \_\_\_\_\_

Contractor (Company) Name ( BLOCK CAPITALS) \_\_\_\_\_

- I declare that all works indicated overleaf are fully compliant with the Better Energy Homes Contractor Registration Terms and Conditions, the Domestic Technical Standards and Specifications (DTSS) and the Better Energy Homes Contractors Code of Practice.
- I confirm that I have been paid in full or an agreed payment schedule contract is in place by the homeowner for the works described and that I have personally completed section 2 of this form to reflect the works undertaken.
- I confirm I have completed Section 4 (Pre-Grant Evaluation Estimate data) on the BER DOW Form as required for all energy upgrades undertaken by me and have returned the form to the homeowner.

Signature of Nominated Person*		Date:			/			/	
Nominated Person Name (BLOCK CAPITALS) *									
DATE THE GRANT WORK WAS COMPLETED		Date:			/			/	

\*Must be a nominated person on Contractor Registration List

3. Enter ID Number & Company Name.

4. Nominated person must sign and date & enter date of works.

Important Note: in signing a Declaration of Works form, the nominated person is declaring that the works have been completed in full compliance with the requirements of the Better Energy Homes programme. Nominated personnel must not sign off on incomplete or non-compliant works.

## Training

If you or members of your team would benefit from additional training, we would like to advise that *The National Construction Training Centre* offer a number of training courses on retrofit design and installation, including:

- Retrofit Insulation Skills
- Ventilation
- Airtightness and vapour control

For further information, visit: <https://www.loetb.ie/nzeb>

w: [www.seai.ie](http://www.seai.ie)  
e: [info@seai.ie](mailto:info@seai.ie)  
t: 01 8082100



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