

Warmer Homes Scheme Operations Manual

Version 3.0 2026



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Glossary of Terms

Agrément: The National Standards Authority of Ireland [NSAI] issues Certificates for certain products and installers. NSAI was formerly known as the Irish Agrément Board. This document details requirements for NSAI Agrément Certification where relevant.

Air Leakage: Air Leakage, aka infiltration, is the uncontrolled flow of air through gaps, cracks and holes in the fabric of the building and is typically expressed in one of two ways:

1. Air changes per hour (ACH @ 50 Pa) i.e. the number of times an hour that all of the air inside the building is replaced with external air, or
2. Air permeability ($\text{m}^3/\text{h.m}^2$) i.e. meters cubed per hour, per meter square of surface area.

Air Permeability: Air Permeability is the physical property used to measure the airtightness of the building fabric. It is defined as air leakage per hour per square metre of envelope area ($\text{m}^3/\text{h.m}^2$) at a test reference pressure difference across the building envelope of 50 Pascals (Pa) or (50 N/m^2) i.e. $\text{m}^3/(\text{h.m}^2)$ @ 50 Pa. Air Permeability Testing must be completed by a NSAI or INAB Accredited Tester.

Airtightness: The extent to which unintended air leakage is prevented in a building, usually measured in $\text{m}^3/(\text{h.m}^2)$ at 50 Pa pressure differential. High airtightness (draught-proofing) improves energy efficiency but can limit natural airflow.

Assessor: A BER assessor appointed by SEAI, to carry out a Building Energy Rating [BER]. All homes on the programmes receive a BER.

Building Energy Rating [BER]: A Building Energy Rating or BER is an energy label with accompanying advisory report for homes. The rating is a simple A to G scale. A-rated homes are the most energy efficient and will tend to have the lowest energy bills. All homes on the WHS will receive a BER assessment.

Competent Person: Person who, having regard to the task they are required to perform and taking account of the size and/or complexity of the building or works, possesses sufficient training, experience and knowledge appropriate to the nature of the work to be undertaken. Competent installers should be accredited by Quality and Qualifications Ireland (QQI) or an Education Training Board (ETB) or possess equivalent qualifications.

Condensation, Interstitial: Interstitial condensation is the formation of liquid water within a building's hidden structural layers, such as walls, floors, or roofs, as warm, moist air cools to its dew point. If a building is not airtight warm humid air will leak outwards into the external envelope of a building structure, often occurring in areas where there's a temperature difference across a construction element, such as window and door reveals. Interstitial condensation risk analysis can be done via Glaser method, Hygrothermal method, WUFI method.

Condensation, Surface: Condensation on surfaces occurs when air passes its 'holding capacity' and liquid forms, often on cold, non-porous surfaces.

Contractor: Individual or company carrying out energy upgrade measures supported by one or more of the programmes referenced in this Operations Manual. Contractor registration requirements are detailed on the SEAI website.

Construction Regulations: Means the Safety, Health, and Welfare at Works [Construction] Regulations 2006 – 2019 as may be amended or replaced from time to time.

Contractor Personnel: Means all persons employed, engaged, or contracted by [a] the Contractor and [b] the Contractor's subcontractors and all persons employed, engaged, or contracted by the Contractor's subcontractors, for the purpose of performing any of the requirements under this Agreement and includes the Key Personnel and the Key Subcontractors.

Customer Contact centre: The programme customer service team responsible for handling and processing of grant applications and homeowner engagement.

Contractor Portal: This is an IT platform specific to WHS contractors designed over time to meet programme needs. All operations are generally carried out via the portal, from the allocating of the property to the contractor to the time the contractor has completed the works on site.

Deeper measures: Energy efficiency upgrade works of increased complexity consisting of external and internal insulation at ceiling level, window and door replacements and high efficiency heating systems including renewable heating systems.

Ductwork: A system or network of ducts. A duct is a tube or passageway in a building or machine allowing for air, liquid, cables, etc. to pass through.

EPBD: Energy Performance of Buildings Directive (EPBD) sets out a framework for reducing the energy consumption and greenhouse gas emissions associated with the built environment.

Energy Poverty Programme: Means the programmes run by the Authority to alleviate energy poverty for certain eligible homeowners.

Framework Participant: A successful tenderer [contractor], who has been appointed by SEAI, to the framework panel.

HARP: Home Heating Appliance Register of Performance (HARP) is an energy efficiency product database for domestic heating appliances which includes heat pumps, boilers (gas/oil/LPG /solid fuel), room heaters without back boiler (oil/gas/solid fuel), cooker boilers and solar water heating (aka "solar thermal"). HARP provides product data for BER assessors to use in DEAP.

HLI – Heat Loss Indicator: HLI, an output of DEAP, is the ratio of total heat loss from a dwelling quantified by the Heat Loss Coefficient (HLC) to total floor area which is calculated and termed the Heat Loss Indicator ($W / (K.m^2)$), also called the HLI.

Homeowner: Means the owner of any property or premises where Works are being carried out pursuant to a Works Order [and such other category of person who is eligible to participate in the Energy Poverty Programme, as determined by the Authority from time to time].

Homeowner Contact Centre: A team that handles all applicant details on behalf of all SEAI's Energy poverty programmes.

Install Complete: This is the stage of the process which contractors indicate to SEAI that they have completed the works in full, that the home is ready for a BER to be carried out and an inspection if scheduled.

Legionella: Legionella is bacteria that grows best in warm water, such as the water temperatures found in domestic heating systems. Heating systems must be designed to prevent a build-up of legionella. The bacteria are dormant below 20 °C and do not survive above 60 °C.

Load/weather compensation: Adjusts the temperature at which the heating system operates based on demand and/or weather conditions.

Major Renovation: ‘*Major Renovation*’ is the renovation of a building where ... more than 25 % of the surface of the building envelope undergoes renovation, EPBD Article 2(10). The ‘surface area of the building thermal envelope’ means the entire surface area of a building through which it can lose heat to the external environment or the ground, including all heat loss areas of walls, windows, floors and roof. Major renovation requirement can be activated by works to a single element or to a combination of elements as per TGD L.

Managing Agent: A team working on behalf of SEAI, assisting in QA and programme operations.

Measure: An energy efficiency measure installed to improve the energy performance of a dwelling by saving or generating energy.

Motorised valve: Electrically controlled valves used in central heating systems to control the flow of heated water.

Power flush: Power Flushing removes debris and sludge from a central heating system with the use of a power flushing pump.

Pressure relief / Release valve: A valve used to limit the build-up of excessive pressure in a heating system. The pressure is relieved by allowing the over-pressurised water to flow from a discharge pipe out of the system.

Programme Surveyor: A trained surveyor working on behalf of SEAI, who assesses the potential upgrades per home.

Reasonably Expected Works: The list of works expected to be included when carrying out a measure.

REC: A Completion Certificate No. 3 is issued by a Safe Electric Registered Electrical Contractor (REC) when existing wiring is renewed or extended.

RGI: Gas Contractors Domestic Certificates (GI D, GI 2, or GI 3) are issued by a Registered Gas Installer (RGI) of Safe Energy Ireland.

Shallow measures: Essential energy efficiency upgrade works consisting of attic insulation at ceiling level, sloped internal wall insulation and cavity wall insulation.

Space and Hot Water Zones: Allow the user to separately heat different areas of the home e.g. Upstairs and downstairs or living areas and sleeping areas. The hot water zone only heats hot water for use with showers, baths, sinks etc.

Space Heating: Refers to heating physical space and volume, for example the rooms in the home.

Technical contact centre: The programme’s technical service team and guidance support for contractors.

Thermostat, Cylinder: A thermostat fixed to the hot water cylinder. It tells the boiler not to fire when there is enough hot water in the cylinder.

Thermostat, Room: A thermostat in a central heating zone (normally positioned on the wall). It tells the boiler not to fire when the desired temperature has been reached in the heated space.

Thermostatic Mixing Valve (TMV): This valve is installed on the outlet of the hot water cylinder or a tap. This device mixes cold water with the hot water from the water supply to produce a lower temperature hot water “mix”, which can safely be used in taps and showers.

Thermostatic Radiator Valve (TRV): Radiator valve including an air temperature sensor. TRVs control the heat output from the radiator by adjusting water flow.

Under Audit: A trained inspector working on behalf of SEAI, who assesses the verification and evaluation of Works

carried out pursuant to the Scheme.

U-value: A measure of thermal efficiency of fabric, doors, or windows. It is the rate at which heat passes through a building component or structure e.g., roof or wall. A lower number indicates better insulating properties. It is expressed in units of Watts per square metre per degree of air temperature difference [$\text{W/m}^2\text{K}$]. U-values are calculated according to the standards detailed in the Dwelling Energy Assessment Procedure [DEAP] methodology, Technical Guidance Document [TGD] Part L and BR 443 “*Conventions for U-value calculations*” published by Building Research Establishment [BRE].

Vapour barrier: This is a continuous vapour control layer (VCL) / airtight impermeable material on the warm (interior) side of the insulation which limits the risk of interstitial condensation.

Ventilation, Background: Supply of fresh air and control pollutant and water vapour levels. This can be provided through natural or mechanical means. Natural background ventilation is normally provided through a closable wall vent or trickle vent located in the window frame.

Ventilation, Continuous Mechanical Extract Ventilation (CMEV): CMEV is a system that provides continuous regulation of the ventilation system to maintain the required air change rate.

Ventilation, Demand Controlled Ventilation (DCV): Demand Controlled Ventilation (DCV) is a system that provides automatic regulation of the ventilation system by sensing the Indoor Air Quality (IAQ) and determining the required air change rate.

Ventilation, Natural: Natural Ventilation relies on natural forces (wind and buoyancy) and passive devices like wall vents or trickle vents, without continuous operating mechanical fans in wet rooms.

Ventilation, Permanent: Permanent ventilation is required to supply air to an open flued combustion appliance such as a stove, gas fire, open fire etc. Open flued appliance means that the appliance is drawing air from the room in which it is located. For this reason, the room requires a non-closable vent for safe use of the appliance.

Verification of Identity: All personnel attending at an Eligible Home in connection with the Scheme will carry an identification badge. Applicants are invited to verify the identity of any person identifying themselves as a Scheme surveyor/ contractor/ assessor/ inspector, in advance of giving them access to their home.

Working Day: Means any days of the week except a Saturday or Sunday or a bank or public holiday in Ireland

Works Order: A list of recommended works made by the surveyor per home.

Common Scheme Terminology

ACM	Asbestos Containing Materials
ATT	Airtightness test
BER	Building Energy Rating
BRE	Building Research Establishment
BV	Background Ventilation
CIBSE	Chartered Institution of Building Services Engineers CA Contracting Authority [SEAI]
CMEV	Continuous mechanical ventilation systems
CO	Contractor
CoW	Clerk of Works
CWI	Cavity wall insulation
CRU	Commission for Regulation of Utilities [previously called the CER]
CWST	Cold water storage tank
DCEE	Department of Climate Energy, and the Environment
DCV	Centralised continuous mechanical ventilation with demand control
DDCV	De-centralised continuous mechanical ventilation with demand control
DEAP	Dwelling Energy Assessment Procedure
DGF	Decorative Gas Fire
DHPLG	Department of Housing, Planning and Local Government
DHW	Domestic Hot Water
DTSS	Domestic Technical Standards and Specifications [SEAI]
EHPA	European Heat Pump Association
EOTA	European Organisation for Technical Assessment
EPP	SEAI's Energy Poverty Programmes
EWI	External wall insulation
HARP	Home-heating Appliance Register of Performance
HCC	Homeowner Contact Centre
HLI	Heat Loss Indicator
HPAI	Heat Pump Association of Ireland
HSA	Health and Safety Authority
HSE	Health Service Executive
HO	Homeowner
IWI	Internal wall insulation
LED	Light Emitting Diode lamp
MA	Managing Agent acting on behalf of SEAI
MEV	Mechanical extract ventilation
MEWP	Mobile elevated work platform
MSDS	Material safety data sheets
NSAI	National Standards Authority of Ireland
PIR	Passive infrared sensor
PIR	Periodic Inspection Report
PV	Solar photovoltaic (PV) panels
QA	Quality Assurance
QADP	Quality Assurance and Disciplinary Procedure
QMS	Quality Management System
REC	Registered Electrical Contractor
REW	Reasonably Expected Works
RGI	Gas Installer

SE	Safe Electric
SEAI	Sustainable Energy Authority of Ireland
SOP	Standard Operating Procedure
SPF	Seasonal Performance Factor
S.R. 54	S.R. 54 Code of Practice for the Energy Efficient Retrofit of Dwellings (NSAI)
SSS	System Supplier's Specifications
TGD	Technical Guidance Document
TMV	Thermostatic Mixing Valve
TRV	Thermostatic radiator valve
WEP	Window Energy Performance
WHS	Warmer Homes Scheme
WO	Works Order

1.0 Purpose of this Document

The principal purpose of this document is as a reference for contractors [CO] wishing to carry out dwelling energy upgrade works which are fully funded by SEAI's Energy poverty programme. It sets out the programme-specific requirements of contractor practices in carrying out the works supported by SEAI. The current programme in operation is the Warmer Homes Scheme [WHS] Prioritisation Programme. This programme delivers free energy efficiency upgrades to homeowners [HO] who are in receipt of certain welfare payments. If applicants are eligible for the scheme and their home is suitable for works, the upgrades provided can help make the home warmer, healthier and cheaper to run.

1.1 Prevailing Technical Specification Guidance

In as much as they are relevant and appropriate, works under these contracts shall adhere to the technical specifications prescribed within, contractors must follow guidance issued in the following technical suite of documents:

- The Domestic Technical Standards and Specifications document [DTSS], [SEAI 2025]
- The Programme's Operations Manual [This document] [SEAI Version 3.0, 2025]
- SEAI's Quality Assurance and Disciplinary Procedure [QADP], [SEAI Version 5.13, 2025].

And where appropriate:

- NSAI¹ S.R. 54: Code of practice for the energy-efficient retrofit of buildings [2019] ²
- CIBSE Domestic Heating Design Guide
- All electrical works to be in accordance with I.S. 10101 National Rules for Electrical Installations
- All prevailing statutory building regulation requirements and relevant standards.

All contractors should possess and adhere to the standards set out in this list of documents and guidance in carrying out works supported by the SEAI.

¹ S.R. 54 is available, free of charge, a link to this document can be found here: [here](#)

² * S.R. 54: "Code of practice for the energy-efficient retrofit of dwellings" has been developed by State Agencies and the National Standards Authority of Ireland in conjunction with the Building Research Establishment to provide guidance on the energy efficient retrofit of dwellings. Contractors will need to familiarise themselves with the standard and put its recommendations into practice as it is embedded in the WHS Manual and the DTSS documents.

1.2 Disclaimer

Contractors must carry out works in accordance with this Operations Manual and in conjunction with the SEAI Domestic Technical Standards and Specifications [DTSS]. Registration of contractors on SEAI's *Registered Contractor List* is mandatory for the programmes. Please see link below for further information on registering as a contractor with SEAI.

<https://www.seai.ie/register-with-seai/contractor/>

The information contained in this Operations Manual does not purport to be legal, professional or commercial advice or a definitive interpretation of any law. While every care has been taken to provide accurate, complete, reliable, and effective information on standards in this Operations Manual, SEAI gives no guarantees, undertakings or warranties in this regard.



Figure 1: WHS Welcome Pack

The provision of goods and/or services by contractors to homeowners for these programmes is entirely a matter between the contractor and the homeowner. SEAI accepts no liability or responsibility, whether for breach of duty, negligence, health and safety violations or otherwise, in respect of any dispute, claim or cause of action arising out of, or in relation to, any product, equipment, work, system or installation supplied or carried out by the installer or contractor under the programmes. The contractor is entirely responsible for all such matters.

The information contained in this Operations Manual is regularly reviewed and is subject to revision with the current version of the Operations Manual version 3.0.

1.3 Introduction to the Energy Poverty Programme

SEAI has included in this Operations Manual, the energy efficiency improvement measures necessary for the completion of any scheduled project on all programmes in place under the Energy Poverty Programme [EPP] that is currently in operation or rolled out in the future. The programme details are expanded further on the [Warmer Homes Scheme](#) on the SEAI website. The EPP currently in place is the WHS Prioritisation Programme.

1.4 The Warmer Homes Scheme

This programme has been in operation since 2002 and has evolved from delivering essential home upgrades comprising attic and cavity insulation measures to more complex interventions such as solid wall insulation and renewable heating systems.

1.5 WHS Priority Programme

This programme has been in place since 2022. It targets the worst performing properties, by prioritising homes that were built and occupied before 1993 and have a pre-works BER of E, F or G. Under this Programme, the measures installed have expanded to heat pumps and photovoltaic systems.

1.6 Revisits

Applicants who previously received supports under the WHS, but who could still benefit from even deeper measures are eligible for re-application since 2022. Revisit applications are assessed against the WHS Prioritisation criteria. Where a home was surveyed on or after 1 July 2018 will not be eligible for any further measures where a revisit query is concerned.

1.7 Homeowner Contact Centre

The Homeowner Contact Centre handles all applicant details on behalf of all SEAI's EPP. It gathers all information received from potential applicants, validating scheme eligibility criteria from the first date received to the time the eligible homes are allocated for survey.

Those involved in this contact centre are supporting administrators of the Scheme, answering to SEAI's WHS team directly. The centre mainly deals with homeowner participation before works are allocated but can be engaged in homeowner and some contractor interaction during and after the works. They respond to all emails that come through the warmerhomes@seai.ie email queue. Their contact number is 01-8082005.

1.8 Technical Contact Centre

The Managing Agent [MA] for Technical and Quality Support carries out surveys, inspections and BERs on behalf of all SEAI's Energy poverty programme. It carries out initial survey calls to homeowners, establishes the initial recommendations through technical surveys and once the works are complete, it arranges for inspections and building energy rating [BER] assessments to be carried out. Those involved in this contact centre are technical supports for contractors should contractors seek any guidance arising from their respective works.

The centre mainly deals with contractor participation after the commencement of works and is also the point of contact if a contractor wishes to query the works order or submit a variation to the survey measures recommended. The technical helpdesk processes reworks and appeals after inspection. They respond to all emails that come through the warmerhomestechnical@ksnenergy.ie email queue. Their contact number is 01-2776988.

1.9 Programme Eligibility

There are certain requirements that applicants must meet in applying for the WHS:

- The dwelling must be owned by them and where they live most days of the week,
- The house must be built and occupied before 2006,
- The applicant must be in receipt of one of the following welfare payments:
 - Fuel Allowance,
 - One-Parent Family Payment,
 - Job Seekers Allowance for over six months with a child under seven years of age,
 - Working Family Payment,
 - Domiciliary Care Allowance,
 - Carer's Allowance and living with the person they are caring for,
 - Disability Allowance with a child under seven years of age.

1.10 Funding for the Programme

SEAI's Warmer Homes Scheme is co-funded by the Government of Ireland and the European Union through the ERDF Northern & Western and Southern, Eastern & Midland Regional Programmes 2021-2027.



Ama chomhchistiú ag
an Aontas Eorpach
Co-funded by the
European Union



Rialtas na hÉireann
Government of Ireland

2.0 How The Programme Works

For the purposes of this document, the 'Programme' where cited shall refer to the WHS. The upgrades process begins when the application form is received and validated as an eligible application.

There are five stages:

1. **Pre-works BER:** SEAI-appointed assessors carry out a BER if there is none published for the home. Homes with a BER in place will proceed to the next stage automatically.
2. **Suitability survey:** SEAI-appointed surveyors carry out a survey to assess the measures appropriate to the home. A schedule of recommendations is made at this point but will need validation by the contractor once the home has been allocated to them. The schedule of recommendations is known as a 'Works Order' [WO] and is located on the SEAI's database.
3. **Works allocated and verified:** A contractor is appointed to the dwelling. The contractor is responsible for the design and installation of the energy efficiency upgrades set out on the WO. The contractor must carry out a technical assessment on the home to ensure the recommended upgrades are technically feasible.
4. **Works completed:** Once quality checked on site, the contractor will proceed to commence works on site through to completion.
5. **Quality assurance and BER:** All homes will receive a BER, some of which will be inspected.

2.1 Measures Available on The Programme to Eligible Homes

The programme provides a suite of measures appropriate to each home, determined by the surveyor, and validated by the contractor. Each measure has established methodologies for recommending- see **Section 2.3**.

Table 1: Measures provided under the WHS

Measure
Cavity wall insulation
External wall insulation
Internal wall insulation
Attic insulation at ceiling level
High efficiency heating systems
Renewable heating systems
Window replacements
Door replacements
Warm deck roofing
Solar Photovoltaic [PV] Systems
Ventilation
Loose fibre extraction for cavity walls where suitable
Lagging jackets, draught-proofing and energy efficiency lighting

2.2 Programme Measure ‘Lot’ System

The programme works by providing appropriate measures per home. Each measure recommended will be grouped into of a ‘Lot’ system, which describes the scope and extent of the measures that have been scheduled for that home. The list of measure lots with their respective descriptions are listed in table 2.

Measures are classified as either ‘shallow’, ‘deep’ or ‘deep heat’ gearing to reflect the level of intervention in a home. Contractors should note the following on Lot conventions:

- Shallow measures [attic and cavity] are prefaced with ‘S’
- Deep homes have no heating [E and Ew]
- Deep Heat homes have a heat pump [HP, HPw, HPE, etc.]
- Deep Heat homes have a heat pump and Solar [HPV, HPVw, HPVE, HPVEw.]
- Windows will only be ever recommended as a measure if a wall upgrade is to take place
- Heating will only be ever recommended if Major Renovation is triggered

Please note the following references when assessing what defines the category of home in Table 2.

Table 2: WHS Lot conventions

Lot Ref.	Description
Lot Sa	Shallow home, attic only
Lot Sc	Shallow home, cavity only
Lot Scw	Shallow home, cavity and windows
Lot Sac	Shallow home, attic and cavity
Lot Sacw	Shallow home, attic, cavity and windows
Lot H	Deep home, heating
Lot Hw	Deep home, heating and windows
Lot HE	Deep home, heating and EWI
Lot HEw	Deep home, heating, EWI and windows
Lot I	Deep home, IWI
Lot Iw	Deep home, IWI and windows
Lot E	Deep home, EWI
Lot Ew	Deep home, EWI and windows
Lot HP	Deep home, Heat Pump
Lot HPw	Deep home, Heat Pump, and windows
Lot HPE	Deep home, H Pump, EWI
Lot HPEw	Deep home, H Pump, EWI and windows
Lot HPV	Deep home, Heat Pump, Solar
Lot HPVE	Deep home, H Pump, solar, and EWI
Lot HPVw	Deep home, Heat Pump, Solar, and windows
Lot HPVEw	Deep home, H Pump, Solar, EWI and windows

Application ID	Application Programme	Application Status	County	Gearing	Lot Number
WH562616	WHS 2.0	A140 - Works accepted	Co. Roscomm...	Deep	Lot E
WH562605	WHS 2.0	A110 - Survey Complete	Co. Monaghan	Shallow	Lot Sc
WH562593	WHS 2.0	A110 - Survey Complete	Co. Dublin	Deep	Lot E
WH562591	WHS 2.0	A110 - Survey Complete	Co. Mayo	Deep	Lot E
WH562587	WHS 2.0	A110 - Survey Complete	Co. Dublin	Deep	Lot E
WH562580	WHS 2.0	A110 - Survey Complete	Co. Louth	Deep	Lot E
WH562578	WHS 2.0	A110 - Survey Complete	Co. Wexford	Deep	Lot E
WH562575	WHS 2.0	A140 - Works accepted	Co. Leitrim	Deep Heat	Lot HE
WH562570	WHS 2.0	A140 - Works accepted	Co. Wexford	Shallow	Lot Sa
WH562556	WHS 2.0	A110 - Survey Complete	Co. Wicklow	Deep Heat	Lot HE
WH562555	WHS 2.0	A110 - Survey Complete	Co. Dublin	Deep	Lot E
WH562548	WHS 2.0	A110 - Survey Complete	Co. Limerick	Shallow	Lot Sa
WH562547	WHS 2.0	A110 - Survey Complete	Co. Westmeath	Deep	Lot E
WH562544	WHS 2.0	A110 - Survey Complete	Co. Dublin	Deep	Lot E
WH562536	WHS 2.0	A140 - Works accepted	Co. Longford	Deep	Lot E
WH562534	WHS 2.0	A110 - Survey Complete	Co. Dublin	Shallow	Lot Sc

Figure 2: Gearing classification

2.3 Programme Approaches for Survey Recommendations

For contractors to understand how the programme defines appropriate measures per home, see below the specific rules relating to how a surveyor assesses what necessary criteria must be present on site before heating, windows, and external wall insulation [EWI] are recommended. The following three tables set out the measures and references associated with shallow, deep, and deep heat homes.

Table 3: Shallow measures Lot criteria

<u>Shallow</u> Retrofit Measures – ‘S’					
LOT		Measure criteria/combination			
Lot name	Definition	Heating	Walls	Attic	Windows
Sa	Attic only	N	N	Y	N
Sc	CWI only	N	Y	N	N
Sac	Attic and CWI	N	Y	Y	N
Scw	CWI and windows	N	Y	N	Y

Where deeper measures **without** heating packages have been recommended on the WO:

Table 4: ‘Deep’ measures Lot criteria

<u>Deeper</u> home without heating upgrades - Lot ‘I’ and ‘E’							
LOT		Measure criteria/combination				Relevant notes	
Lot Name	Definition	Heating	Walls	Attic	Windows	Note 1	Note 2
Lot I	Internal wall insulation	No	Wall recommendation incl IWI but <u>not</u> EWI	Yes/no if present	No		Must have wall insulation recommendation
Lot Iw	Internal wall insulation with windows	No	Wall recommendation Incl IWI but not EWI	Yes/no if present	Yes	For windows, wall recommendation must be for insulation of at least 20% of total wall Area	Must have wall insulation recommendation
Lot E	External wall insulation	No	Wall recommendation incl any EWI	Yes/no if present	No		Must have wall insulation recommendation
Lot Ew	EWI with windows	No	Wall recommendation over 20% incl any EWI	Yes/no	Yes	For windows, wall recommendation must be for insulation of at least 20% of total wall area	Must have wall insulation recommendation

Where deeper measures with heating measures **have** been recommended on the WO:

Table 5: 'Deep Heat' measures Lot criteria

Deeper home with heating upgrades - Lot HP & HPV								
LOT	Measure criteria/combination					Notes		
Lot Name	Definition	Heat	Walls	Attic	Window	Note 1*	Note 2**	Note 3***
Lot HP	Heat pump, no external	Yes*	Wall recommendation not incl EWI [So CWI/IWI/nothing] [and/or attic]	Yes/ No	No	For heat Pump, wall and/or roof must be insulated, either recommended by us or already completed		
Lot HPw	Heat pump, no external, with windows	Yes*	Wall recommendation over 20% not incl EWI [so CWI or IWI] ***	Yes/ No	Yes* *	For heat pump, wall and/or roof must be insulated	For windows, wall recommendation must be for insulation of at least 20% of total wall area	Must have wall insulation recommendation
Lot HPE	Heat pump with external	Yes*	Wall recommendation incl any EWI***	Yes/ No	No	For heating, wall and/or roof must be insulated		Must have wall insulation recommendation
Lot HPEw	Heat pump with external and windows	Yes*	Wall recommendation over 20% EWI***	Yes/ No	Yes* *	For heat pump, wall and/or roof must be insulated	For windows, wall recommendation must be for insulation	Must have wall insulation recommendation
HPV	Heat pump with Solar Photovoltaic	Yes*	Wall recommendation not incl EWI [So CWI/IWI/nothing] [and/or attic]	Yes/ No	No	Wall recommendation not incl EWI [So CWI/IWI/nothing] [and/or attic]		
Lot HPVw	Heat pump, no external, with Solar Photovoltaic, with windows	Yes*	Wall recommendation over 20% not incl EWI [so CWI or IWI] ***	Yes/ No	Yes* *	For heat pump, wall and/or roof must be insulated	For windows, wall recommendation must be for insulation of at least 20% of total wall area	Must have wall insulation recommendation
HPVE	Heat pump with Solar Photovoltaic, with external	Yes*	Wall recommendation incl any EWI***	Yes/ No	No	For heating, wall and/or roof must be insulated		Must have wall insulation recommendation
Lot HPVw	Heat pump, with external, with Solar Photovoltaic, with windows	Yes*	Wall recommendation over 20% not incl EWI [so CWI or IWI] ***	Yes/ No	Yes* *	For heat pump, wall and/or roof must be insulated	For windows, wall recommendation must be for insulation of at least 20% of total wall area	Must have wall insulation recommendation

2.4 Fabric Measure Standards - DTSS

All measures available to applicants on the WHS are aligned with the standards and specifications set out in the DTSS. All contractors must first reference the DTSS when carrying out of the measures in table 1. Table 6 lists the DTSS sections on measures applicable to the WHS.

Table 6: Measures provided by DTSS

Section	Specific measures – DTSS competency and standards
4.0	Ventilation
6.1	Cavity wall insulation
6.2	External wall insulation
6.3	Internal wall insulation
6.4	Roof insulation at ceiling level
6.7	Mechanical Extract Ventilation
6.8	Heat pump systems
6.18	Storage Heaters - High Heat Retention
6.19	Power Flush of Heating System
6.20	Power Flush and Magnetic Filter of Heating System
6.21	DHWS: High Heat Retention Cylinders
6.22	Draughtproofing
6.23	Chimney Draught Limiter
6.24	External Door Replacement
6.25	Window Replacement
6.28	LED Domestic Lighting
6.30	Electricity Energy Monitors and Shower Energy Monitors
6.31	Solar Photovoltaic [PV] Systems

2.5 Supplemental Works Specific to the WHS

There are some additional technical and operational works which are in place, specific to the WHS which are not covered in the DTSS. These generally consist of items associated with the full suite of measures listed in table 6. They should be considered additional to any essential requirements in the DTSS. The only measure not covered by the DTSS is specifically 'Loose Fibre Extraction'. The expected standards for these measures are set out in this document.

2.6 Reasonably Expected Works Tables

These are tables of works listing every action that must be carried out with each measure on the WHS to the required programme standards. The following category of measures for each fabric element [measure] are as follows and located in Appendix 1 of this document. Those tables set out the works associated with:

- Internal and external wall insulation
- Attic insulation at ceiling level
- Renewable heating systems.

All other ancillary measures and the specific items associated with each measure carried out on the WHS, shall be referred to in their respective 'Measures' Section.

2.7 General Contractor Requirements

Contractor registration is mandatory for all SEAI grant programmes, works must be carried out by competent personnel, appropriately trained for each element of works being carried out. To successfully register as a contractor and to complete works under the WHS, the contractor must meet the following requirements:

- Hold a valid Tax Clearance Certificate,
- Have Public, Products and Employers Liability insurance cover meeting or exceeding the requirements specified by SEAI in the [Contractor Registration form](#),
- Fully-comply with all other requirements and terms and conditions on the [Contractor Registration process/forms](#), and
- Satisfy the specific competency requirements set out under the 'Competency, Product and Installation' standards for each of the relevant measures as defined in this document and the DTSS document.

Non-compliance with the terms and conditions of the WHS, with the DTSS, with this document and all other directions from SEAI are dealt with as per SEAI's [Quality Assurance and Disciplinary Procedure \[QADP\]](#).

2.8 Competency

The contractor must provide a competent workforce to carry out the works. This includes providing all relevant training and certification as appropriate to each element of works being carried out. All nominated personnel must have relevant professional training and/or product specific manufacturer training to carry out the works as appropriate. The contractor must maintain relevant training records and certificates and may be subject to inspection by SEAI. The specific competency standards relating to each of the measures supported by the WHS are detailed further in the SEAI's DTSS, as mentioned in section 2.4.

All contractors on the panel must be computer-informed, have regular access to e-mail facilities and must have IT software compatible with Microsoft Office to ensure the effective and efficient administration of the Scheme.

2.9 General Material and Product Standards

All materials/products used must be new, fit for purpose, improve the energy efficiency of the building, and have no detrimental impact on the structure, viability, quality, or safety of the dwelling. All products must meet relevant material/product specifications, standards and regulations detailed in the DTSS. Adherence to applicable standards must be followed in relation to the materials used, and their installation.

All aspects of this guidance document are subject to audit, quality inspection and verification. The requirements for each measure are detailed further in this document and the DTSS. The quality and other Quality Assurance [QA]/Quality Control [QC] processes are detailed in SEAI's QADP and specific WHS QA Guidance. All SEAI QA documents are published on the [SEAI website](#).

2.10 General Installation Standards

The design and installation of the recommended works must not compromise the ventilation, air quality, humidity [and the potential for condensation] and quality of living environment in the home. All works should be carried out in accordance with this Operations Manual, the DTSS and best practice and technical guidance documents outlined herein, which include, but are not limited to the following:

- S.R. 54:2014/A2:2022 Code of practice for the energy efficient retrofit of dwellings [2022],
- NSAI SR50 -4:2021 Building services - Part 4: Heat pump systems in dwellings,
- Building Regulations Technical Guidance Documents [A-M],
- The system-supplier/product manufacturer guidelines,
- NSAI Agrément certificates,
- NSAI Agrément recognised certificates within the EOTA network,
- Irish Standards [I.S.], European Standards [EN] or Guides.

A list of the primary 'Best Practice Guides' and where they may be obtained are referenced in Appendix 1 of the DTSS document. In each case, the Irish Standard or NSAI Agrément Certification should be considered the primary certification and preferred guidance.

Where building regulations are referred to in this document, and where not otherwise specified, the contractor must adhere to the current version of those building regulations.

Works must always be installed in accordance with manufacturer's, supplier's or System Supplier's Specifications [SSS].

2.11 Provision of Evidence for BER Assessors

Each home on the programme will require a BER assessment to be carried out on the dwelling by a registered BER assessor appointed by SEAI. The outputs of the programme verified by the BER data collected will assist policymakers in evaluating post-work performance improvements. Therefore, the contractor must provide complete, accurate and verifiable documentation to the BER assessor as required. The BER results will not reflect the benefits of the energy efficiency measures carried out by contractors if the BER assessor cannot prove retrofit works in fact have been carried out.

In general, BER assessors must use conservative default values where insufficient evidence is available from their BER site survey or from acceptable documentation. The DEAP methodology, particularly the [DEAP Survey Guide and DEAP Manual](#), detail the requirements for proof of dwelling energy efficiency upgrades from site survey and documentation.

As an example, if an existing attic is insulated, the BER Assessor requires detail of the insulation make/type on the insulation upgrade receipt so they can derive an accurate U-value calculation, assuming they can access the insulation to determine thickness and area of insulation installed on site. The dwelling address and date of installation must be shown on the receipt or invoice. It is not enough for the BER Assessor to simply use a U-value stated by a contractor without verifying the U-value is calculated according to the relevant standards and guidance in the DEAP Methodology. U-values are calculated according to the standards detailed in the DEAP methodology, TGD Part L and BR 443 – *Conventions for U-value calculations*.

As another example, the BER Assessor must rely on conservative default efficiency values for heating systems if they cannot identify the newly installed heating system against a certified data source such as:

- The HARP database for heating systems,
- Eco-design technical documentation for heat pumps,
- Other sources as specified in this document.

2.12 U-Value Calculations

Calculation of the correct U-value is important in determining if overall programme deliverables have been met. Prior to commencing insulation work, consult with the insulation product manufacturer or supplier to establish the best product to use for the given construction type to achieve the required U-value and provide a high level of thermal performance for the building fabric.

2.13 Allocations

Allocation timings: In general, allocations are carried out every two months. These allocation times may vary from time to time, but all contractors will be notified in advance of a planned allocation date. On the day of allocation, all contractors should make themselves available to receive the allocation as further allocation cannot take place until the contractor has accepted his allocated works. If the contractor is not reachable, the allocation will move to the next contractor.

Allocation planning: The number of homes offered to a contractor is made based on performance evaluation, including QADP scoring, trend analysis and service delivery issue handling. The extent of adjusted allocations will be dependent on the level of delivery delays, and the number of outstanding homes with a contractor relative to their previous allocation volumes.

Allocation acceptance: Contractors will be offered a number of homes, where the contractor will select the preferred volumes per county they wish to accept, in line with what they have been offered. Offers will be mailed to each contractor, one by one and should be accepted by return email immediately so that the allocation process can continue. Upon acceptance, the WHS database will formally offer the homes to the contractor, at a status of 'Works Allocated'. Once accepted on the database, the homes will move to a status of 'Works Accepted'.

Works Order Acceptance Letter: Once the home allocation process has been completed, and all allocated homes have been either accepted or rejected by contractors, the process is complete. The Contractor portal will automatically then proceed with issuing call-off letters to all contractors, in accordance with the Works Order Acceptance Letter procedure.

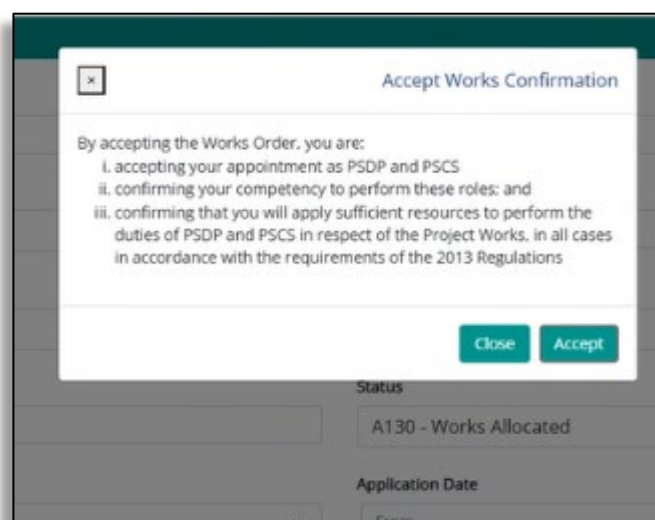


Figure 3: Call off Letter

2.14 Invoicing

Electronic data transfer: SEAI will issue works orders, record application details, and track various stages of the work process from allocation to payment via our programme CRM database. This will require internet access so contractors must ensure that they have suitable equipment and are able to access the internet to receive and transmit data.

Interim payments: All contractors will be paid a prescribed Interim Payment which is a % of the total cost of the works at ‘Install Complete’. Contractors will receive the remaining Final Payment % at the passing of inspection if applicable, the BER is published, and no reworks remain.

Invoicing and payment: SEAI shall unless otherwise specified, make interim payments in Euro within 30 days. This interim payment is subject to SEAI receiving a properly completed invoice and verification of work completed by the contractor and approved by SEAI and/or their agent. Please note that SEAI must be satisfied all works have been completed to expected standards before final payment can be made.

SEAI as a public body is compliant with European Directive 2014/55/EU in relation to e- Invoicing, and as such over the course of this contract may require that the successful Panel Members submit their invoices to SEAI in electronic format which may include but not limited to; sending electronic invoices to SEAI’s selected system “Celtrino PEPOL Connect”.

Electronic invoices are machine-readable invoices which can be processed automatically and digitally by the recipient are considered to be compliant with the European standard on electronic invoicing. An image file is not considered to be an electronic invoice for the purpose of the directive.

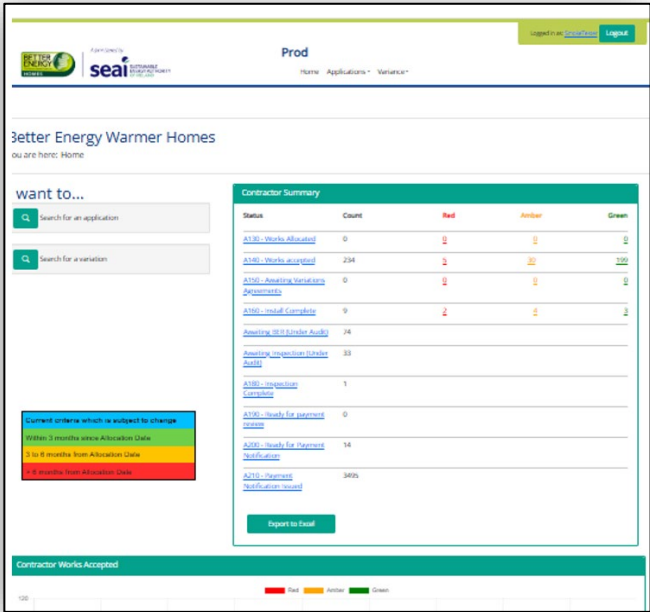
2.15 Pricing for Unforeseen Items

Some unusual or unforeseen items may occur from time to time during installation works. These items will be considered on a case-by-case basis if to be claimed as extras. This will be determined by the SEAI’s MA prior to installation and on receipt of a written and photo documented submission from the Contractor with costs validated by the MA. Works carried out without clearance cannot be claimed and the contractor will bear the cost of an unapproved variation.

Tenderers should refer to Chapter 5 Contractor-Managing Agent engagement: Variations in the Operations Manual.

2.16 Contractor Portal

All framework activity for Panel Members takes place on the WHS Contractor Portal. This portal records all activity between SEAI and the contractor, is the method for allocating, accepting and closing of all allocated homes.



3.0 Contractor Code of Conduct

Service standards define what a homeowner can expect and remind management and employees of the challenges and obligations that they face in order to maintain levels of quality-of-service delivery. Creating a quality-focussed programme begins with shifting priorities to deal with homeowners as individuals rather than as groups or segments.

The contractor is the public representative of SEAI's EPP. Contractors must always perform diligently, professionally and maintain the highest standards expected for all programmes. Audits, quality inspections and verifications carried out by SEAI or on behalf of SEAI, may not only establish the quality of physical works carried out by contractors, but also the level of professionalism and respect with which they were completed.

All employees or contractors who enter our homeowners' dwellings must be aware of how their behaviour impacts on a homeowner's perceptions of the contractor, SEAI and the programme. SEAI expects the contractor to ensure that all employees and sub-contractors are fully aware of SEAI programme requirements as well as the expansive level of needs that may present when entering a home with a vulnerable person residing. It is always the contractor's responsibility to ensure those persons' needs are appropriately met, to fulfil adherence to these policies when carrying out work, and to demonstrate to SEAI upon request evidence to support this.

3.1 Appointment and Conditions

As part of its terms of appointment, SEAI expects contractors to:

- Adhere to the service standards as outlined in this section
- Deliver service excellence in all their dealings with all homeowners
- Respect the needs, concerns, and circumstances of all homeowners
- Manage their health and safety performance in accordance with applicable legal requirements and best practice standards

SEAI takes account of these undertakings in the appointment of contractors. Failure to adhere to the service standard requirements and homeowner circumstance as outlined in this Operations Manual, in spirit or practice, will lead to increased oversight, increased inspections, future allocation numbers affected and potential removal of allocated properties.

3.2 Professionalism and Behaviour

At a minimum level of service delivery on site, SEAI requires the following from the contractor:

Photo I.D.: Contractors must carry a form of company branded photographic identification when arriving at the home that is receiving works. This must correspond with the contact's name provided by the contractor when initially arranging the works or site visit. Full contact details [business address and telephone number as a minimum] for the contractor must be provided to the homeowner before commencement. All identity cards must be immediately re-called and destroyed upon expiry date or when the representative leaves the contractor's employment. SEAI recommends that the homeowner should be provided with photo ID of expected visitors to the home including correspondence engagement in advance of any visits so that they will be familiar with who is to visit

them.

Branding & professional image: Contractors should ensure that they maintain neat and appropriate standards of company branding when planning any attendance at a home. This extends to vehicular branding where the appointed contractor should ensure that the name and details of the company are present and easy to read. Contractors must adopt a suitable branded dress code that is kept clean and in good condition and there should be no casual attire worn by any worker at the home. They must always maintain a professional appearance and professional attitude while carrying out the works. When communicating with homeowners, contractors should be polite, patient, and informative.

Appointments with homeowners: Agreed appointment dates and times must be adhered to, as far as is reasonably possible and the homeowner must be informed and kept up to date in a timely manner if there are any changes to the agreed appointment. There should be no ad hoc calling in to the home without an arrangement in place.

Unavailable homeowners: Contractors must leave a 'While You Were Out' card if a homeowner is not available. However, contractors should allow plenty of time for homeowners to answer the door before leaving. The contractor should maintain a record of any unsuccessful calls and actions arising and should add notes on the programme's database. This will assist SEAI in the event of a homeowner query. If after three attempts [over two-week period] the homeowner is still unavailable, the contractor must notify the MA.

Punctuality: Contractors must not go to a homeowner's dwelling without making an appointment. Cold calling is not allowed, and no works should take place after normal working hours without homeowner consent on a weekday. No works should take place at the weekend.

Homeowner & Contractor Agreement: Contractors must provide an agreement for signing with the homeowner.

Security: People who live alone or who feel themselves to be in any way vulnerable, may have a high concern for personal safety. Many WHS homeowners fall into this group. Contractor staff must not be or appear to be a threat to a homeowner's security. The contractor must satisfy themselves that none of their representatives are putting any of our homeowners at real or perceived risk. Contractors must check the references of their staff and exclude persons with convictions for criminal offences relevant to the position if that position is in close contact with this homeowner group.

Homeowner data: Contractors should minimise the sharing of homeowner details such as phone numbers with key personnel. Contractors are responsible for the security of homeowner data so should be mindful when sharing that data with others. Personal data should be kept to the project co-ordinator and/or customer liaison manager when calling and engaging with homeowners.



People with disabilities: Contractors will on occasion, be required to respectfully deal with homeowners with disabilities. In such instances, contractors must ensure that their representatives are trained to deal with these cases appropriately and with care and understanding. From the first engagement with the homeowner, the contractor should assess each property on a case-by-case basis to ensure any proposed works will not bring any risk to the living experience of the homeowner and in particular, those with disabilities.

Provide clear information to homeowners: Given the potential complexity of measures, contractor representatives must be able to explain the outline of the works clearly, the full implications of the works proposed and give relevant information in writing. The contractor must also inform the homeowner of the performance standards of their

installed measures and ensure they are fully aware on operating system calibrations prior to leaving site.

Warranties and post-completion services: The contractor must be able to supply the homeowner with the relevant warranties and commitment of service expected on the programme. The period of guarantee extends to 24-months post-completion of the works.

3.3 Initial Home Engagement

Making appointments: The contractor should as best practice, when commencing engagement with the homeowner, send a follow-up email/message to record the agreed key dates for the project. The contractor should identify any specific needs identified at the initial engagement in terms of accommodating a homeowner's specific arrangements and/preferences.

Explanation of proposed work: At the initial engagement and from the commencement of works, the contractor is responsible for managing the expectations of the homeowner. The contractor should ensure that the homeowner fully understands the nature of the work due to be carried out in their home at the earliest stage in the retrofit journey. This will reduce homeowner confusion and complaints over the course of the works and until the work is complete.

Before starting the work, the contractor must action the following:

- Identify and record any risks and/or special requirements specific to the home. For example, for those homeowners with ambulatory needs, that this will be addressed by the project programme over the course of the works.
- Describe in clear language, each measure due to be installed in the homeowner's home using the 'Welcome to your Warmer Home Welcome Pack'.
- Demonstrate the benefits each measure will bring to the homeowner's home.
- Describe how the measures will be installed in the homeowner's home.
- Set out the expected sequencing of the measures to the homeowner.
- Outline the hazards that the work may cause and the steps that have been established to prevent injury. The contractor must explain where these hazards will be and what they expect the homeowner to do or not to do to protect themselves.
- Describe to the homeowner how the appearance of their dwelling will be affected by the proposed work. The use of 'props' will be useful at this stage, such as a section of copper pipe, a draught strip, photographs of previous installations such as an example of a wall vent, to ensure the homeowner understands what the work entails.
- Explain to the homeowner if any fixtures and fittings within the dwelling will be affected by going ahead with the installation. For example, homeowners may still need to clear attics and will not be able to use the attic in the same way after the works.
- SEAI strongly recommend contractors use a customer checklist which covers all the areas where they need up-front homeowner agreement such as ventilation work, that may not be covered by standard SEAI documentation given ventilation strategies vary from home to home. The contractor should ensure the homeowner signs the checklist to confirm their agreement of understanding for the works which are to proceed. These should be signed before any works commence.

- **SEAI will not accept waivers** so they must not be part of any checklist a homeowner signs before and/or after any works start. All works must proceed as recommended on the WO unless varied out and agreed by the MA.
- If the contractor has concerns that the homeowner does not fully understand the scope of the proposed work, they could suggest the homeowner have a trusted representative present during the contractor survey or follow-up visit. The homeowner must be given reasonable time to discuss the work to be carried out with their family or friends.
- SEAI has provided the Welcome Packs to assist the contractor in the delivery of the message of the programme. This pack must be gone through with the homeowner and left with them as a reference document over the course of the works.
- The contractor **must** note the project co-ordinator's contact details on the Welcome Pack.
- The contractor must carry out all the above activities before collating and recording in the signed agreement with the homeowner.

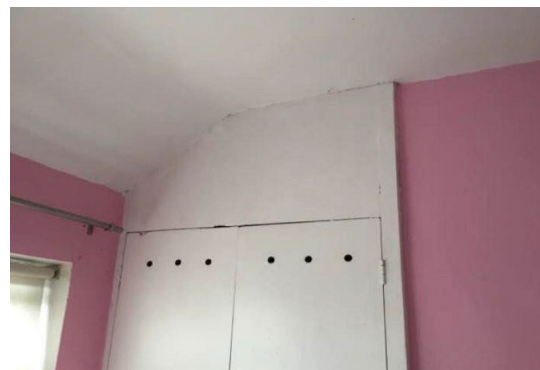


Figure 5: Variation Slope Ceiling

Who to contact about your energy efficiency upgrade works

Please ask your project manager to complete this page when they first visit your home. Keep it somewhere safe so you have this information handy if you need it.

Your contractor is:

Company _____

Your project manager (your key point of contact) is:

Name _____

Phone _____

Figure 6: Contractor details on the Welcome Pack

Project Manager Details: All homes must be allocated a Project Manager as a key point of contact. This detail should be shared with the homeowner at the initial visit to the home and should be added to the Warmer Homes Welcome Pack.

Quality Assurance Manager Details: All homes must be allocated a QA Manager who will be responsible for overall quality checks across the project. This person may be the same as the Project Manager and the details should be entered into the Portal for the record.

Estimated Start Date: This date must be entered on the Portal after the technical visit has taken place. The date forms part of the contractor's programme of works which must be agreed with the homeowner prior to commencing.

Verbal and telephone communication: The contractor must ensure all employees that have contact with homeowners, adhere to the standards set out in this section. If using the telephone, they should always allow time for the homeowner to answer the telephone. When speaking, they should speak clearly in a voice and language that the homeowner understands. SEAI always expects every contracting team to be contactable during working hours to allow communication with them.

Homeowner details: Homeowner phone details should **not** be shared with anyone and all communications including appointments with sub-contractors must be between the homeowner and the Project Manager only.

Homeowner engagement: To encourage a positive experience for our homeowners, contractors' representatives must always:

- Be calm, courteous, and encouraging,
- Ask the homeowner for the best they can help to make this experience as smooth as possible,
- Treat all homeowners with courtesy and without over-familiarity,
- Give people as much time as they need to read information and fill in paperwork.

For homeowners who are hearing-impaired, contractors should:

- Ask the homeowner how much they can hear and how they prefer to communicate before entering the home,
- Not shout; write information down instead,
- Speak directly to the homeowner, even if the homeowner has an interpreter present,
- Give a light touch on the shoulder or wave of your hand if it is necessary to attract the homeowner's attention,
- Speak articulately and avoid covering their mouths.

For homeowners with restricted mobility and wheelchair users, contractors should:

- Avoid touching a homeowner's wheelchair unless expressly asked to do so by the homeowner,
- Talk directly to the homeowner and not their companion.

For homeowners who are older, contractors should:

- Observe the directions in the preceding paragraphs,
- Make sure their explanations are clear and straightforward and should not use unnecessary jargon,
- Write things down if this helps.

SEAI Welcome Packs: For each home where works are recommended to the home, the SEAI surveyor will complete the 'Welcome to your Warmer Home Pack' which sets out the list of recommended measures per dwelling. Once the surveyor has gone through the recommendations with the homeowner, they will leave it at the dwelling in advance of the contractor survey. When the contractor has completed their technical assessment of how suitable the house is for the recommended works, the contractor will add any notes regarding same. They will add a point of contact for the homeowner at this time. If at the time of the suitability survey, that the contractor decides that the house is not suitable for the upgrade works, they should explain the reasons comprehensively and write them down in the booklet that the homeowner has in their possession. This will help the homeowner remember what actions may need to take place for their home to become suitable. No



Figure 7: Homeowner Welcome pack Sample

other person other than the surveyor or contractor's representative should make notes in the booklet.

Cancellation of works: From time to time, it may not be possible to technically complete a proposed measure once the contractor has carried out the detailed technical survey. In this instance, the contractor must demonstrate to the homeowner the reason why the proposed work cannot go ahead after having ensured no alternative solutions are possible. Then the contractor must proceed to formally cancel the works by notifying warmerhomes@seai.ie. The contractor should update the database of the cancellation and confirmation that the homeowner has been informed. SEAI must have a clear record of why certain works have been cancelled on the programme's database so contractors must update the database accordingly.

Where there is a technical reason for cancelling works there should be evidence provided that confirms that the issue has been reviewed with the SEAI technical team.

3.4 Contractor Administration and Responsibilities

Provide a competent workforce: All installation works shall be carried out by a suitably qualified and competent person. This includes all works supported by the WHS including, but not limited to, electricity, plumbing, working at heights and the operation and storage of machinery and plant. The contractor must always maintain adequately trained, qualified and experienced staff and resources to provide a continued capacity as described to SEAI in the contractor's tender. If SEAI reasonably requests that specific personnel are no longer employed to carry out the services, the contractor shall comply with this request.

Maintain proper communications: To ensure that they are kept informed of procedural communications, programme notices and information requests, contractors are obliged to maintain an active e-mail account for communication purposes.

Obtain [statutory or otherwise] permissions for works: The contractor must ensure any necessary approvals from the homeowner, management company, local authority or appropriate third party where applicable for the works before installation, are in place prior to commencement. Similarly, the contractor must inform the homeowner, to the best of their ability, of the homeowner's responsibility in obtaining for the contractor any relevant approvals, permits and permissions required where appropriate for the works to proceed. Contractors must obtain permission before entering a homeowner's dwelling, including the garden and along the boundary. This also applies where a neighbour must grant consent for work access.

If a contractor needs to erect scaffolding on an adjoining dwelling, they must ensure the homeowner has obtained written permission from the adjoining owner prior to commencing erection. Upon completion of the work, the contractor must clear all scaffolding and other materials and equipment to the homeowner's and adjacent owner's satisfaction. If there is any damage, this will be made good by the contractor at their expense and to the owner's satisfaction. No works should commence without these permissions in place.

In addition, contractors must obtain permission prior to the use of the homeowner's facilities, such as a toilet. Contractors should not use the homeowner's kettle but supply their own with contractor-supplied power from a generator. Where the homeowner agrees to provide some services, the contractor must explain to the homeowner why they require the power and must compensate the homeowner for the use of it. The contractor must not enter any part of the house where no measures are taking place.

Indemnity insurance: As per their appointment to the EPP panel, and required by the BEH Register, the contractor shall ensure that it has appropriate and up to date indemnity insurances in place prior to any works commencing.

3.5 Service Delivery Works Stage

Maintain health and safety and security standards: Where works are completed over several days, the home must be left in an appropriate condition, minimising the impact to the homeowner and surrounding properties, and having regard to all health, safety, and security requirements. See section 4 for detailed information on health and safety obligations.

Clean-as-you-go policy: All contractors must make sure that their workers/subcontractors take every reasonable precaution to protect the home on which they are working, leaving it clean and tidy daily. The contractor must remove any excess materials, packaging, dust and debris from the homeowner's premises, adjacent premises and any other areas affected by the works. Skips are to be prioritised for usage for disposal of material.

Homeowner's dwelling: Contractors should ensure that they cause no damage to a homeowner's dwelling and personal belongings. By taking the time to implement preventative measures, carrying out appropriate assessments and listing any mitigating actions for existing arrangements on site, not only leads to good homeowner relationships but also reduces the potential for claims against contractors at a later stage. Do not move furniture or household items to different positions unless this is necessary for the work to be completed satisfactorily. Always ensure that the homeowner is made aware if this is necessary before moving anything. If any fragile items require moving, ask the homeowner to move them to a safe place. Once the proposed work has been completed, ensure any items that have been moved are returned to their original positions. However, if the homeowner is visually impaired, do not move the items from their original positions without first telling the homeowner and getting their permission to move them.

Additional precautions: The contractor must always use heat resistant mats when soldering or using heat-producing equipment to prevent scorching or burning. Similarly, they must always use dustsheets in appropriate places and wear shoe-protectors inside the dwelling. Protection of existing furniture and surfaces should be robust and secure and easily removed at completion.

Additional provisions: Contractors at their own expense, should provide temporary heating appliances, so that the homeowner has at least the same level of heating that existed before the work started. If it is not possible to complete the work in one day the contractor must make appropriate arrangements with the homeowner for the completion of the work.

Completion stage: Contractors must leave the dwelling as clean as reasonably possible and achievable, with all redundant / excess materials removed. All contracting teams must carry a suitable vacuum cleaner and cleaning products and ensure the following:

- Removal of redundant material and clean-up activities must be completed prior to Install Complete. The contractor must leave their contact details with the homeowner at the completion of every project.
- Ensure all reasonable precautions taken whilst in the homeowner's dwelling to prevent any damage occurring. This also applies to adjoining properties, gardens, public and private roadways. The contractor must advise the MA of all instances and remedy any damage to the satisfaction of the homeowner and add notes to the database to indicate this.

The homeowner will be responsible for any redecoration following the making good. Contractors should be clear

with homeowners on this prior to commencement.

Homeowner instruction: On the completion of the services, the contractor shall demonstrate to the homeowner the correct operation of equipment that has been installed. In order to ensure that they understand and can operate the equipment correctly, the contractor should politely request the homeowner demonstrate their operation by return, to the contractor.

Homeowner 'Handover Pack': At the completion of each project, the contractor must deliver a suite of documents to the homeowner, known as a Handover Pack, to ensure that they are fully informed of the technical specifications that have taken place over the course of the works. The pack should also include the relevant documentation associated with each measure. Please note that Handover Packs must observe the following:

- Be issued to the applicants at the time of completion
- Not be issued at inspection stage
- Contain all relevant manuals, certificates, service alterations requests, if applicable, QA checklists and appropriate readable documentation
- Be filled in correctly, for example all certificates should have the most accurate information enclosed. Incorrectly filled in certificates mean that the BER cannot be published, so defaults may have to be employed
- Windows certificates as per DEAP methodology
- A copy uploaded to the database and a copy left with the applicant

The following list of documents must be included in the Handover Pack where applicable for the homeowner records:

- Cover page with contractor's logo, office contact details, heating team, wall insulation team
- Signed QA Checklist for all measures
- Where LFE has been carried out, it must be documented and detailed & attached to the CWI cert
- Any electrical certification, commissioning certs and associate documentation
- Any Solar PV certification, commissioning certs and associate documentation
- Any Solar Diverter certification, commissioning certs and associate documentation
- Any heat pump certification, commissioning certs and associate documentation
- Any service alteration requests to ESB or GNI
- TRV instructions documents
- Room thermostat information
- Motorised valve documents
- Radiator specification and technical information
- Magnetic cleansing device documents and inhibitor information
- Airtightness test report
- Ventilation validation certificate
- Ventilation design details
- CMEV/DCV operation and maintenance documents
- Attic insulation at ceiling level certificates for mineral wool
- Downlight cover specifications
- Tile/soffit vent specifications
- NSAI wall insulation certificates - CWI, EWI and IWI where applicable
- EWI Homeowners Manual
- Wall insulation declaration [Please use template for EWI in appendices]
- Warm deck roof insulation cert including details of roof build up and materials used

- Window certificates from manufacturer including aftercare documents
- Door certificates from manufacturer including aftercare documents
- Declaration of power flush and pressure test [Please use template for power-flush in appendices]
Video evidence to support the completion of power flush and pressure test must be uploaded to the database
- Any other ad-hoc documentation which may arise specific to the dwelling

Making good damages [if any]: Contractors are responsible for the careful handling of the home during the retrofit and must make good any damage to the dwelling resulting from their work or installation.

Complete works to SEAI satisfaction: All works must be completed and finished to the satisfaction of SEAI's requirements.

Resolve complaints: The contractor is responsible for the relationship with the homeowner. If a homeowner is not satisfied with the works completed, contractors must make every reasonable effort to resolve the complaint to the homeowner's and SEAI's satisfaction. SEAI will not negotiate on behalf of contractors. Contractors must ensure that any issue that arises on site must be fully documented and uploaded to the database so that SEAI are fully apprised of the sequence of events should a complaint be received outside the contractor's QA processes. Contractors should ensure that all provisions are included as part of a signed agreement between them and the homeowner.

Installation standards: The requirements for installation of the specific measures detailed further in this document and the DTSS must be adhered to by the contractor.

Private work: Contractors must not sell additional products or services to homeowners without prior agreement from SEAI. Recent escalations to the WHS Team regarding work out of scope have resulted in needless SEAI involvement and potential conflicts with what should be inspected on the Works Order and the post-works BER. Private works bring no value to the energy improvements of the home and contradicts the mission and purpose of the Scheme as SEAI cannot account for energy uplift from other works which are not funded.

While some minor enabling works outside the Scheme recommendations may be considered possible by Contractors at the time of their Technical Survey, SEAI will not be drawn into any private arrangements which take place outside the programme. Any requests from homeowners for additional works should be avoided at all times, but, if necessary, should be processed as a standard technical query and logged for approval from the Technical Team to be treated along the standard variation process, should you as the contractor believe this is a justified request. If rejected, no additional works should take place.

SEAI recommends all contractors convey from the outset that they are not available to carry out works and in the instance of an appeal through technical query, it is unlikely that the variation will be upheld if the surveyor did not recommend it. Works such as including garages and porches, and other non-thermal envelope elements should be carried out by others and after the WHS works is completed and BER published.

Absolutely no private work should take place by any sub-contractor carrying out works on the programme. For further information please refer to "Extensive refurbishments by others" in section 6 of this document.

Quality assurance system and disciplinary procedure [QADP]: SEAI has in place a quality assurance system, the key elements, and processes of which are outlined in the QADP available online. The QADP details all penalty points, sanctions as well as the list of corrective actions for non-compliance [Appendix 1 of the BEH QADP document] applicable to all grant schemes including the WHS. Monthly scoring processes for WHS contractors is outlined in Appendix 2 of this document.

3.6 Post-Works

Guarantees: A minimum 24-month guarantee on all parts and labour shall be provided by all contractors. Cavity wall insulation must be provided with a 25-year transferable guarantee, which is independent of the continued trading of the contractor. Where another wall insulation measure has been installed, the contractor must provide an appropriate guarantee to the house owner.

The contractor should ensure that all guarantees, and warranties shall be assigned to the relevant dwelling owner on completion of the upgrade projects as failure to do so will result in an inspection fails if the dwelling is inspected [See 'Homeowner Pack' and BEH QADP Appendix 1].

Sub-contractor guarantee: The sub-contractor must also provide a 24-month guarantee from the date of completion of the installation on all workmanship and materials supplied and/or installed by them.

Records: Contractors should keep files on all works for a prescribed period after completion of works. Following a request from SEAI, the contractor will provide all possible assistance and provide information concerning installations. Requests for information may include written reports, technical reports and/or call logs.

Additional guarantees and warranties: Apart from the 24-months guarantee on workmanship and materials detailed above, the contractor shall not, under any circumstances, offer to provide any information, advice, or assistance to any homeowner in respect of any cover, warranty, insurance, or protection of any kind in relation to the installation. Specifically, they cannot, under any circumstances, provide any insurance advice. All enquiries in relation to warranties, or similar, must be referred to SEAI.

Complaints/enquiries: Complaints or enquiries following installation may originate from a variety of sources to include the client, SEAI, SEAI's service provider or outside agencies. These may be made verbally or in writing. Following receipt of an enquiry or a complaint involving the contractor, the contractor shall contact the homeowner within one working day to discuss the matter.

Remedial Works: Where SEAI or the CO discover inherent issues prior to works being recommended, validated or commenced, the contractor must notify the HO of the remedial works requirements in order to make the site ready. Remedial works comprise upgrading or repair works that must be carried out in order to allow the Works to be commenced.

Reworks: Where SEAI has identified installation remedial work post Install Complete, the contractor must contact the homeowner to make a mutually convenient appointment with the homeowner to attend to complete the remedial work as soon as possible. The contractor must complete all remedial works after receiving notification and provide a signed declaration and sooner if a serious rework requirement. This must be signed by the homeowner, with supporting pictures to SEAI indicating that this remedial or non-compliant work has been completed. Where the contractor cannot gain access to the homeowner's home to complete Reworks, SEAI has provided a 'Refused Access' process for Reworks' [Appendix 5].

4.0 Health and Safety Requirements

Please also refer to The DTSS Section 3, for health and safety regarding overall programme requirements.

SEAI considers the health and safety of our homeowners to be of the utmost importance. This section provides further details of the health, safety and environmental requirements for contractors working on the programme. Contractors delivering works on the panel must comply with the Safety, Health and Welfare at Work Act 2005 and the Safety, Health, and Welfare at Work [Construction] Regulations 2013. This means compliance with all current regulations and appropriate guidelines and ensuring that their staff and subcontractors are appropriately trained to operate to these standards. SEAI will complete a competency check on each contractor as PSDP, PSCS and designer prior to commencing works under the new contract. SEAI remind all contractors on the scheme to ensure their H&S obligations are fully observed and carried out.

4.1 HSW Responsibilities

SEAI is the 'Client' under the Safety, Health and Welfare at Work [Construction] Regulations 2013, as amended [the 'Regulations']

SEAI's managing agents [MA] are 'Designers' for the works under the 2013 Regulations.

Contractors are the 'Project Supervisor' for the design process [PSDP] and 'Project Supervisor' at construction stage [PSCS] in respect of each package of work awarded in accordance with the regulations. Contractors are also defined as 'Designers' as set out by Regulation 15 of the regulations.

In practice, contractors must demonstrate:

- That a "*competent person*" is appointed as a PSDS and PSCS, in respect of the works
- That they will allocate adequate resources to comply with its obligations as PSDS and PSCS for the works in accordance with the regulations
- They will deliver a completed safety file, when the works finish, in accordance with the regulations

Contractors are reminded that a project home will be a place of work and the requirements of the Act [the Safety, Health and Welfare at Work Act 2005] apply. Contractors must comply with the general duties within this Act which means they are obliged to:

- Ensure the Safety, Health and welfare at work of all their employees
- Provide and maintain plant and systems of work that are safe and without health risks
- Establish arrangements to ensure the safety and absence of health risk in connection with the use, handling, storage and transport of articles and substances
- Provide relevant information, instruction, training, and supervision as is necessary to ensure health and safety at work or employees
- Maintain any place of work under the employer's control in a condition that is safe and without health risk, including access and egress
- Provide and maintain a working environment that is safe and free from risk for employees.

Accredited professional institutions run PSCS and PSDP courses. It is recommended that the person[s] completing the pre-survey of the property are competent in the roles of PSDS and PSCS to complete the required risk assessments and method statements prior to the commencement of work.

4.2 HSW Duties

Table 7 sets out the expected level of documentation associated with each project and who is responsible for same.

Table 7: Documents requirements per project

Health and Safety documentation required	
Designers	Design Risk Assessment prepared by the MA, issued to contractor through the database and MA SharePoint. Completed by contractor as part of Preliminary Safety and Health Plan and held on file by contractor
PSDP	Preliminary Safety and Health Plan [Held on file by contractor]/Safety File [issued to homeowner]
PSCS	Construction Safety Plan [Held on file by contractor]/submission of AF2 [issued to HSA if required]
Contractor	Safety Statement must take account of the Construction Safety Plan [held on file by contractor]

The Health and Safety Authority [HSA] provides links to or information on relevant regulations, legislation, and guidance on its website:

- [Safety, Health and Welfare at Work \(Carcinogens, Mutagens and Reprotoxic Substances\) Regulations 2024](#)
- [Safety, Health and Welfare at Work \(General Applications\) \(Amendment\) Regulations 2023](#)
- [Safety, Health and Welfare at Work Act 2005 and General Application Regulations 2007-2016](#)
- [Safety, Health and Welfare at Work \[General Application\] Regulations 2007](#)
- [Safety, Health and Welfare at Work \[Construction\] Regulations 2013](#)
- [Further information for the construction sector](#)
- [Further information for small businesses](#)
- [Further information for working at height](#)
- [Further information for Guide for Homeowners - Getting Construction Work Done Safely](#)

The HSA has prepared a guide for contractors and project supervisors carrying out construction work on private domestic dwellings this guide is available from BeSmart.ie.

Safety File: This is a record of information, prepared by the PSDP for the end-user when works are complete. The information it contains will alert those who are responsible of the significant safety and health risks that will need to be addressed during subsequent maintenance, repair, or other construction work, including demolition. The safety file may include the following relevant information:

- Introduction to the purpose of the Safety File
- An outline of client duties in respect to the safety file
- A general description of the works undertaken
- Any construction drawings and specifications throughout the construction process
- General design criteria

- Materials used to include material safety data sheets [MSDS] if available
- Any details of the equipment and maintenance facilities within the structure
- Maintenance procedures and requirements for new systems in place
- Manuals and/or certificates, produced by specialist contractors and suppliers which outline operating and maintenance procedures and schedules for plant and equipment installed as part of the installation, typically electrical and mechanical installations, CWI guarantees, EWI warranties and maintenance instructions
- Contractors and suppliers contact details
- Residual risks- asbestos information if encountered

Written confirmation should be received from the PSDP that the file has been delivered to the householder. The homeowner should keep the safety file available for inspection by any person who may need the information in order to fulfil their duties or to carry out work on the structure to which the safety file relates. The safety file must be available for an SEAI inspector of the property.

Table 8: Documentation checklist to be completed by contractor per home upgrade

Documentation checklist to be completed by contractor per home upgrade	
A preliminary 'Safety and Health Plan' for each project [the home] by the PSDP, taking account of the 'Principles of Prevention' as outlined in Schedule 3 of the Safety, Health, and Welfare at Work Act 2005 and in accordance with Regulation 12 of the 2013 Regulations. An example template is included in the appendices [<i>Preliminary S&H Plan - see Appendix 6 at the end of this document</i>]. This is not a statutory form, and the template may be amended as required for any project. The template should be developed taking account of Section 20 of the 2005 Act regarding 'Safety Statements'.	✓
A 'Construction Safety Plan and Method Statement' must be completed for each project [dwelling] by the PSCS in accordance the requirements of Regulation 16, 2013 Regulations.	✓
The persons appointed by the contractor to complete the 'Preliminary Safety and Health Plan' and the 'Construction Safety Plan and Method Statement' must be competent to do so as defined by the 2005 Act.	✓
The client shall submit an 'Approved Form 1' [AF1] to the HSA in accordance the requirements of regulation 10 of 2013 Regulations. It is duty of the client to notify the Authority of the appointment of the PSDP where construction is likely to take more than 500 persons days or 30 working days. Given the extent of proposed works on the programme, no project should take longer than 30 working days or 500 persons days.	✓
The client will appoint the contractor as PSDP and PSCS in writing in accordance the requirements of the 2013 Regulations. An example template is included in the appendices [<i>Letter of Appointment – see Appendix 6 at the end of this document</i>].	✓
The contractor shall accept the appointment of them as PSDP and PSCS in writing, in accordance with the 2013 Regulations. An example template is included in the appendices [<i>Letter of Acceptance - see Appendix 6 at the end of this document</i>].	✓
The PSCS shall submit an annual 'Approved Form 2' [AF2] to the HSA in accordance the requirements of Regulation 22 of the 2013 Regulations. The PSCS must fill in the AF2 before construction work begins and this must be displayed clearly on the site [and updated as necessary].	✓
Prior to commencement of the work, the contractor must give notice of that commencement to the homeowner. They must also demonstrate how they will endeavour to keep the homeowners and other persons present [including pets] at the property safe during the duration of the works. They must document this information, and the homeowner must sign for the receipt of this information.	✓
The contractor shall prepare and submit a safety file [handover pack] to the homeowner.	✓
The MA will complete a design risk assessment for each property. This will be added to the documents section of the WHS database as well as the MA SharePoint file for the property. An example template is included in the appendices [Designers Risk Register - see Appendix 6 at the end of this document].	✓
The contractor will complete the same design risk assessment as part of their Preliminary Safety and Health Plan. [<i>Preliminary S&H Plan - see Appendix 6 at the end of this document</i>].	✓

4.3 Homeowner and Site Safety

Dwellings may remain occupied during the works so contractors must prioritise safety and health aspects. Special consideration must be given for the safety of children and/or those with disabilities if present and appropriate precautions including risk assessments should be co-ordinated with homeowners at the earliest interval.

The contractor must ensure that they carry out the following actions:

- Communicate the start and finish dates to the homeowner before commencing work,
- Check the security of the work area at close of site each day to ensure no unauthorised access can take place. The storage of materials in the public domain must be avoided. Ladders must be removed and locked secure at the conclusion of each day's activities,
- Account for the safety of adjoining residents and the public. They must ensure that deliveries and waste removals are scheduled when it is least busy in the neighbourhood and that operative carparking must not block, hinder, or cause nuisance to the dwelling occupier or neighbours. Contractor vehicles must not be parked in a dangerous manner which will cause blockage on the roadway or impair vision for other road users,
- Store waste in a safe and secure manner on site prior to disposal to ensure against it being dispersed and blown. Contractors should not leave skip bags in an exposed location for periods longer than 2 days. Where contractors use skips, they must locate them in an agreed position on site with the householder and if necessary, with adjoining residents. They should ensure waste materials are disposed of using appropriately licensed waste centres. Contractors should endeavour to recycle waste where practical and achievable,
- Ensure they adequately control dirt, dust and noise and should always and keep the site tidy to minimise nuisance to the householders, public and to neighbours,
- Safely spray suppression fluid or other similar methods for the control of dust, when necessary,
- Provide appropriate Personal Protective Equipment [PPE] to workers on site,
- Limit noisy activities during the working day,
- Always keep adequate first-aid fire-fighting equipment on site. and carry out a fire safety inspection before closure each evening. Ban smoking on site,
- Avoid works should be avoided wherever possible. If hot works are necessary only carry out on receipt of a hot works permit,
- Keep water hydrants unobstructed by site components.



Safe workplace: Contractors are always expected to maintain a safe place of work. Particular attention should be paid to floor openings, the storage of tools and equipment, access and egress and hazards created using chemicals and tools [for example, slips/trips/dust]. SEAI expects that arrangements are in place to ensure that site risk assessment is completed and responsibility for site safety is formally assigned.

Working at Height: While contractors must meet the requirements of the Safety, Health and Welfare at Work [Work at Height] Regulations 2013, they must also meet the requirements of the 'Working at Height' Regulations 2007 [Part 4 of the General Application Regulations 2007] and must carry out a risk assessment for all working at height situations.

The HSA has published guidelines on the 2007 Regulations [Guide to the Safety, Health and Welfare at Work [General Application] Regulations 2007 Part 4: Work at Height [December 2007] available at: https://www.hsa.ie/eng/Topics/Work_at_Height/.

The HSA guide to the 2007 regulations provides a helpful flowchart describing the approach required in assessing the risks associated with working at height, in line with general risk assessment principles and the principles of prevention in the 2005 Act.

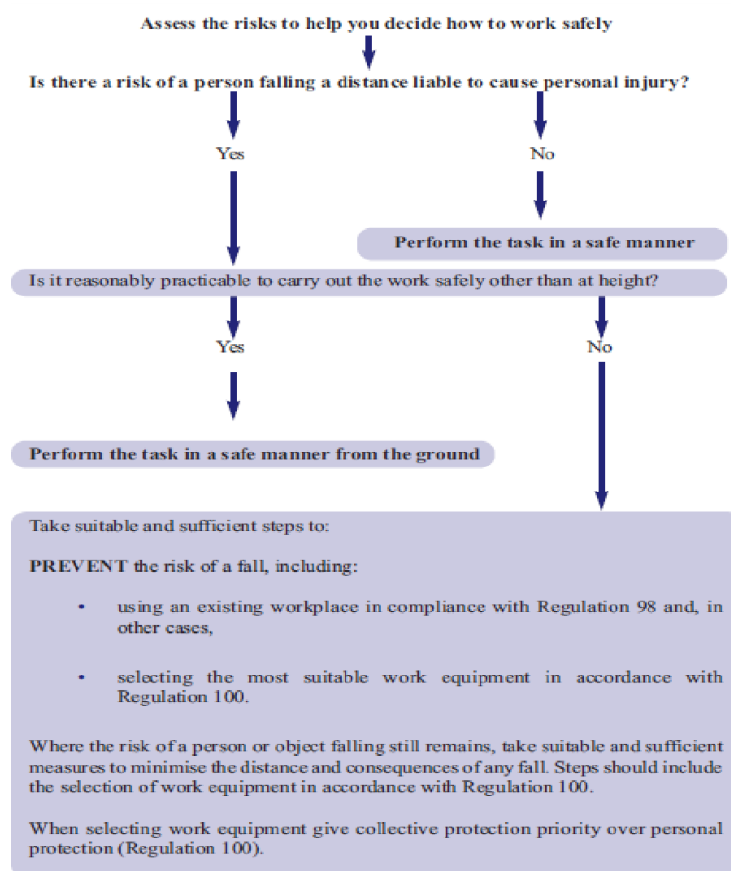


Figure 8: Working at Height Flow Chart

As the flowchart indicates, the 2007 Regulations require employers to engage in a risk assessment concerning all work at height. In this respect, Regulation 95[1] states that an employer shall ensure that: “work at height is properly planned, appropriately supervised and carried out in a manner that is, so far as reasonably practicable, safe and without risk to health”. As ‘Work at height’ can cover a wide interpretation, it is each contractor’s responsibility to ensure that it is interpreted and managed correctly.

Materials and equipment: Materials and equipment should be stored so as not to present a risk to homeowners. This should be considered as part of the risk assessment process and included in the Construction Safety Plan and Method Statement. Contractors should inspect these items should be regularly inspected. Equipment should never be stored at the homeowner’s house in advance of the work.

Hazardous substances: Contractors shall ensure the safe use of any materials hazardous to health during and at completion of the works. Where chemicals are being used, they should never be left unattended. This should be considered as part of the risk assessment process and included in the Safety Plan and Method Statement.

Electrical safety: All electrical equipment shall be 230v and protected with an RCD. All electrical equipment should be formally inspected by the user prior to use and have a valid portable appliance test. The use of damaged electrical equipment is not acceptable. Electrical installations should be designed and installed in accordance with the I.S. 10101 National Rules for Electrical installations. According to I.S. EN 50160 the standard domestic electricity supply in Ireland is 230-volt AC (frequency 50 Hz) with a low voltage range tolerance +/- 10 %.

Alcohol, food, and smoking: No alcohol or food shall be consumed in the homeowner's home and contractors should ensure no smoking takes place.

Fire safety: Contractors should avoid hot work in loft spaces. Where hot work is to be completed, contractors should ensure all combustible materials have been removed and/or screened. Following the completion of hot work, SEAI expects that the contractor will return to the site and complete a fire check. Contractors should retain records of these checks and make available if there is an inspection.

Environmental management: Contractors should remove any waste arising from activities together with equipment and materials from the homeowner's premises, on completion of works. This shall be disposed of correctly and in accordance with the relevant environmental legislation.

Pest control and wildlife: For further guidance refer to the DTSS for information related to rodent control and wildlife.

Training: Contractors will ensure that they provide their staff with relevant training to carry out their responsibilities.

4.4 Further H&S Requirements

Asbestos Containing Material [ACM] identification: ACMs may be encountered in dwellings constructed before 2000 and could generally be expected in dwellings built before 1980. Note that works to attics and ACM is generally low-risk and should not result in works being cancelled.

If a contractor assesses that a dwelling is unsafe to carry out the recommended work because of the presence of ACMs, they must document a risk assessment to clearly demonstrate the unsafe level that is present and send to the MA as soon as possible, setting out their health and safety concerns so that the job may be placed on hold until remedial works have taken place by others. If the health and safety concern remains' and cannot be resolved, contractors should submit a cancellation to SEAI.

They must also clearly explain to the homeowner the exact reason why they are unable to continue until the problem has been corrected. When this occurs, the contractor should give direction to the homeowner the actions the homeowner needs to carry out before the contractor can return.

For example, if the contractor discovers asbestos containing material [ACM] at the time of their survey, they should direct the homeowner to appoint a third-party, outside the Programme, to remove the asbestos as the Programme does not carry out asbestos removal measures. Once this has been completed, the homeowner can notify the contractor that the home is now ready for the contractor's return.

If ACM is discovered during the works being installed, the contractor must contact the MA immediately.

Principal legislative information available

- The Chemicals [Asbestos Articles] Regulations 2011, which came into operation on 31 May 2011, specify how the HSA may issue a certificate to exempt an asbestos- containing article, or category of such articles, from the prohibition on the placing on the market of an asbestos-containing article provided for by Article 67 and Annex XVII of the EU REACH Regulation 1907/2006.
- The Safety, Health, and Welfare at Work [Exposure to Asbestos] [Amendment] Regulation 2010 [S.I. No. 589/2010], amend Regulations 2, 10, 11, 15, 17, 25 and 26 of S.I. 386 of 2006. These Regulations give effect to Directive 2009/148/EC of the European Parliament and of the Council of 30 November 2009 on the protection of workers from the risks related to exposure to asbestos at work.
- The Safety, Health, and Welfare at Work [Exposure to Asbestos] Regulations, 2006 [S.I. No. 386 of 2006], aim to protect the health and safety of all employees who may be exposed to dust from asbestos containing materials, during their work activities. The regulations apply to all work activities and workplaces where there is a risk of people inhaling asbestos dust.
- The Safety, Health, and Welfare at Work [Construction] Regulations 2013 [S.I. No. 291 of 2013], cover renovation, repair, and demolition of older buildings where ACMs may have been used.

5.0 Contractor Works Phase

Scheme Managing Agent: SEAI has appointed a technical managing agent [MA] to assist SEAI in the management of significant elements of the programmes on behalf of SEAI, operating to rules, principles and processes defined by SEAI. The MA is responsible for the administration of elements of the framework, including but not limited to:

- Appraising each allocated dwelling by trained surveyors to determine energy upgrade works
- Creating 'Work Orders' [WO] to assign to contractors capturing the upgrade works
- Providing a web-based portal for operations and evidence tasks
- Providing technical support to contractors
- Ensuring the appropriate measures have been delivered on site
- Validating installer claims for variations
- Validating installer claims for payment
- Operating the QA system of monitoring of standards of work and customer service
- Carrying out post-works BERs on all properties where works have been completed
- Undertaking post-works inspections and ensuring that any reworks identified are completed.

5.1 Management Information Systems

The Contractor Portal is a management information system. It is provided and maintained by SEAI and accessed by all those involved on the programme. It implements and manages all operational activity on the programme, including the following items:

- The issuing of WOs
- The receipt of completed works documentation
- Quality inspection results
- All processes associated with the quality system

Payments for works will be made based on satisfactory quality of works and service as established through QA monitoring. Payment claims must also be supported by the programme's database validation process.

Allocating to the contractor

- SEAI allocates a WO to the contractor on the database
- The contractor accepts the work on the Contractor Portal
- The contractor shall contact the applicant to make an appointment
- The contractor completes their own technical survey to validate the WO recommendations

During the pre-survey, the contractor must check the dwelling for the following:

- If it is technically possible to carry out their installations in line with the WO recommendations
- Assess the home's electrical condition if heating has been recommended
- Assess the home from a health and safety perspective
- Assess the home for any existing mould, condensation, potential risk such as any cracks or structural presentations

If the works are practical, the contractor shall carry out a design assessment for their execution of the work in line

with REWs. The contractor shall take the applicant through the proposed work, outlining the following:

- Establish and set out any health and safety requirements prior to starting
- Give proposed timelines and advise of potential disruptions
- Let the applicant know who the appointed project manager is [i.e., the main point of contact]
- The anticipated crew make-up including any sub-contractors
- Complete their section of the homeowner pack and leave with the homeowner
- Advise the homeowner of any existing obstacles that may prohibit installations

If it has been found that the measures on the work order may need to be amended, the contractor shall follow the variation process set out in section 5.2 below. The contractor must:

- Add any relevant notes to the database through the Contractor Portal
- Upload relevant evidence documents to the database through the Contractor Portal
- Carry out their installation efficiently in the necessary number of visits
- Upon completion of all work, complete their QA and then mark the application as 'Install complete' on Contractor Portal.

5.2 Variations

Where a contractor requires a variation, the following process must be adhered to:

- The contractor must complete a pre-survey to validate measures recommended
- The contractor cannot proceed with any works until the variation has been approved

To support the request for a variation, the following information must be submitted:

- Descriptive and legible photos/sketches that are captioned to substantiate the claim
- Good notes describing accurately the need for the variation
- Sketch of key plan indicating where item refers to if this is appropriate
- Calculations that are logical and easy to follow

Please see the contractor variation process outlined overleaf in screenshots from the programme's Portal.

seai

Application Search

You are here: Home / Applications / Application Search

Refine Search Results

Application ID:

Applicant Name:

Application Programme:

Address:

County:

Lot Number:

MPIN:

Status:

Application Date: From To

Allocation Date: From To

Search

Step 1 - Open Application search in the programme's portal

Application Search

You are here: Home / Applications / Application Search

Refine Search Results

Application ID:

Applicant Name:

Application Programme:

Address:

County:

Lot Number:

MPIN:

Status:

Application Date: From To

Allocation Date: From To

Search

Step 2- Enter the Application ID and hit search

Refine Search Results

Application ID:

Applicant Name:

Application Programme:

Address:

County:

Lot Number:

MPIN:

Status:

Application Date: From To

Allocation Date: From To

Search

1 records found. Showing 1-1

Application ID	Application Programme	Lot Number	Applicant Name	MPIN	Address	Allocation Date	Application Date	Status
10H037251	10H037251	10H037251	10H037251	10H037251	10H037251	29/01/2019	11/06/2018	Works accepted

Step 3: Click on the application link

Application Details

You are here: Home / Applications / Application Search / Application Details

Modified Date: 29/01/2019 15:27:38

Application ID: 10H037251

Application Details

Applicant Name: 10H037251

Primary Phone: 10H037251

Secondary Phone: 10H037251

Email address: 10H037251

Date Signed: 29/01/2019

Confirmation of Eligibility: Yes

Proof of Ownership: Yes

Application Status: 10H037251

Application Programme: 10H037251

Instant End Date: 10H037251

Lot Number: 10H037251

Property Details

MPIN: 10H037251

Address Line 1: 10H037251

Address Line 2: 10H037251

Address Line 3: 10H037251

Address Line 4: 10H037251

GPS Latitude: 10H037251

GPS Longitude: 10H037251

County: 10H037251

Encode: 10H037251

DER Number: 10H037251

Step 4: Application details open

Figure 9: Contractor variation process (Steps 1-4)

Step 5: 'Create Variance'

Step 6: Pick measure from dropdown

Step 7: Add evidence and explanation, then save

Step 8: System shows document has been uploaded

Step 9: Variation now visible in the application

Figure 10: Contractor variation process (Steps 5-9)

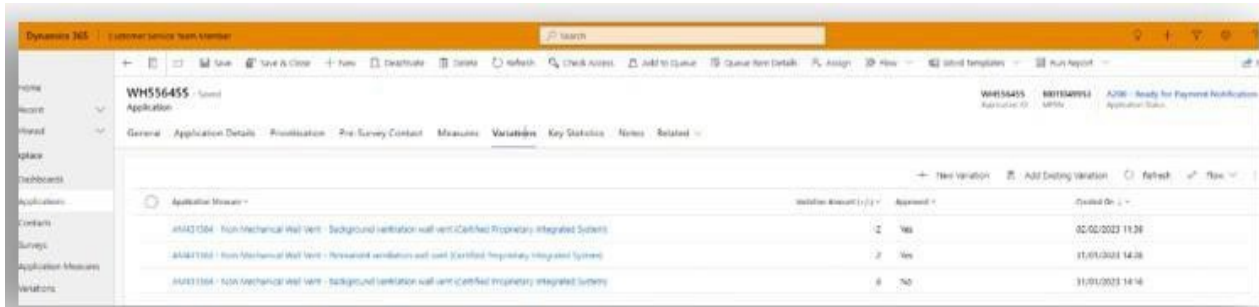
MA variation assessment: The MA will assess all variations based on the evidence supplied by the contractor and those quantities and/or items attained at survey stage. The MA may also on occasion have to use other means to ascertain whether to approve or decline the variation such as checking the RFT, Google earth, street view or similar means.

The MA will open the variation request, check what notes the contractor has supplied on why they require a variation from the WO. They will review the documents that the contractor has attached to support the request. They will cross-check the survey information against the contractor information.

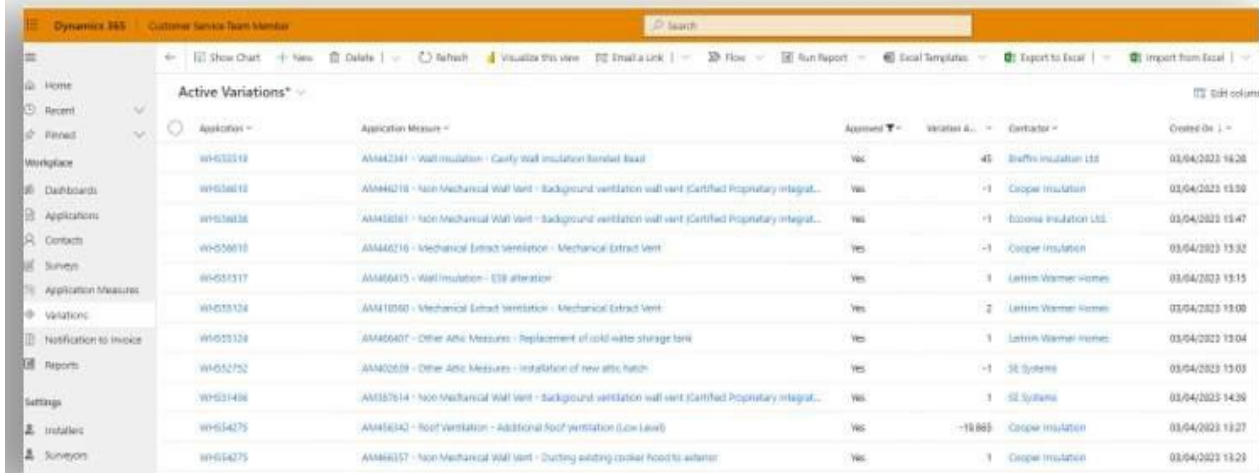
If the contractor has supplied enough evidence to show why the variation is required, it can be approved, and an e-mail will be automatically sent to the contractor informing them of the positive decision made.

If the contractor has not supplied enough evidence to show why the variation is required, the MA will seek additional information, and the variation request will remain at this status until the contractor has supplied enough information for the variation to be approved. The variation will finally be rejected if insufficient evidence to support the request is not forthcoming, or the change to the WO is not acceptable.

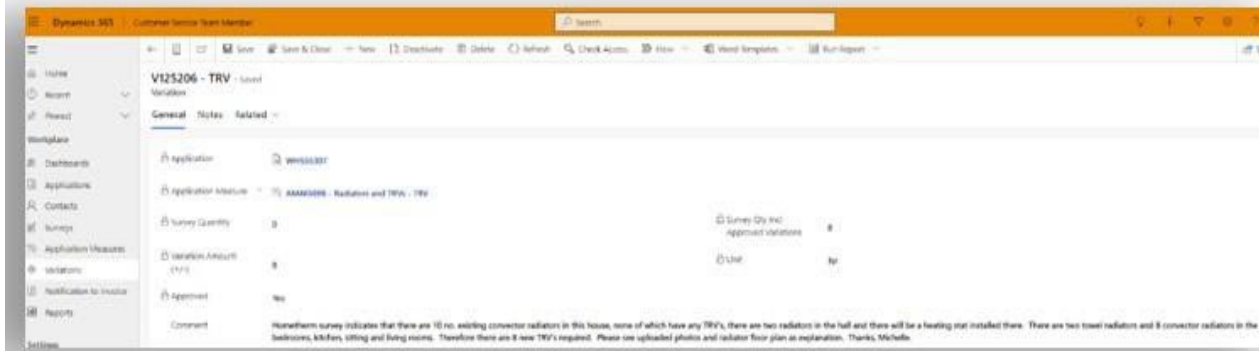
Variation example: Below is a typical variation to seek provision for the extension of a boiler flue due to EWI being installed on the house.



Step 1 - Screenshot of the programme’s database showing variations in order of date received.



Step 2 - Screenshot of application with variation



Step 3 -Screenshot of variation showing contractor’s note

Figure 11: Sample of a typical variation (Steps 1-3)



Figure 12: Inadequate evidence supplied by flue

The additional information request as per Figure 12 has been provided by the contractor in Figure 13. This photo now proves that the flue would not be long enough when EWI is fitted, and we can see the entire elevation as well as the flue in context, therefore, the technical team can now approve the variation request. Figure 12 illustrated the inadequate original evidence supplied by the contractor to support their variation for which a flue needs to be extended resulting in the variation being refused.



Figure 13: Adequate evidence supplied by flue

Non-standard variations: There are certain measures that will not be listed on a WO, such as centralised continuous mechanical extract ventilation system [CMEV/DCV] and some heating measure items. The reason for this is that these measures can only be determined during the contracting phase and so is outside the scope of the surveyor to make those recommendations. In these cases, the contractor may have to alter the standard variation process slightly.

CMEV/DCV: will not be listed on a WO. When an airtightness test [ATT] on a home identifies that a whole-house extract ventilation system needs to be installed [where the result of the ATT shows that the house has reached a value below $5\text{m}^3/\text{m}^2/\text{hr}$], all ventilation variations need to be sent in with the ATT report and a contractor sketch showing the position of all CMEV/DCV inlets [for habitable rooms] and outlets [wet rooms], along with any open-flued appliances and the associated non-mechanical permanent vents also required. This is also covered in the 'Ventilation' section.

Heating: In the case of a heating system being recommended for the dwelling the surveyor will only be putting a Heat Pump, electric heating, district heating, with heating controls on the WO. The onus is on the **contractor as the designer** to survey the house for heating and come up with a bespoke list of variations appropriate to the home.

5.3 Technical Queries

At times it will not always be possible to carry out installations in accordance with the scheme specifications. For example, where a house has no CWST and cylinder or hot press, where a whole-house solution cannot be achieved, where a mix of wall insulations measures are needed, where it is not possible to insulate the slopes of an attic, and other items. In such instances, SEAI expects the contractor to lead on the proposal for the carrying out of the solution and the most appropriate solution must be agreed with the MA, before any work commences. Details of what is on site and a proposed solution should be sent to the following email address warmerhomestechnical@ksnenergy.ie or call **01 - 2776988**.

When an agreement on what is the most appropriate solution for the dwelling has been reached, then the contractor should proceed to the variations process, including the approval from the technical contact centre. Variation applications for such works without documentation [such as email threads] will be rejected.

Following a technical request, in some instances, it may be deemed that a Clerk of Works [CoW] visit [see below] may be required.

The priority aims on information gathered through office-based technical support and site-based support will be drawn into a knowledge base to inform the entire panel of contractors so that their overall understanding of how to deal with similar issues improves. On a periodic basis, the technical team will issue summary bulletins and quality alerts to all contractors reporting on a range of technical issues which have been raised and actioned upon. The intent is to upskill the supply chain to the Scheme's continuous development so that over time, they become less reliant on the MA for Scheme technical expertise and come to positive outcomes based on growing experience.

CoW visit: Where the contractor liaises with the managing agent on potential issues or non-standard elements on a job, depending on the nature of the query or issue, it may be necessary for the MA's CoW to meet the contractor on site to assess the situation and agree a site-specific solution. Such site visits may also be required where direct liaison is required with the homeowner or where a technical detail or variance to the proposed works cannot be agreed through normal process outlined in this section.

Primary responsibilities of the CoW role are:

- Monitoring all site works to ensure compliance with SEAI schemes and latest Regs and Standards
- Monitoring quality and appropriate equipment/building materials
- Observing mid-work processes
- Attending on-site meetings regarding scope/programme changes
- Carrying out advisory Inspections
- Identifying contractor training gaps
- Discussing technical details on site
- Establishing a clear line of communication between all parties involved
- Taking photographic recording of works
- Carrying out health and safety spot-checks, filling of site reports to SEAI
- Reporting homeowner feedback

Please note Clerk of Works visits cannot be offered to homeowners by contractors.

In-Process Inspection: The priority aims on enhance customer journey and experience along the retrofit pathway. The provision of an In-Process Inspection Process to represent SEAI's needs on site if required. This enhanced role will accompany the Clerk of Works Process to further interrogate service delivery and supply chain development through mentoring and reporting back to SEAI.

Primary responsibilities of the In-Process Inspection role are:

- Inspections team-managed role utilised by WHS Business Team
- Reporting to WHS Business Team, with scheduled reporting
- Periodic visits over 12-months
- Signed Agreement monitoring
- Verifying Contractor Survey
- Risk assessment updated and recorded
- Carrying out health and safety spot-checks, completing site reports to SEAI
- Checking Homeowner awareness of scope, timelines and expectations
- Project Plan & Management inspection
- Checking of appointments log integrity
- Assurance of effective change management processes in place
- Monitoring all site works to assess equipment/building materials/staff arrangements
- Observing mid-work processes
- Ensuring robust sub-contracting management and Scheme alignment in place
- Attending on-site meetings regarding scope/programme changes
- Carrying out advisory Inspections
- Identifying contractor training gaps
- Discussing technical details on site
- Establishing a clear line of communication between all parties involved where issues arise
- Support to T3 Complaints Process
- Taking photographic and video recording of works,
- Reporting homeowner feedback
- Capturing contractor feedback for SEAI
- SEAI's eyes and ears

5.4 Contractors' Quality Assurance (QA) and Quality of Service Delivery:

All contractors on the WHS must maintain a documented Quality Management System that ensures consistent delivery of retrofit services in line with SEAI standards. SEAI may request QMS documentation and supporting evidence at any time during contract performance.

To assist contractors, SEAI provides a suggested checklist template which is supplied to contractors upon appointment to the panel. This checklist is non-exhaustive and intended for guidance only. Contractors remain responsible for ensuring full compliance with all scheme standards. Where quality assurance issues are identified through SEAI oversight, contractors may be subject to further review or corrective actions.

The Quality Management System include the following key elements 1.1 Standards. All works delivered on the Scheme must be installed in line with key standard requirements as follows:

- NSAI standards (*including SR54 where applicable*)
- Building Regulations (*TGD Part L 2022; Part F 2019*)

- SEAI guidance documents, including the Guidance on photographic evidence for desktop audits and this Operations Manual
- Best-practice frameworks (*ISO 9001:2015 recommended but not mandatory*)

5.5 Core Components

The WH Contractor Quality Management System include the following which must be made available at the point of inspection.

- Company Quality Policy – Signed by senior management, communicated to staff/subcontractors
- Organisational Structure & Responsibilities – Clear roles, named Quality Manager, defined responsibilities for site managers, retrofit assessors, subcontractors
- Training & Competence log – Records of qualifications, CPD logs, subcontractor competence checks
- Project Planning & Control processes– Risk assessments, project-specific quality plans, pre-start briefings, retrofit assessor input
- Inspection, Testing & Commissioning certification checks incorporating the following– pre-, mid-, post-works checks; commissioning procedures; evidence collection (photos, reports, certificates)
- Non-Conformance & Corrective Action Logs – Processes for recording, investigating and resolving issues; root cause analysis; complaint handling
- Supplier & Subcontractor Management Processes including– Pre-qualification, ongoing monitoring, material/equipment verification
- Internal Audits & Management Reviews – Annual audits, findings, management review meetings with quality metrics
- Continuous Improvement – Self-implemented KPIs (rework rates, penalty points, homeowner satisfaction), lessons-learned registers, process reviews
- Robust Change Management processes and controls

5.6 Monitoring, Evidence and Enforcement

SEAI through the Managing Agent (MA) will carry out inspections for a proportion of completed projects. Inspection rates and project selection are informed by contractor quality records, past performance, risk indicators, and complaint levels.

Enforcement Measures

Non-compliances with Quality Assurance requirements can include the following corrective actions:

- Increased inspection frequency
- Reduction or elimination of further allocations
- Reallocation of homes
- Requirement to attend 1:1 QA workshops with SEAI
- Suspension or permanent removal from WHS contractor list

Requests for Additional Evidence

SEAI may at any time request the following details as part of a review process around quality.

- Root cause analyses for identified issues
- QA improvement action plans with timelines and named owners
- Supporting QC checks, annotated photographs, and other evidence

5.7 Documentation Requirements

Required Documentation

SEAI expectations at time of review may encompass any/all of the following list:

- Quality Policy Statement (signed)
- QMS Manual
- Sample Quality Inspection Checklists
- Training Records (incl. CPD log & matrix)
- Sample Method Statement / Retrofit Work Plan
- Complaint Handling Procedure
- Previous Project Quality Reports
- Internal Audit Records (last 12 months)
- Sample Homeowner Communication Materials
- Sample Project Timeline Document
- Sample Homeowner Agreement Form
- Signed QA Report (by contractor QA; uploaded at “Install Complete” and included in homeowner pack)
- Photographic evidence (time-stamped, annotated) per SEAI guidance
- QA/PM Project Management Log (see Appendix 16) – maintained throughout each project and included in the homeowner pack.

Ongoing Obligations

- Maintain and update the QA/PM Log for each project
- Ensure all records are available to SEAI or Managing Agents upon request

5.8 Quality of Service Delivery

Purpose: To ensure all works under the WHS are delivered safely, to specification, and with respect for the homeowner. These requirements also ensure high homeowner satisfaction, protection of vulnerable occupants, and clarity during and after works.

Core Principles

- **Right First Time** – Complete works to agreed scope and specification
- **Clear Communication** – Keep homeowners informed and involved
- **Safety First** – Maintain a safe site for workers and residents
- **Evidence & Accountability** – Document progress and quality daily
- **Respect** – Treat the property and homeowner with care

Key Stages of Quality Delivery

- **Home Survey** – Full survey, record conditions, risks, standard checklist
- **Homeowner Communication** – Pre-start meeting, plain-language explanation, summary sheets/FAQs, record consents
- **Managing Vulnerable Homeowners** – Identify needs, apply safeguarding, document accommodations
- **Signed Agreement** – Scope, timelines, alterations documented and signed

- **Managing Changes** – Document scope/timeline changes, notify homeowner, obtain written approval
- **Project Timelines & Delay Management** – Agree start/finish dates, communicate delays promptly
- **Issue Handling** – Log/report issues, escalate serious ones, update homeowner on solutions
- **Health & Safety** – Daily checks, toolbox talks, PPE, safe access, daily H&S photos
- **Daily Reporting** – Record completed works, photos, delays/issues; submit reports
- **Completion & Handover** – Walkthrough with homeowner, provide manuals/warranties, collect feedback

Documentation & Evidence

- Photos must be timestamped and labelled
- Records must be retained for audits and dispute resolution (Refer to Guidance on Providing Photographic Evidence for Desktop Audits)

Continuous Improvement

Monitor KPIs:

- 10 -point penalty point scale (refer to Appendix 2)
- Month on month Average penalty points
- Penalty points per home
- On-time completion rate
- Evidence completeness
- Homeowner satisfaction

Quick Contractor Checklist:

- ✓ Survey completed and documented
- ✓ Homeowner briefed and agreement signed
- ✓ Vulnerable homeowner needs addressed
- ✓ Daily H&S checks and reports completed
- ✓ Photos taken and stored (before, during, after)
- ✓ Issues logged and resolved
- ✓ Handover completed with homeowner pack.

Please see overleaf contractor QA Check sheets example.

Roof Insulation														
See pages 30-35 SEAI Guidance on providing photographic evidence for desktop audits														
Section	Detail	Attic 1			Attic 2			Attic 3			Attic 4			
		C	N/C	N/A	C	N/C	N/A	C	N/C	N/A	C	N/C	N/A	
B) INSULATION AREA INSTALLED	Have all accessible areas been fully insulated													
C) INSULATION DEPTH INSTALLED AS SPEC	Insulation depth as per standard to meet the required U-value													
G) INSULATION GUARANTEE	Is the Insulation Guarantee available to the homeowner													
H) WARNING SIGNS	Are warning signs visible/available													
HA) PIPE INSULATION	Has all pipework been insulated to Scheme Standard													
J) WALKBOARDS	Have walk boards been fitted to Scheme standards and are supported safely													
K) HATCH	- Has the Draught Proofing of the hatch been installed to Scheme Standard - Has the Insulation been installed on the hatch to meet the required U-value													
L) WATER STORAGE TANK INSULATION	Has the water storage tank been insulated to Scheme Standard													

Table 9: Roof Insulation Guidance for evidence

Reminder: SEAI requires a signed QA report uploaded at time of Install Complete and should be part of the Homeowner Pack at completion.

Please refer to WHS's Appendix 2 for details on Quality for all works carried out on WHS.

6.0 Programme Measures

6.1 Wall Insulation

Approaches for insulating walls

The WHS team has defined a set of recommendations and rules for the insulation of walls. See Table 10 for the approaches defined per wall type. Some homes may have a mix of wall types which contractors should be fully familiar with when validating the WO at technical survey stage. The surveyor will make the best recommendations for the treatment of the walls using scheme rules and what is observable at the time of survey. The contractor **must** assess all walls prior to any insulation measures proceeding irrespective of what has been recommended on the works order. Refer to Chapter 5 ‘*Contractor Work Stage*’ regarding the expected standards of technical survey carried by the contractor.

The contractor must ensure that, in the case of insulation, an **optimal whole-surface solution** is provided where physically feasible. When dealing with walls, this comprises insulation of all thermally exposed walls. In some circumstances, it may not be possible to insulate certain elements due to the method of construction, the condition of the walls and/or building regulation obligations such as retaining accessible widths. Similarly, there may be situations, upon closer examination during the contractor’s technical assessment where a home may require significant modifications for the installation of the energy efficiency measures, such as moving sanitaryware, built-in furniture, or kitchen units/cabinets which may challenge the achievement of a whole-house solution. Contractors should align with the REW table for EWI/IWI in Appendix 1 of this document prior to any works being carried out, then contact the MA if they consider there is a potential issue with a survey recommendation in this context.

Because the programme is aligned with NSAI’s S.R. 54, WHS does not recommend or carry out wall insulation works on a dwelling built approximately before 1940, or more specifically, where the walls may be constructed in stone, single-leaf masonry, or composite wall construction.

Heritage buildings require special retrofitting considerations and modern methods of insulation which may not be appropriate and are beyond the scope of SEAI’s fully funded Energy poverty programmes. The following document provides useful guidance on insulation of older buildings:

https://www.seai.ie/resources/publications/Energy_Efficiency_in_Traditional_Buildings.pdf

Post-2006 extensions: While SEAI provides upgrades to homes built prior to 2006, there are instances where surveyors will find that more modern extensions attached are not constructed to standards in place at the time. SEAI will not support sub-standard works of non-compliant building practices outside the programme, by installing insulation which should have been insitu post-2011. Where an eligible property has an extension that was built post 2006, the extension should be treated as follows:

- For extensions **built before 2011** [i.e., from 1/1/06 to 31/12/2010] the walls and attic of the extension should be reviewed and works recommended, if suitable.
- For extensions **built from 2011** on [i.e., from 1/1/11] only the attic should be reviewed and recommended for measures, if suitable.

Surveyor approaches for wall recommendations: Over time, the programme has developed a range of recommendations based on what the surveyor finds on site. See below, the recommendations approach as set out:

Table 10: WHS approaches to walls

Existing wall type	Retrofit method
Cavity wall	CWI* see Table 11 for CWI recommendations
Hollow block	EWI first, if not practical then IWI
Solid concrete	EWI first, if not practical then IWI
Concrete block	EWI first, if not practical then IWI
Solid stone	Nothing
Solid brick	Nothing
Timber frame	IWI
Homes with mix of masonry and a timber panel section	IWI to timber panel & appropriate solution for timber section
Steel frame	IWI
Hollow block solid concrete block wall with existing IWI	EWI
Proprietary stone outer façade [e.g., Hallmark]	Talk to CWI certificate holder to see if it can be applied

Please note that in certain cases for example where a BER rating needs to be met or a HLI to be achieved, it may be required to deviate from the approaches outlined above.

Cavity wall insulation [CWI]

The target U-Value to be achieved for CWI is 0.35 W/m²K or better for cavity walls.

All CWI installs, incorporating bonded bead, must be carried out in accordance with their respective NSAI Agrément certification for cavity wall insulation and with the specification requirements set out in the DTSS.

Measurement: CWI is calculated by measuring the surface wall area from footpath to eaves, or 200mm above ceiling if there is a gable present, **inclusive*** of openings.

Note: Large/significant openings not receiving insulation, such as conservatories, porch roofs and garage doors are not included in the measurement calculation.

Note: Timber frame homes cannot be cavity insulated.

Establishing treatments for cavity sizes: Given various types of cavities found in survey, the programme has defined a set of recommendations and rules for the insulation of cavity walls. See below the approach defined per cavity wall type. Some homes may have a mix of cavity wall types per dwelling which contractors should be fully familiar with when validating the WO at technical survey stage.

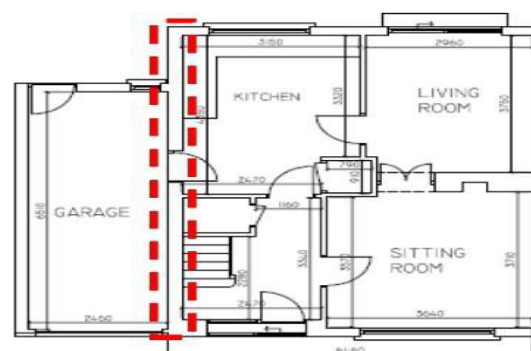


Figure 14: CWI measurement calculation

Table 11: CWI Residual cavities treatment

Cavity Type	Residual Cavity width	Treatment	Comments
Nothing in cavity	Cavity less than 20mm	EWI	Seal top of cavity wall to ensure no air movement then install EWI
Nothing in cavity	Cavity 20-40mm	EWI	Pump cavity wall to ensure no air movement then install EWI
Nothing in cavity	Cavity greater than 40mm	CWI	N/A
Partial-fill cavity with rigid expanded polystyrene	Cavity less than 40mm	Nothing	N/A
Partial-fill cavity with rigid expanded polystyrene	Cavity greater than 40mm	CWI	N/A
Loose fibre	N/A	EWI*	Seal top of cavity wall to ensure no air movement then install EWI
Rigid fibre [Fibre batts]	Residual cavity less than 20mm*	EWI	Seal top of cavity wall to ensure no air movement then install EWI
Rigid fibre [Fibre batts]	Residual cavity greater than 20mm	EWI	Pump cavity wall to ensure no air movement then install EWI
Cavity previously pumped with bead	N/A	Nothing	N/A

* See note from Agrément cert on best practice

Associated WHS works for CWI

Ventilation: For homes with an ATT result or assumed ATT result of greater than 5 m³/m²/hr ventilation needs to be installed as per NSAI S.R. 54. For homes with an ATT of less than 5 m³/m²/hr ventilation needs to be installed as per the detail provided in the ventilation section of this manual.

Installation: Contractors shall complete their pre-works checks in line with the respective installer manual.

Drill holes: Contractors must ensure that drill holes are matched as close as possible to colour of wall pre-works



Figure 15: Drill Holes finish details not to standard



Figure 16: Drill Holes finish details to standard

Exposure: Contractors must assess if homes are in severe exposure zones and should refer to all certification requirements. It is the ultimate responsibility of the contractor as system installer to ensure that works are installed in accordance with system supplier's instructions and Agrément Certificate for the product. This means the contractor may need to consult with the certificate holder to verify if a home should have CWI applied. This may relate to brick homes or homes with Hallmark walling and in areas that are exposed.

Assessment of suitability: Contractors must assess walls as part of NSAI process for installing CWI including borescope surveys and assessment of building fabric for defects prior to the application of any wall measures.

Loose fibre extraction for cavity walls

In limited cases, where wrapping is not achievable, there may be a need to remove fibre from a cavity wall. Fibre-filled cavities are poor performers as heat transfer can be unpredictable and cold spots may occur in places. Fibre may absorb water over time and expand in the cavity, causing internal damage. It may be difficult to distinguish between loose fibre and fibre batts at the time of survey. The initial survey will identify the presence of loose fibre by drilling the walls as necessary to determine what is insitu. Fitting external insulation over a poorly performing fibre-filled wall could worsen the state of the wall where potentially damp fibre may decay and damage the wall fabric. It is for this reason and for best practice, SEAI support the extraction of loose fibre where they encounter it in a cavity.

Internal wall insulation [IWI]

The target U-Value to be achieved for IWI is $0.27 \text{ W/m}^2\text{K}$ or better for Internal walls.

All IWI installs must be carried out in accordance with the programmes' specification requirements set out in the DTSS and installed in accordance with manufacturer's instructions. Before commencing internal dry lining works, the homeowner must be made aware of the effect on room sizes, services, and decoration.

Please reference 'Reasonably Expected Works for IWI' in Appendix 1. Please also note that the IWI does not need to be bonded and skimmed. A taped and jointed finish is acceptable. IWI should be painted white.

The CO is responsible for the correct detailing of the roof insulation so that the correct U-value is achieved. The CO will be responsible for providing documentation so that the post works BER can reflect the completed works.

Measurement

Internal wall insulation is calculated by taking the gross internal wall area, including measured windows and doors. Note: Large/significant openings not receiving insulation, such as conservatories, porch roofs and garage doors are not included in the measurement calculation.

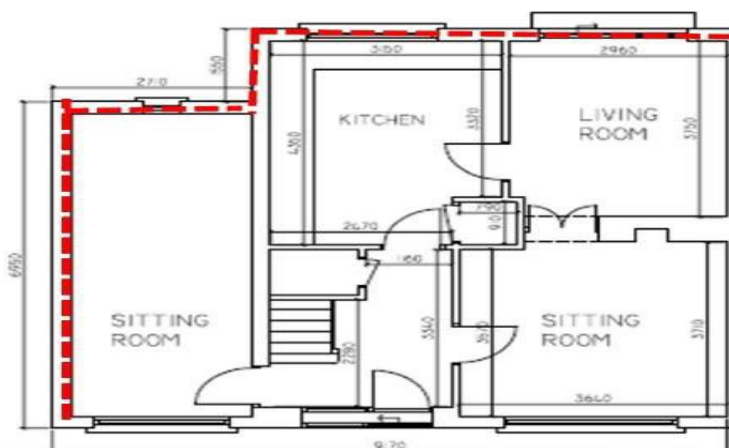


Figure 17: IWI Measurement calculation

Associated WHS works for IWI Ventilation:

For homes with an ATT result or assumed ATT result of greater than $5 \text{ m}^3/\text{m}^2/\text{hr}$ ventilation needs to be installed as per NSAI S.R. 54. For homes with an ATT of less than $5 \text{ m}^3/\text{m}^2/\text{hr}$ ventilation needs to be installed as per the detail provided in the ventilation section of this manual.

Interstitial risk methodology: A contractor will need to complete an interstitial condensation risk assessment and submit to the MA when applying IWI to a timber frame dwelling before any works take place. When internal insulation is applied, the hygrothermal characteristics of the building may change and moisture management is therefore a major consideration for the installation of internal wall insulation and systems.

Interstitial condensation risk assessment should be carried out in accordance with this Clause 4.5 of S.R. 54 Code of Practice for the Energy Efficient Retrofit of Dwellings, additional guidance provided in section 4.5 of the DTSS.

Note: There may be some locations where a U-value of $0.27 \text{ W/m}^2\text{K}$ is not achievable due to space restrictions (e.g. minimum stair space). At these locations, the internal insulation systems must achieve a maximum U-value less than $0.6 \text{ W/m}^2\text{K}$.

External wall insulation [EWI]

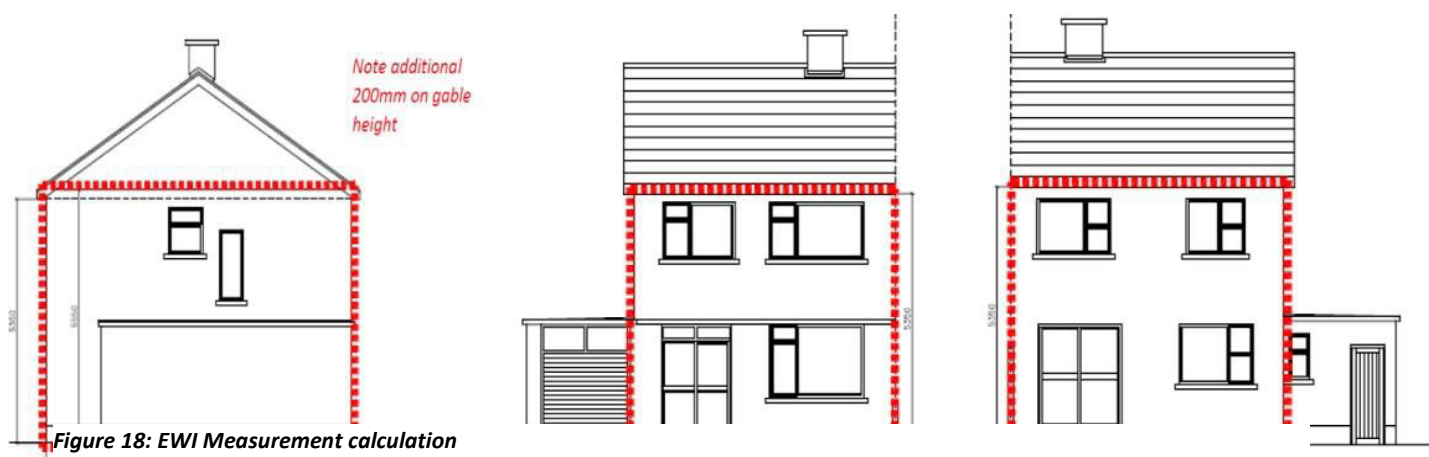
The target U-Value to be achieved for EWI is $0.27 \text{ W/m}^2\text{K}$ or better for External walls.

All EWI installs, incorporating all certified systems, must be carried out in accordance with requirements regarding approved installers, by the manufacturers of the product being installed. Contractors must be approved by the NSAI Agrément certificate and must agree to carry out the installation to the standards required by the respective Agrément certification for external wall insulation and with the programme's specification requirements set out in the DTSS.

Measurement of EWI

External wall insulation is calculated by taking the gross wall area including windows and doors [external wall measurements to be used].

The actual dimensions of the external walls to be insulated pre-works are what are measured. It is acknowledged that the installed area will be larger due to how the measure is installed but this cannot be measured pre-works. Contractors to take this into account when pricing this measure.



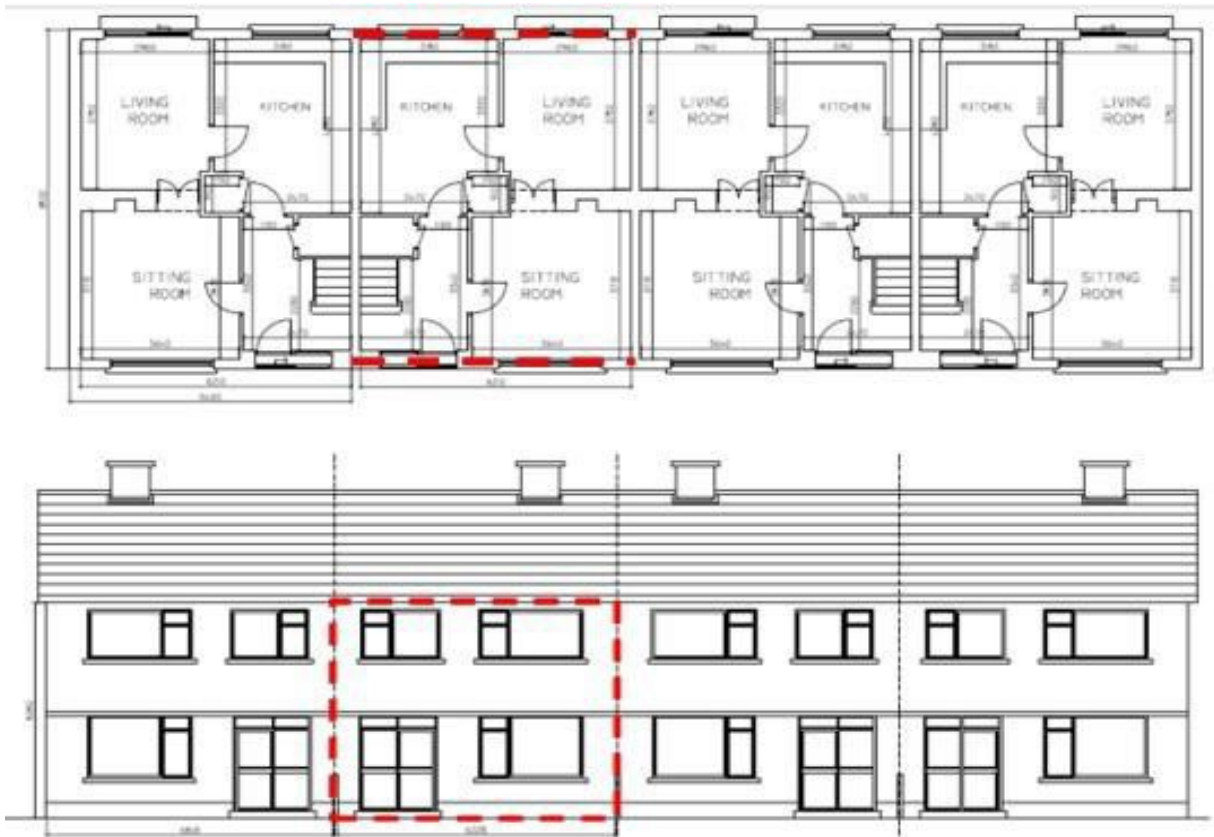


Figure 19: EWI/IWI Measurement calculation

Associated WHS works for EWI

The exposure of the external walls to wind-driven rain should be assessed including external wall finishes (render, pointing, cladding). The suitability of insulation depends mainly on the local exposure to driving rain and the condition of the existing construction, refer I.S. EN ISO 15927-3.

Distribution of driving rain in Ireland - Met Éireann www.met.ie/distribution-of-driving-rain-in-ireland.

Ventilation: For homes with an ATT result or assumed ATT result of greater than $5 \text{ m}^3/\text{m}^2/\text{hr}$ ventilation needs to be installed as per NSAI S.R. 54. For homes with an ATT of less than $5 \text{ m}^3/\text{m}^2/\text{hr}$ a whole-house extract ventilation system needs to be installed as per the detail provided in the ventilation section of this manual.

Moving boilers and oil tanks: Where an existing boiler or oil tank needs to be temporarily moved to accommodate the installation of EWI, the contractor is to submit a documented technical query for this measure before any works take place. Please note, contractors will be responsible for any unexpected works associated with fossil fuels as funding is no longer in place. This means the Contractor Technical Survey is key in discovering any potential risks around existing heating arrangements in the home so all contractors must ensure all survey forms and processes take account of this change.

Gutters: For the purpose of the scheme, gutters should be retained/reinstated where they are deemed as fit for purpose. Where gutters cannot be reinstated following the installation of EWI, contractors should submit a proposal and variation for the installation of new. Newly installed gutters should be appropriately sized for the roof in accordance with TGD H 2010 *Drainage and wastewater disposal of the Building Regulations* and installed in accordance with manufacturer's instructions including for all necessary brackets and fixings. It is expected that

gutters will be of uPVC type in the appropriate profile to match what was existing.

Downpipes/soil and vent pipes: For the purpose of the scheme downpipes/soil and vent pipes should be retained/reinstated where they are deemed as fit for purpose. Where downpipes/soil and vent pipes cannot be reinstated following the installation of EWI contractors should submit a proposal and variation for the installation of new. Newly installed downpipes/soil and vent pipes should be appropriately sized in accordance with TGD H 2010 *Drainage and wastewater disposal of the Building Regulations* and installed in accordance with manufacturer's instructions including for all necessary brackets and fixings. It is expected that downpipes/soil and vent pipes will be of uPVC type in the appropriate profile to match what was existing.

Dash: The accepted finish for all EWI homes is a smooth plaster finish. Where a home has an existing dash finish, contractors Should install a dash finish to match the existing elevations.

There is no requirement to apply a dash finish at the request of the HO if the existing finish is not dash.

EV Chargers: Where a CO encounters an EV charger that needs to be temporarily moved to accommodate the installation of EWI they should submit a variation for 'Temporary removal and reinstatement of EV charger'. This is to include all associated works with temporarily moving the EV charger and cabling, Isolation switches and associated works.

RGI Meter [No heating]: Where EWI is being installed and the meter has been moved, this measure can be applied for to cover the costs of the RGI Work.

Flue Extensions: Where a CO encounters a Flue Extension that needs to be temporarily moved to accommodate the installation of EWI they should submit a variation for 'Temporary removal and reinstatement of Flue Extensions. This is to include all associated works with temporarily moving the Flue Extension, and to leave the new flue compliant with OFTEC/RGII and building regulations.

Obsolete Flue Extensions: The CO needs to be vigilant for any works which may be associated with a measure such as flue extensions at the time of survey. The CO will need to be confident that the Flue Extension/Boiler is of sufficient condition that it will continue to function post move. Please note, contractors will be responsible for any unexpected works associated with fossil fuels and will have to bear the cost themselves as this funding is no longer in place. This means the Contractor Technical Survey is key in discovering any potential risks around existing heating arrangements in the home so all contractors must ensure all survey forms and processes take account of this change.

Lead in Pipe: For safety reasons, ESB network service cables must not be in contact with unrendered EWI. A lead in pipe is required where the service cables pass through insulation to the meter position. See drawings in Appendix 15 from the ESB code of practice DOC-190612-BMB, for attaching service cables to finished render.

EWI and CWI

Please note that in certain cases for example where a certain BER rating needs to be met or a HLI to be achieved, walls may need to be treated with both EWI and CWI. Refer to table 10 on treatment of residual cavities.

The CO will need to ensure that they have recorded the installation of the CWI and that these records are available for the BER assessor.

For inspection purposes, COs must provide photographic evidence of the drill holes accompanying the CWI installation, and if possible, evidence of the pumped cavity. Insufficient evidence may result in additional bore scoping and associated making good, in order to verify the measure.

EWI and CWI installs, incorporating all certified systems, must be carried out in accordance with requirements regarding approved installers, by the manufacturers of the products being installed.

Contractors must be approved by the NSAI Agrément certificate and must agree to carry out the installations to the standards required by the respective Agrément certification for external wall insulation and cavity wall insulation and with the programme's specification requirements set out in the DTSS.

Note: The contractor must ensure that the EWI system being used is certified for the application of dash. Contractors should also ensure the component parts used such as fixings and sills, are certified to be used with a contractor's certified EWI system.

EWI/CWI Sub-contractors

All contractors must ensure their EWI/CWI installers are up to date with their registrations and continue to drive for robust processes in place to flag upcoming registration renewal dates. Discovery of any reported works carried out by deregistered [sub]contractors will be reviewed by WHS QA, and allocations will be affected.

Table 12: Sample checklist required for upload

Register for ETICS – External wall Insulation		
1	Approved installer	<i>Munster External Wall Insulation Ltd</i>
2	Insulation System	<i>Baumit 60 External Insulation Systems[]</i>
3	Registered Number	<i>IAB/E078.1</i>
4	Agrément cert No:	<i>09/0336</i>
5	Date register checked	<i>09/04/2025</i>
NSAI List of registered installers here		

Measurement of EWI & CWI

EWI and CWI, when installed together in this manner, is calculated by taking the gross wall area including windows and doors [external wall measurements to be used].

Note: where there is a gable the full gable area including the attic section should be pumped. This only applies where a combined EWI/CWI is being recommended.

Associated WHS works for EWI and CWI

As per associated WHS works for EWI with the exception of the keeping of records/documentation for the pumping/sealing of the cavity wall.

Party wall/neighbour escalations

All agreements between the homeowner and an adjoining neighbour are the responsibility of the homeowner prior to commencement of any WHS works.

No works should progress on site until the contractor has received **written consent** between the parties involved that both parties agree to the relevant scope of works. The Contractor may assist in supporting that agreement. For example, where insulation is applied to a party wall, the Contractor should include details such as thickness of insulation, and type of finish and colour and it would be best practice to carry out a section of wall to demonstrate the result.

Should agreement not be forthcoming, the contractor is within their rights to cancel the works and should update the database with evidence of same advising that they will return to site on production of a signed agreement between both parties. Should agreement be dissolved during the works, the contractor should contact the WHS Technical Team before any further works take place.



Figure 20: Party Wall Sample

Extensive refurbishments by others

Works carried out under the Scheme must be captured in the pre and post works BER. The WHS Team has recently noticed increased levels of private work taking place prior to commencement, during WHS works or post install complete but prior to the WHS BER publication.

If Contractors encounter plans for works scheduled by the Homeowner, the WHS Team should be notified, and the Contractor should proceed to cancel the application.

In engaging with homeowners from the beginning of any project, Contractors should be clear that all WHS works must be completed first before any planned private works take place.

It is important that the post works BER reflects the WHS measures only. This guidance extends to other SEAI programmes such as BEH, PV and One Stop Shops.

For planned Solar PV [Grant] work: please advise the homeowner that the WHS works must take place independent of the solar grant. If the homeowner persists in scheduling the works, please advise them and the Customer Call Centre of a cancellation of works which can be reactivated when the homeowner provides the post-works BER as the new pre-BER for WHS. Contractors should update the database of same.

For planned One Stop Shop: please contact the WHS team immediately if the homeowner is planning an OSS project. No works should commence until the team has been consulted.



Figure 21: Extensive refurbishments by Others 1-3



Figure 22: Extensive refurbishments by Others 2-3



Figure 23: Extensive refurbishments by Others 3-3

SEAI recommends all Contractors adjust their technical survey checklist to request clarification from the homeowner if there are any plans to carry out a significant renovation such as an extension. If the answer is **yes** and is **imminent**:

The contractor should ascertain the intended time of the renovation. If the HO's works are imminent, the contractor should note this on the database and proceed to seek cancellation of the application. The contractor should advise the homeowner that they may not receive any further works at the completion of the works, given Part L obligations for MR.

If the answer is **yes** but **long-term**: The contractor should assess whether the works can proceed to completion including the BER publication within the expected timelines before seeking a cancellation.

6.2 Roof Insulation

6.2.1 Attic Insulation at Ceiling Level

The target to be achieved for attic insulation at ceiling level is at least 300mm deep and a minimum U-Value of 0.16 W/m²K.

Under the WHS, works are carried out by insulating at ceiling level on the flat and only provided to cold pitched roofs and mono- pitched roofs. The programme does not insulate at rafter level apart from sloped ceilings which are recommended for upgrades on a case-by- case basis. Neither does the programme insulate, rooms in roofs or converted attic space



Figure 24: Attic insulation at Ceiling Level

By insulating at this ‘point of heat loss’ the warmth of the house is kept within the house and the attic is treated as being external to the house area being insulated. Newly insulated attic spaces may require ventilation to ensure there is no moist air in the attic space. Pipes and tanks in the attic must also be insulated to ensure they do not freeze during cold weather. In addition to the insulation in the attic, attic hatches must be insulated to the same U-value as the attic as well as being draught sealed appropriately to ensure that there is no heat loss and moisture escaping through the hatch door and frame.

Attic insulation at ceiling level must be installed if no insulation present, or topped up, taking account of existing insulation present in order to meet programme standards of a minimum of 300 mm of attic insulation. Table 13 lists the insulation depths that will be recommended taking account of the insulation already present. Contractors can variate for any additional insulation if, upon technical assessment, the presence of the existing insulation is not fit for purpose as a top-up. However, contractors must be confident that there is a minimum of 300 mm present of insulation at install complete.

As a reminder, attic Insulation will be recommended by surveyors in the WO as follows;

Table 13: Insulation top-up recommendations

Insulation for attics
300 mm for attics with no existing insulation present
250 mm top-up for attics with 50 mm existing
200 mm top up for attics with 100 mm existing
150 mm top up for attics with 150 mm existing
100 mm top up for attics with 200 mm existing

Measurement of attic insulation at ceiling level

The internal dimensions of the property are used for attic insulation. The attic is measured by multiplying the length of the ceiling to be insulated, by the width, giving the area in m².

The area to be insulated must be measured from the internal surface of the external wall to internal surface of the external wall on the opposite side. The area to be insulated will be the same as the ceiling area if measured from the floor area. If the contractor estimates additional insulation work can be done, they should submit a technical query to the technical team.

The example illustrates a basic bungalow $8\text{m} \times 5\text{m} = 40\text{ m}^2$.

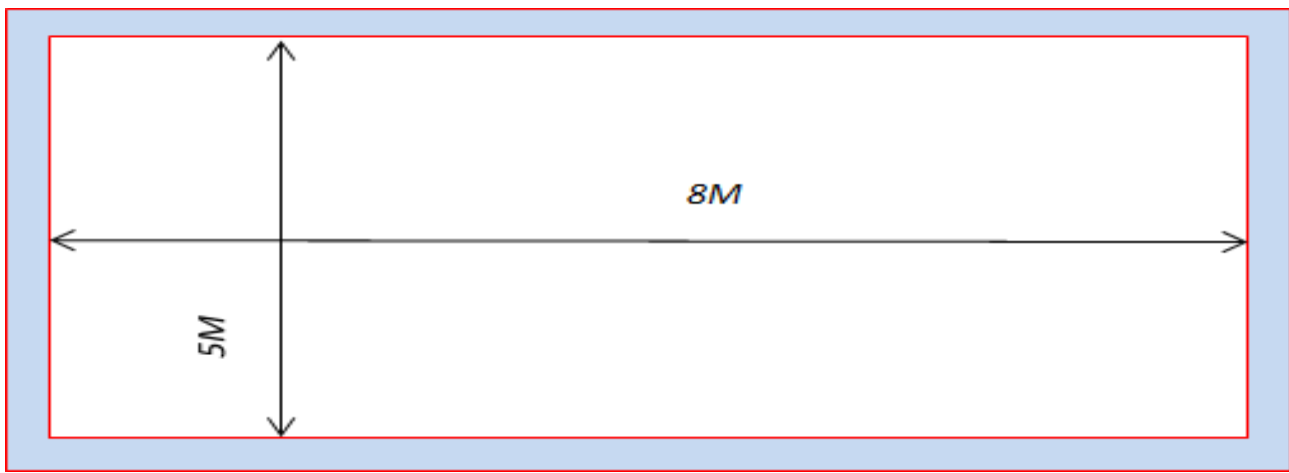


Figure 25: Calculating ventilation

If the property has 300mm cavity wall and the external dimensions were used the area would be $8.6\text{m} \times 5.6\text{m} = 48.16\text{m}^2$ = Over-measure of 8.16m^2 .

Hybrid/pitched & sloped roof

Where the ceiling to be insulated is greater than 2/3rd of the floor area below the ceiling and the ceiling is categorised as a cold pitched roof, then attic insulation can proceed. This rule does not apply to dormer roofs which are not insulated on the programme. It can potentially be applied to a storey-and-a-half type dwelling if 2/3rd area can be achieved.

6.2.2 Internal Wall Insulation: Sloped Surface

The target U-Value to be achieved for sloped ceilings is attic insulation at ceiling level is $0.20\text{ W/m}^2\text{K}$.

The contractor is responsible for designing the solution to ensure that the whole surface is insulated.

The CO is responsible for the correct detailing of the roof insulation so that the correct U-value is achieved. The CO will be responsible for providing documentation so that the post works BER can reflect the completed works.

IWI does not need to be bonded and skimmed. A taped and jointed finish is acceptable. IWI should be painted white. Decorative finishes are the responsibility of the homeowner.

Measurement of Internal Wall insulation: sloped surface

The actual dimensions of the sloped ceiling to be insulated pre-works are what are measured. It is acknowledged that the installed area will be larger due to how the measure is installed but this cannot be measured pre-works. Contractors to take this into account when pricing this measure.

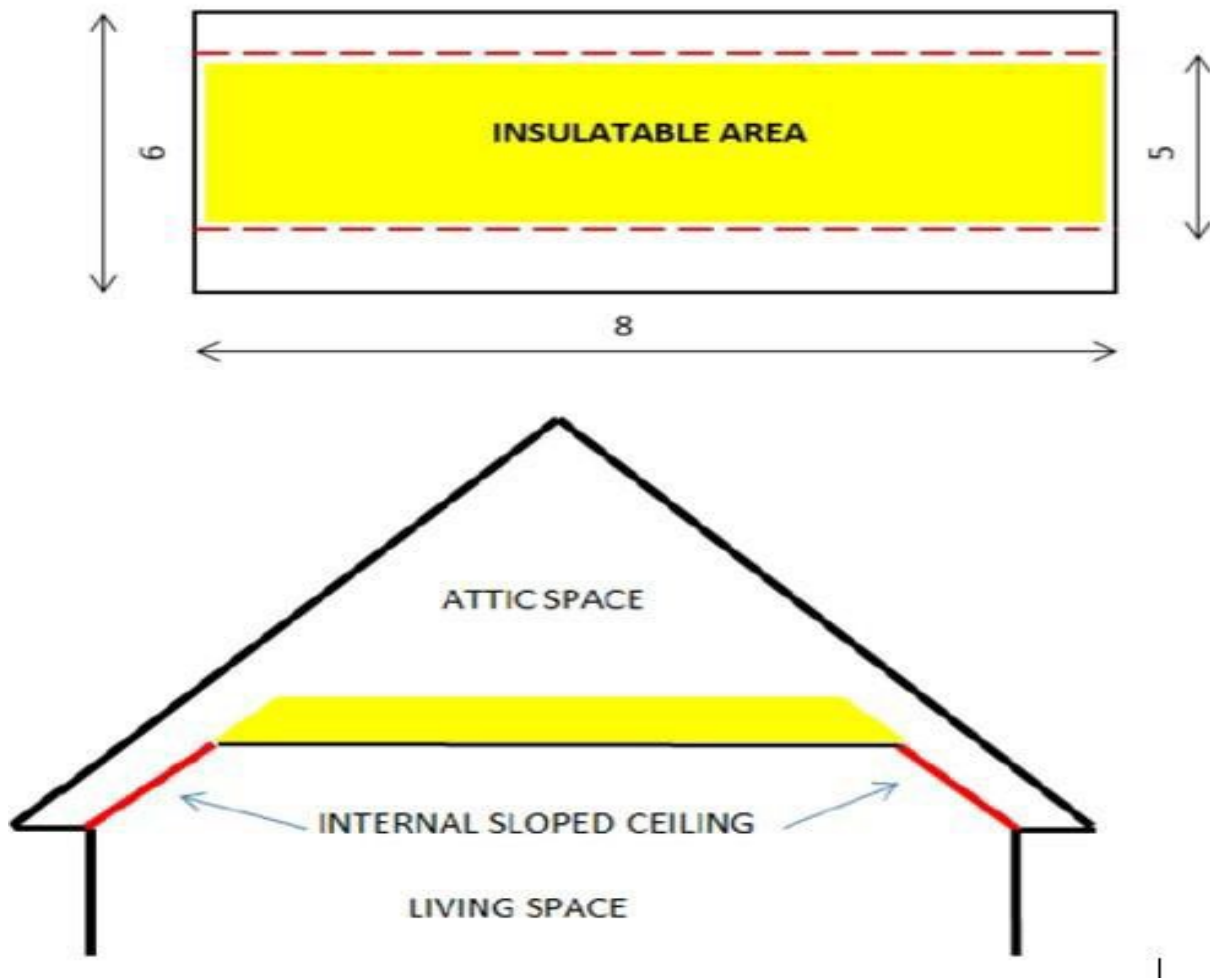


Figure 26: Internal Sloped Ceilings

WHS provides internally insulated sloped ceilings in conjunction with attic insulation at ceiling level, where applicable. Insulating the slopes as well as on the flat attic is an important preventative in mould presenting and ensuring a complete solution, making the roof space uniformly warmer. Ensuring a more even spread of heat across the ceiling surfaces ensures that mould will not occur at these vulnerable cold spots. Many homeowners may have fixed furniture such as wardrobes or shelving up against these slopes.

Contractors may be tempted to bypass the portion of sloped space behind this furniture. Unless a 100% solution can be reached, the works cannot be carried out. It is important for all contractors understand and convey the technical reasons why this is the case to the homeowner. If the fixed furniture is the following:

- located on an external wall
- located in a room that is inhabited regularly
- comprises a carcass with a back leaf

...then the chance of mould is high. Moisture within the habitable room cannot evaporate and manifests behind fixed furniture cold spots. The message to homeowners should be that fixing any furniture tight against a wall is generally not a good idea and that the best way of dealing with this is to have continuous warm surfaces along slopes to external walls. Even a louvered door will not prevent a mould problem occurring. Where the HO cannot alter their wardrobes to allow the slopes to be insulated, contractors should send in a proposal for insulating the slopes to the MA in order to determine the best solution.

Associated works with ceiling level insulation

Additional ventilation: Roofs that are thermally improved may require additional ventilation. NSAI's S.R.54 requirements set out the roof ventilation requirements for roofs at eaves level, to promote cross-ventilation. These openings should have an area on opposite sides at least equal to continuous ventilation running the full length of the eaves and 10mm wide. In cases where the pitch of the roof exceeds 35°, high-level ventilation is required in conjunction with the eaves level ventilation equivalent to 5mm ventilation strip.

NSAI has recently published amended guidance for the provision of additional ventilation in a home that is to be assessed for attic insulation at ceiling level. The guidance is published in NSAI's S.R.54 which can be downloaded at <https://www.nsai.ie/standards/sectors/construction-standards/>. Contractors should be fully familiar with the principles of why a home is assessed for additional ventilation. The NSAI summary is as follows:

- If there are no visible indications of existing condensation problems or surface condensation present in the attic [for example, moisture damage, rot, mould growth present] then further insulation should not lead to problems. Therefore, additional ventilation should not be required.
- If there are visible indications of existing condensation problems in the attic [for example, moisture damage, rot, mould growth present], then additional insulation will aggravate the problem. Therefore, additional ventilation will be required as per scheme standards.
- Where there is no insulation, or the insulation installed is incomplete or poorly fitted [e.g., gaps around joists] then new attic insulation may lead to condensation problems. Therefore, additional ventilation will be required as per scheme standards.

Calculating ventilation requirements: The roof void should be ventilated at eaves level on opposite sides of the roof to provide cross-ventilation. The total ventilation requirement will be calculated by the SEAI surveyor for each property where attic insulation is recommended.

If the contractor has a query on the ventilation recommendations made by the surveyor, they should contact the technical call centre to request clarification.

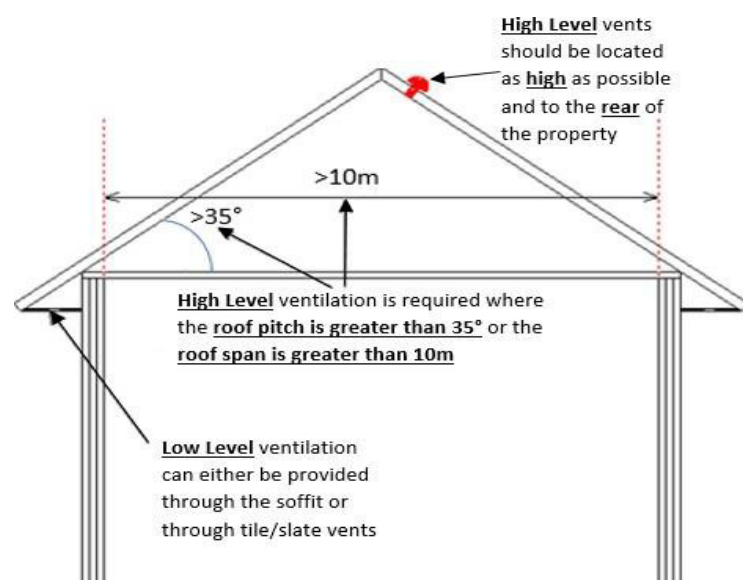


Figure 27: Calculating ventilation requirements

Attic hatch: The target U-value for the programme for a new attic hatch must match the insulated attic. i.e. achieve a U-value of 0.16 W/m²K. As there are many ways that an attic hatch can be installed depending on the given scenario, the method can be detailed by the contractor in accordance with good building practice. Please note the following:

- The newly installed timber architrave shall be painted white,
- The newly installed hatch must be draught-proofed and provided with a suitable fastener,
- A proprietary product specifically designed for both insulating and draught proofing a loft hatch may be installed as long as the expected U-Value is met. Where this happens, the installation shall comply with the manufacturer's fitting instructions. Products used must be CE marked or carry an EU declaration of conformity,
- Where blown fibre is installed, a suitable barrier shall be provided around the loft hatch to ensure that the insulating material does not fall into the dwelling when the loft hatch cover is opened [in line with applicable industry standards].

Attic storage floor: The target U-value for the programme for 5m² of fixed attic storage floor in attics insulated at ceiling level is 0.16 W/m²K. As there are many ways that attic storage can be installed depending on the given scenario, the method can be detailed by the contractor **in accordance with S.R. 54 [Roofs]**. Items to note:

- The mineral wool insulated ceiling around the storage floor should be installed with the top layer of the mineral wool insulation overlapping onto the floor at its edges to prevent air movement through any potential gaps around it,
- The attic storage platform shall be located as close to the attic hatch as possible.

It is essential that a newly installed attic storage floor is adequately supported and spread over a several supports or positioned on a wall below if appropriate as per current Homebond manual. Homeowners need to understand belongings in the attic need protection. WHS provides 5 sqm of insulated flooring in all attic upgrades, so that belongings can be contained in one location and not affect the insulation works by compression. Contractors should ensure that they advise the homeowner that the attic space is not a suitable location for the long-term storage of exposed items as it is effectively an external space and subject to extremes of temperature.

If homeowners wish to keep items in the attic, they should be informed that they take on that responsibility themselves and that any items kept there should be contained with appropriate protection as SEAI is not responsible for the wear and tear on attic contents if left there for long periods.

Attic ladders: Attic ladders are not supported under the scheme. if an attic ladder is being used for accessing attic, all health and safety considerations should be taken into consideration for the use of the system.

Cold water storage tank [CWST] and feed and expansion tank [F&E] works: Contractors will automatically take responsibility for existing defects associated with a tank prior to insulation measures. If a contractor has concerns on an existing tank integrity, they should complete a risk assessment prior to proceeding and send to the MA for review. Where a replacement has been recommended by the contractor and assessed to be not viable due to existing defects, contractors should ensure they detail the reasons why and support with evidence. If the contractor does not inform the MA, the contractor will forfeit payment for any unapproved work. Items to note:

- Provide space around pipelines to fit insulation without compression

- Provide for the installation of pipework where required
- It is essential that a new CWST is adequately supported and spread over several supports or positioned on a wall below if appropriate as per current Homebond guide

The removal from the attic of the old feed and expansion tank or cold-water storage tank is preferred but should only be considered if it is safe and reasonably practical to remove.

Pipework for new tanks

1. Install new pipes straight and parallel or perpendicular to walls, floors, ceilings, and other building elements, and ensure to avoid airlocks,
2. Pipes should be left smooth, have a consistent bore, be clean, free from defects, no external scratching, tool marks, distortion, wrinkling or cracks,
3. Generally, conceal pipelines within floor, ceiling and/or roof voids,
4. Locate access runs to facilitate installation of equipment, accessories, and insulation and for maintenance,
5. Run hot pipelines above cold were routed together horizontally. Do not run cold water pipelines near to heating pipelines or through heated spaces,
6. Install pipelines clear of electrical equipment. Do not run pipelines through electrical enclosures or above switch gear distribution boards.

Walk-boards: Where walk-boards are installed, steps should be avoided. A level finish is required, and they should be supported at both ends and intermittently as appropriate. The walk-board should start at the point of entry to the attic and should terminate at each serviceable item in the attic.

Cabling: Where high load carrying cables are encountered in a roof space, these should be lifted above the insulation. Where these cables may traverse the path of a walk board, the cables should be located above the insulation but below the walk board, the walk board may need to be notched, or a suitable detail sought. Cables are not permitted on top of walk boards. Typically, these are shower, cooker, and mains cables.

Existing ventilation ducting: Where existing ventilation ducting is encountered in a roof space, a reasonable attempt should be made to insulate this ducting. Existing ducting needs to be terminated to the external appropriately.

Extraction fans terminating in attic spaces: Where an existing cooker hood or MEV is terminating in the attic space, the ducting installed should be insulated and terminated to a roof tile vent or to an appropriated sized soffit vent.

6.2.3 Warm Deck Flat Roof Insulation

The target U-value for the programme for warm deck flat roof insulation is 0.22 W/m²K or better for warm deck flat roofs.

Typically, flat roofs are not upgraded under the programme. However, certain cases for example where a certain BER rating needs to be met or a HLI to be achieved, upgrading a flat roof may be considered.

All warm deck flat roof insulation must be carried out in accordance with the programmes' specification requirements set out in the DTSS and installed in accordance with manufacturer's instruction. The Warm Deck Flat roof insulation should be installed as per NSAI SR54 – 6.3.6.2.1.1 - Flat roof Warm Deck.

The contractor is responsible for assessing the condition of the existing flat roof for the suitability of retrofitting insulation measures prior to installing any works. The existing flat roof is to be used as the structural deck for the flat roof. The CO is responsible for the correct detailing of the roof insulation so that the correct U-value is achieved. The CO will be responsible for providing documentation so that the post works BER can reflect the completed works.

Measurement of warm deck flat roof insulation

The internal dimensions of the property are used for flat roof insulation. The flat roof is measured by multiplying the length of the ceiling to be insulated, by the width, giving the area in m².

Associated works for warm deck flat roof insulation

CO may have to carry out preparatory works to enable the flat roof to be further insulated. New DPC or cavity trays may be required in some instances. Parapet walls may need to be increased in height. Renewal of the fascia or soffit may also be required. These are not categorised as 'Reasonably Expected Works' and should be quantified separately, prior to installation. To maintain a continuous thermal envelope when EWI or IWI is also being installed Insulation may also be required to the soffit void.

6.2.4 Removal of Existing Fixed Flooring in Attics

The CO should ensure that the flooring is removed and disposed of in a careful manner and that it does not affect the structural integrity of the ceiling. CO should ensure that they do not damage or otherwise interfere with electrical cables, pipework, downlighters etc., that are present under the existing flooring.

Measurement of fixed flooring

The flooring will be measured based on the square meterage required to be removed and disposed of.

Associated works for removal of fixed flooring

CO should make good any defects that arise from the removal of the fixed flooring and disposed of.

Clearing of attic

In instances where a vulnerable homeowner is unable to prepare the attic for the works, the clearing of the attic may be required to allow insulation to proceed. The personal items are to be placed in the living space of the home for the homeowner to address. As 5m² of attic storage is being provided, it is reasonable that the homeowner may ask for some items to be brought back into the attic. The CO should ensure that no items are damaged during this process.

6.3 Heating Systems

While the programme provides high efficiency heating systems with heating controls subject to some conditions applying, COs are reminded that WHS is an insulation programme with fabric readiness as the focus. While the MA survey assesses the home for qualifying heat criteria. It is **the contractor's responsibility regarding the quality of the design, installation, and warranties for the heating system on site and all works must be carried out by a suitably qualified resource** to validate or amend the original recommendation.

If there is a change to the original recommendation, the contractor must request a variation before proceeding with the work. In instances where there are difficulties preventing the installation of the system, the contractor must report this back to the MA immediately, detailing why this is the case. They should include proposals, with costs, to rectify if a remedy is achievable.

Work must not proceed without an authorised variation from the MA in writing.

Contractor survey for heating: For each measure outlined below, allowances should be made for any items necessary in order to install each measure:

- To the manufacturer's guidelines
- The DTSS
- NSAI SR 54: :2014/A2:2022, Code of practice for the energy efficient retrofit of dwellings [2022]
- S.R. 50 Series: Standards for Modern Plumbing and Heating | NSAINSAI SR50-4:2021 Building services - Part 4: Heat pump systems in dwellings [2021]
- The Operations Manual [this document]
- CIBSE Domestic Heating Design Guide
- The ETCI National Wiring for Electrical Installations
- All prevailing Regulations and standards.

Contractors must ensure the following at install complete:

- That the installation is fully commissioned pressure tested and deemed sound and operational
- That all necessary documentation has been completed
- That a 'Handover Pack' containing all necessary documentation has been left with the homeowner
- That a copy of the Handover Pack has been uploaded to the database
- That the homeowner has been fully instructed on how to operate the system
- That all waste and redundant materials have been safely removed from site

Carbon Monoxide

Please note where a room sealed boiler is sighted indoors carbon monoxide [CO] alarms must be fitted in the same room as the appliance. For open flued appliances and where flues pass through rooms, boxes etc., carbon monoxide alarms must be fitted in accordance with Part J and IS 813.

Type A: CO detectors provide a visual and audible alarm and emit an output signal that can be used to actuate a device, directly or indirectly.

- EXAMPLE 1 Wired to a solenoid valve to shut-off the supply of gas.
- EXAMPLE 2 Wired to an appliance's electrical timer to shut down the appliance.

Type B: CO detectors provide a visual and audible alarm only. This type of CO detector is the most commonly used in domestic dwellings.

6.3.1 Contractor Heating Survey

The function of the MA survey is to recommend the suitability of a heating system based on applying the current WH qualifying criteria in the home. The function of the Contractor Survey is to design and provide a heating solution for example, heat pump suitability, heating controls and radiator replacements, electrical heaters.

The contractor, upon receipt of the WO, must visit the site prior to carrying out any work including a full assessment of the existing heating system. As part of the heating system, the contractor should first assess the condition of the electrical system in place, to ensure the system can receive the heating package. Contractors may submit a variation for a PIR if assessed to be necessary.

The contractor's assessment of the heating system will determine what works are required to design and deliver a robust and fully functioning heating installation that will meet all relevant regulations regarding National Rules for Electrical Installations, F-Gas Regulation, and NSAI S.R. 50-4 Heat pump systems in dwellings, refer to DTSS. It should be leak free, have full heat distribution with all radiators and hot water operating in parallel.

Homeowners should be briefed on all proposed work such as surface pipework and agreed prior to commencing installation. Contractors must stand over these installations for the warranty period outlined in the Code of Practice. Residual fault, for example, leaks or undersized pipework, must be covered under this period. It is crucial that diligent quality checks and commissioning are completed on each installation.

Contractors must adhere to the requirements of DHLGH's *"Heating and Domestic Hot Water Systems for Dwellings – Achieving compliance with Part L & Energy Performance of Buildings Regulations 2019"*.

Where any issues of concern are identified these should be highlighted to the MA with documented proposals to address such. Variations required to support remedial works to enable the delivery of the heating measure must be sought and approved prior to any works commencing.

6.3.2 Heating Packages for WHS Homes

Contractors should refer to the REW at the end of this document to check those components relevant to each package. Heat pump and Electric heating packages are provided as a single component system.

All electrical work must comply with I.S. 10101 National Rules on Electrical Installation.

6.3.3 New Air to Water Heat Pump Heating System Installation

This system will be recommended for homes which have been assessed to be **heat pump ready**. The anticipated rating at the completion of works will be fully compliant to Building Regulations Part L – Conservation of Fuel and Energy. Only a home with a modelled pre-BER in DEAP will be eligible for a heat pump install. Based on this assessment, the BER assessor will recommend a suite of measures to ensure that the HLI of the dwelling, once all works are completed, is less than 2.3 W/Km².

The process in selecting homes for HP suitability is as follows:

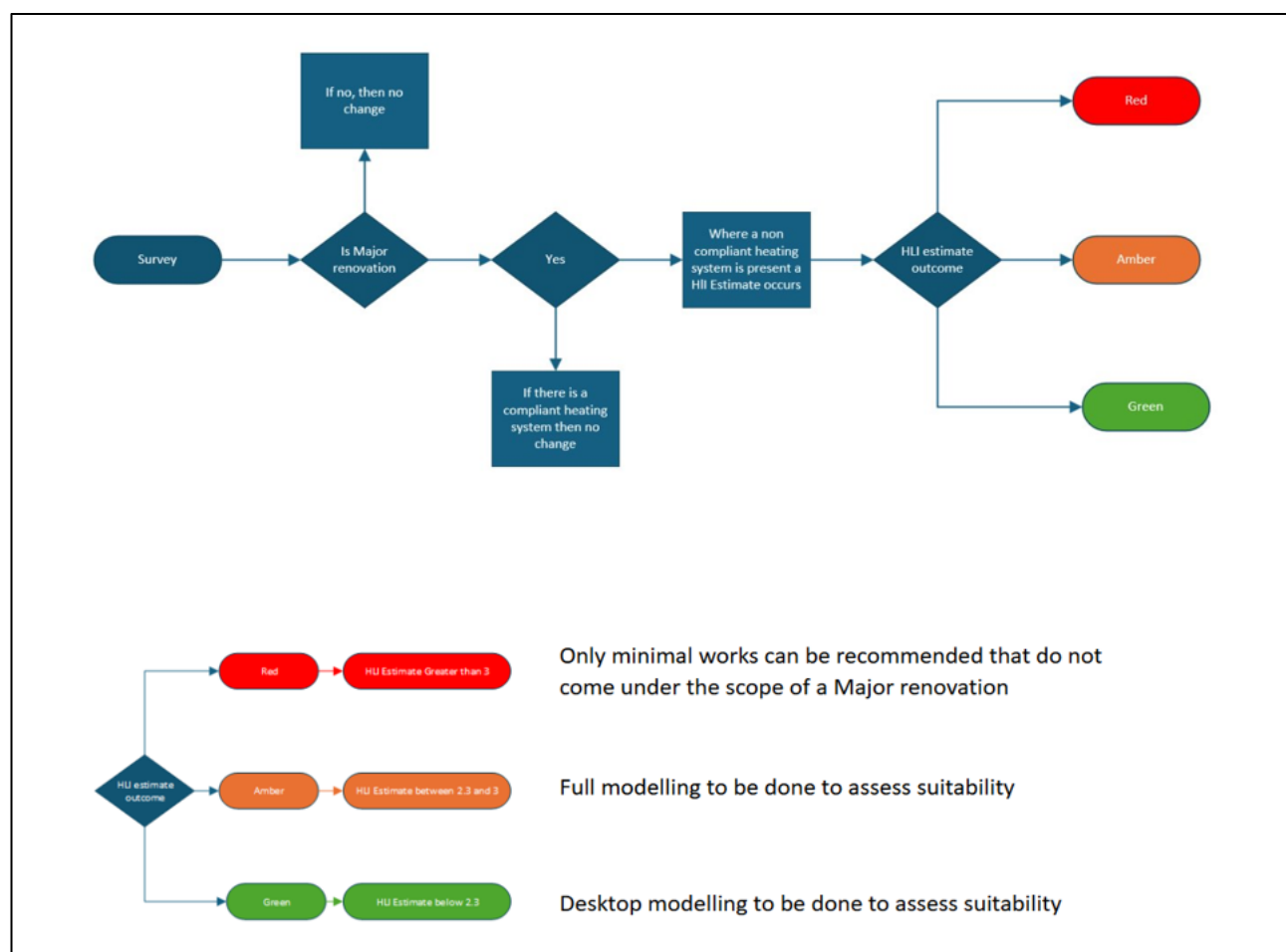


Figure 28: 2025 Heating recommending - Surveyors

Should a contractor apply for a variation, it is their responsibility to ensure this does not impact the required target of the home. Variation changes must be captured by the Contractors BER assessor in the DEAP software and provided to the MA.

Cylinders – where a contractor is not installing a cylinder specified by the manufacturer of the indoor/outdoor unit, the contractor must demonstrate with calculations that the coil in the cylinder is sufficiently sized to heat the cylinder at design flow temperature and that the cylinder is insulated appropriately. Contractors must comply with the specifications as set out in the DTSS Section 6.8 ‘Heat Pump Systems’ to ensure compliance where the cylinder is not the heat pump manufacturer’s cylinder.

Where the criteria for the provision of a new air to water heat pump has been met, contractors will be asked to install a system which shall comprise the following component items listed below. Also refer to the ‘Reasonably

Expected Heating System Installation/Upgrade Works' table, reference heading 'Full air to water heat pump system installation'.

The heating system comprises the installation of a suitably sized heat pump system [300 +% efficiency as per the *Heat Pump Tool* for DEAP], to provide a minimum of 100% of space heating demand and 80% of Domestic Hot Water (DHW) demand, to manufacturer's instruction and SEAI specifications.

The Contractor should consult I.S. EN 16147 to determine loads for domestic hot water production. The typical consumption pattern should be discussed with the homeowner, and they should be advised of the design re-heat time. Domestic hot water (DHW) cylinders must have heat exchangers suitable for use with the temperatures and outputs derived from the selected heat pump. Additional guidance is published in I.S. EN 16147:2017+A1:2022 which can be downloaded at https://shop.standards.ie/en-ie/standards/i-s-en-16147-2017-a1-2022-lc-2023-875118_saig_nsai_nsai_3226874/.

The supply and installation of the new heat pump system incorporates fully integrated heating controls. Separately, contractors will have to assess each dwelling's need for the following items:

- The supply and fit of radiators,
- Thermostatic valves and lock shields.

Any such additional items must be confirmed by the technical helpdesk prior to installation. The heat pump installer must also provide all required data and information to the BER Assessor carrying out the post-works BER assessment. Additional supporting technical guidance is provided in the HPAI Heat Pumps Code of Practice – Installation Guidelines which can be downloaded at [Heat Pump Association of Ireland](#).

6.3.4 New Air to Air Heat Pump Heating System Installation

This system may be recommended for homes which have been assessed to be **heat pump ready** and do not have space for a full air to water heat pump system.

Only a home with a modelled pre-BER in DEAP will be eligible for a heat pump install. Based on this assessment, the BER assessor will recommend a suite of measures to ensure that the HLI of the dwelling, once all works are completed, is less than 2.3 W/Km².

As per 6.3.3, it is imperative that the recommendations made by the BER assessor are not varied off by the CO. Should a contractor apply for a variation it is their responsibility to ensure this does not impact the required target of the home.

SEAI Designer installer signoff sheet must be supplied and uploaded to the database

The supply and installation of the new air to air heat pump system with fully integrated heating controls includes but is not limited to:

- Appropriate siting of indoor and outdoor units
- Wiring from the consumer unit including appropriate isolators for indoor and outdoor units
- Fittings, appropriate pipe insulation

The heat pump installer must also provide all required data and information to the BER Assessor carrying out the post-works BER assessment.

Heat pump systems specific requirements

The grant specifications require the design of the whole heat pump system, including sizing of the distribution and heat emitters. The design must be based on the heat loss calculation based on an acceptable standard, such as the *CIBSE Domestic Heating Design Guide*, or the

[S.R. 50 Series: Standards for Modern Plumbing and Heating | NSAI](#).

Additional guidance is available from the MA. The result of the heat emitter sizing must be entered in the *Heating Design tab*. For further information on heat pump requirements refer to DTSS section 6.8

Heat pump documentation requirements:

Post installation: As a minimum, the contractor shall provide documentation to the homeowner regarding the installation, including but not limited to:

- Instructions for required maintenance schedules, service agreements and spares, particularly when the guarantees are dependent on these,
- Where applicable, F-Gas regulations for the equipment being installed and of any cost implications which the homeowner must be made aware of,
- Eco design datasheet [maximum of five pages],
- Completed designer/installer spreadsheet as per template available from SEAI's DEAP Manual, section G1.2: "Input from the designer/installer" including the domestic hot water [DHW] and heat distribution design and specifications [radiator, air-to-air]. The DEAP Manual's link is: <https://www.seai.ie/home-energy/building-energy-rating- here Manual-Version-.pdf>.

Heat pump system documentation to provide to the homeowner to be available for inspection:

- Eco design datasheet [maximum of five pages],
- Completed designer/installer spreadsheet as per template available from the [SEAI Contractor Supports Web page](#), including the DHW and Heat distribution design and specifications [radiator, air-to-air],
- Commissioning certificate completed in all relevant parts,
- Safe Electric Completion certificate, completed in all relevant parts,
- Details of F-Gas Certified Company and sign-off,
- User and Installation Manuals.

The heat pump installer must also provide all required data and information to the BER Assessor carrying out the post-works BER assessment. If required, the heat pump system design data must be provided for early assessment before works are carried out.

6.3.5 Electric Heating System

In exceptional circumstances, in cases where a heat pump cannot be installed an electric heating system may be recommended. This would consist of the installation of electric storage heaters, electric panel heaters or a combination of both. New or replacement electrical heating systems should be installed in line with the manufacturers guidelines, DTSS, and S.R. 54, by a registered electrical contractor (REC) and in accordance with I.S. 10101 National Rules for Electrical Installations.

They must incorporate a timer and electronic room thermostat to control the heat output. These should be user adjustable. The electric storage installation must be a whole dwelling solution. New or replacement electric storage heaters should have a heat retention not less than 45 % measured according to I.S. EN 60531:2000.

Electric storage heaters should be installed in areas for daytime usage, for example, living rooms, kitchens, halls, and bathrooms. Electric panel heaters should be installed in areas for night-time use such as bedrooms. Consideration should be given to access and exit from doorways and the location of local isolation switches, so they are accessible.

Electric storage heater must be sized appropriately for the room in which it is being installed. Suitable design methods for ensuring the heater are sized correctly are as per DOM 8, Guide to the Design of Electric Space Heating Systems, TEHVA or the manufacturer's sizing methodology.

Associated works with installing electric heating systems

The installation of electric heaters should be accompanied by a recommendation for the disconnection, removal and disposal of all fixed electric heating and all related electrical power points and distribution equipment where present and required. It will also include the installation of all new fixed electric heating, all new related electrical power points and any new distribution equipment required.

6.3.6 Plug in Electrical Stove Effect Room Heater

Homes where an existing stove flue is being removed, the contractor may variate for a plug-in electrical stove effect room heater where homeowners wish to retain a stove effect room heater. This measure will be listed on the WO.

6.3.7 Chimney Draught Limiter

The chimney draught limiter being installed must conform to BS 1251 'Specification for open- fireplace components and BS 3376 'Specification for solid mineral fuel open fires with convection, with or without boilers. A permanent mechanically fixed chimney draught limiter alters the geometry of the chimney therefore altering the ventilation rate as per the DEAP methodology.

Temporary draught limiting devices, removed when a fire is lit, are **not** eligible under this measure. A temporary draft limiter is wholly reliant on its reinstatement whenever a fire is not lit, and they do not alter the geometry of a chimney within the DEAP methodology.

Installation Standard and Specification

The Installation of chimney draft limiter shall be installed to manufacturer's recommendations. The chimney draft limiter is installed in accordance with the design specification in their true relation to the appliance. The instructions

of the appliance manufacturer shall be followed in conjunction with the design specification in accordance with BS 1251 - Specification for open-fireplace components and BS 3376 - Specification for solid mineral fuel open fires with convection, with or without boilers.

All components must be installed in a way that allows installation, maintenance, and repair / replacement. There shall be enough clearance, in accordance with the manufacturer's instructions, between the chimney draft limiter and the adjacent materials to allow for cleaning and maintenance. Components shall be placed, fixed, and supported so that no harmful deformations occur and so that thermal expansion is possible.

On completion of installing and commissioning the system, the installer shall hand over the manufacturer's operating instructions to the user to provide full information regarding the operation and maintenance of the appliance.

6.3.8 Contractor Assessment for Heating

The contractor survey should assess any existing heating components, for example, radiators, pipework, cylinders, existing systems such as back boilers and ranges, and evaluate them as to whether they are appropriate to continued use or if they should be replaced. Before commencing any work, contractors may need to variate and/or seek technical help from the MA.

The technical team will need appropriate evidence to support a variation request. This means the provision of photos of existing elements such as pipework, boilers, radiators, or damaged water tanks. The technical team will reject claims not supported by appropriate evidence. Please see Chapter 4, 'Contractor-Managing Agent Engagement: Variations'.

Qualifying heating systems for homes

There are instances where the homeowner may be eligible for replacement heating systems if the following criteria are satisfied.

Statutory: 'Major Renovation' obligations

'Major Renovation' refers to revised Part L legislation which has been in place since 1 November 2019.

Major Renovation under Part L means the renovation of a building where more than 25% of the surface of the building envelope undergoes renovation, which includes cladding the external surface of the wall and/or drylining the internal surface of a wall. Where a major renovation is planned, this may trigger the requirement to achieve a of 75 kWh/m²/yr for the whole building, when calculated in DEAP. This is the equivalent of achieving a BER of A3.

As an alternative to achieving a A3, where a major renovation is to take place, the attic must be insulated to achieve a U-value of 0.13Wm²/K and, where relevant, the boiler [oil/gas] must be replaced if it is more than 15 years old with an efficiency less than 90%.

These criteria also apply to where an electric storage heating system must be replaced if it is more than 15 years old with a heat retention of less than 45%.

The legislation impacts on WHS homes for the following reasons:

- WHS homes tend to have below average performance pre-works and so there is a likelihood that this legislation will apply to some homes on the programme,

- WHS carries provides external and internal insulation to solid walls, which are categorised as major renovations under the legislation,
- WHS replaces single glazed windows where wall measures have been recommended. Window replacements on their own cannot constitute a major renovation, however when installed alongside internal and/or external wall insulation measures, they are to be included in calculating the major renovation area.

WHS has been appraising homes for this legislative trigger since October 2019 and surveyors assess all homes using a Major Renovation calculator to determine whether the measure triggers the legal obligation. If a contractor is assessing a home and has determined that it now qualifies for a new heating system [Heat Pump] under the major renovation clause, then they should proceed through the variation process as set out in Chapter 5.

Rules for determining renewable heating systems

WHS only installs renewable heating systems in qualifying homes. Where it has been established that the applicant qualifies for a heating recommendation, the following approaches apply:

- Where a recommended heating system is validated by the contractor at their survey stage, they should also confirm the suitability of the site and the practicality of the installation.
- Where there are associated measures required to install heating, for example, a new hot press, the contractor should liaise with the MA with suggested solutions. This will not be included in the WO.
- Where an existing boiler is present and has been recommended for upgrade, the existing oil or gas systems will be upgraded to a heat pump. **The upgrades must be cancelled if this cannot be achieved.**

In the case of wall insulation being installed that will compromise existing gas meter positions or pipework alterations to such should be addressed. See section EWI for details. Where there is a need to install a new meter, there can be a time delay and consideration should be taken to whether the installation can be completed on schedule.

Exceptions to heat pump heating system upgrades: These are some examples of where installing a heating system may be prevented, based on calls to the contact centre:

- Where a management company is in control of the outside space
- Where the homeowner is non-committed to the installation
- Where the condition of the property is not suitable for a heating installation
- Where the costs of associated works to install heating in the property is excessive/not economical, for example, should a home require a rewire

Homeowner position on recommendations: To proceed with the installation of a measure such as a heating system is entirely the choice of homeowners. The contractor's role is to advise the pros and cons of installations in line with the programme's rules, so homeowners can make informed decisions.

Should a homeowner be non-committed to having heating installed at the survey, a reasonable cooling-off period should be accommodated. This cool-off period will run until the point that a contractor is to commence works. However, contractors should ensure that in advance of any works commencing, they advise the HOs that in cancelling a heating system, in some cases this may have consequences for the remaining measures recommended. For example, the installation of the heating system may be required for compliance with the new Part L legislation

and not installing the system may therefore mean the cancellation of internal/external insulation packages and consequently, new window installations, that have been recommended on the WO.

Contractors must update the database with notes in this regard.

Contractors may make a case for recommending renewable heating in a Major Renovation home.

Surveyors are trained to identify heat pump suitability using key building characteristics which, when upgraded under the WHS, should reach the HLI threshold under 2.3 W/Km^2 . For MR homes found not to be suitable following the technical review, the triggering measure [EWI/IWI] will be removed from the Works Order and the home will be allocated a shallow lot or cancelled, if no remaining works are possible or the homeowner prevents further shallow works. This will be noted on the WHS Database regarding homes with MR downgraded to shallow measures.

Contractors are permitted to revisit this outcome, where the contractor is making a robust case for renewable heating in a home. SEAI may share the pre-works BER survey data to a Contractor's registered BER Assessor to facilitate any modelling required and should request same from the WHS Team for this access, in advance of HP sign-off.

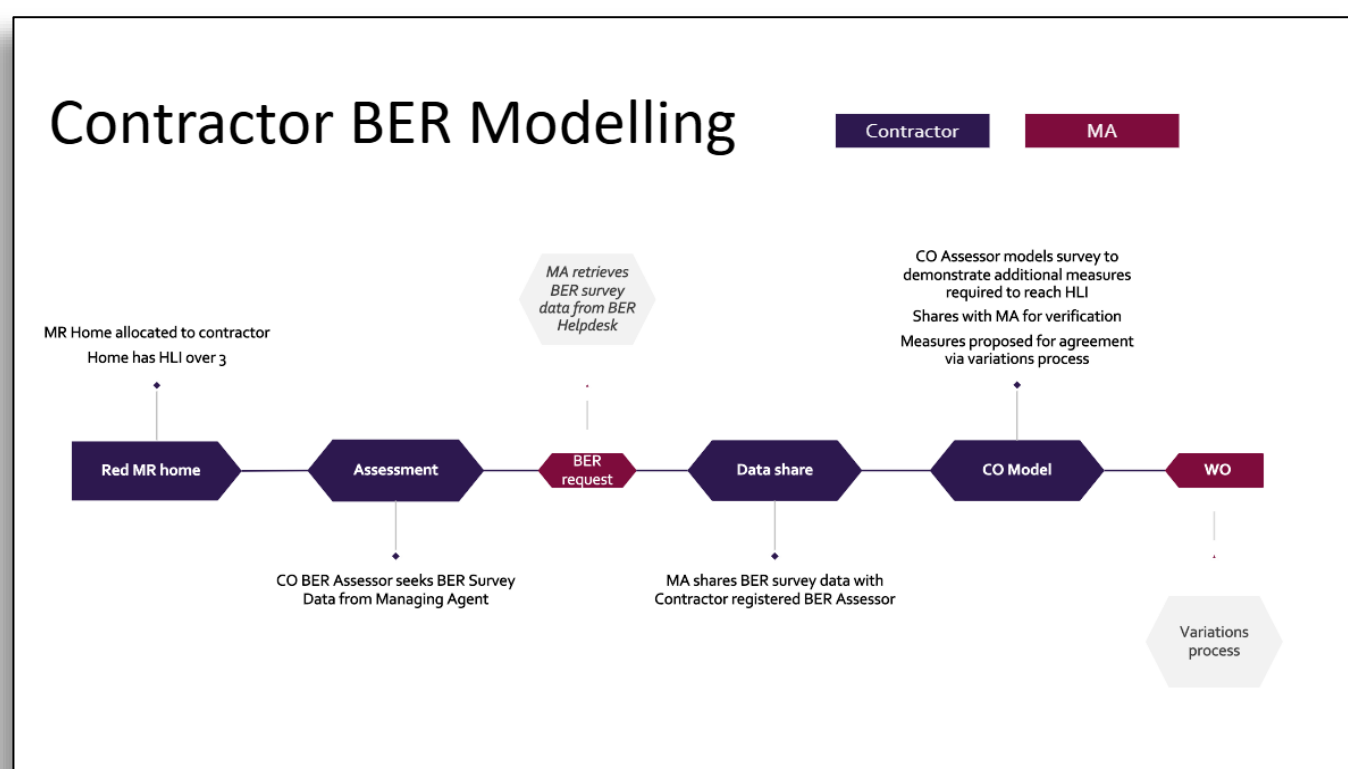


Figure 29: Contractor BER Modelling For HP

Please note this can only be made in homes where heating would have been recommended under Major Renovation but later removed from this category due to unsuitability as described above. Contractors should bring the home to the technical team, with justification for proposing the home for a heat pump review including DEAP software modelling and calculations. An SEAI Designer Installer signoff sheet must be supplied and uploaded to the database.

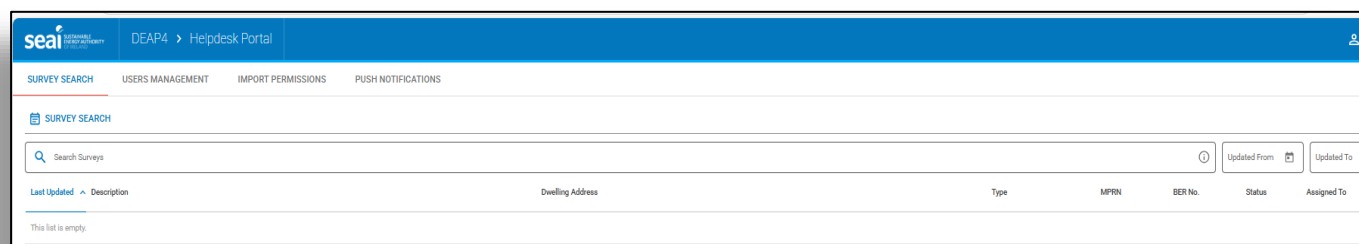


Figure 30: Calculating HLI requirements DEAP Software

Associated works with heating systems

Pressure-testing existing systems: In systems where existing radiators and pipework are not being replaced, a pre-works pressure test must be carried out before any new work can commence. [See Appendix 3 for suggested template document]. Should a pressure test on the existing radiators and pipework be not deemed sound, this must be reported back to the MA prior to proceeding with any further works, detailing why this is the case and include proposals to remedy. Work must not proceed without an authorised variation from the MA in writing. If the contractor does not notify the MA of any issues after testing the existing radiators and pipework, the contractor will be responsible for any leaks in the existing radiators and pipework and remedy at their own cost. Video evidence to support the completion of power flush and pressure test must be uploaded to the database to support the pressure testing has taken place.

Pressure testing systems when complete: Upon completion of the installation of all heating systems, pressure tests must be carried out and records are to be kept. The template referenced in Appendix 3 may be used. Contractors should be aware that the provision of a pressure test ensures the contractor is protected, especially in the instance of adapting an existing heat system. The test result demonstrates diligence and integrity at the time of the works being completed.

Power-flushing: Where existing radiators and pipework are present and being retained, a mechanically assisted powered cleanse and flush [power-flushing] of an existing heating system must be completed. The template referenced in Appendix 3 may be used. Records and photographs must be kept of any mechanically assisted power flushes. Power flushes must be carried out to the relevant specifications as referenced in the DTSS. The heating system must be power flushed before the installation of the magnetic filtration unit. All contractors must provide video evidence to support the completion of power flush and pressure test must be uploaded to the database to support the power-flush has taken place. Where there are only two radiators being retained, contractors should instead replace the radiators for new ones and cancel the power flush as the cost is similar to that of a power flush.

Heat pump-safety valves: Safety valves should be installed so they meet the requirements of the DTSS, safety valve discharge pipework should have a continuous fall and should not be piped in such a manner where water/fluid cannot lodge in the pipework.

Heat pump electrical isolation: Suitable isolators are required for indoor and outdoor units. Indoor units should not be isolated by an outdoor isolator only.

Existing pipework: Existing plastic pipework and push fittings do not have to be upgraded if fit for purpose.

Hot water cylinder: Suitably sized Part L compliant indirect hot water cylinder to include anode which is to be clearly identified for inspection purposes. This is to be the case for new and replacement cylinders where appropriate. The cylinder should be sized to suit airing cupboard and should include an Immersion where required.

Hot water cylinder jacket: Contractors must provide a hot-water cylinder jacket correctly sized, tested and approved to *BS 5615* in accordance with the DTSS.

New radiators: The contractor shall size radiators and associated pipework and valves to suit output requirements of each room following completion of any insulation measures, based on heat loss calculation methodology. Design, installation, commissioning and maintenance are in accordance with the relevant Standards including NSAI S.R. 50-4 Heat pump systems in dwellings. The design and sizing details of the heat distribution system, as installed, must be included in the Designer/Installer spreadsheet. This shall be accompanied with photos of the proposed radiator for replacement and a detailed explanation through the variation process.

Existing radiators: System radiators should be suitable for the lifespan of the new heat pump. Where an existing heating system is present, the contractor must assess the radiators in place for suitability to be re-used. Non-convector type, damaged, leaking and/or undersized radiators should be replaced. Where a contractor seeks to change any existing radiators, they must complete a heat loss calculation to demonstrate that the existing radiator is undersized and submit a technical query. It is important that appropriate documentation is provided for the variations and must include the following:

- A description of why the radiator should be upgraded,
- A floor plan with proposed sites for radiators,
- Two photographs of each radiator with the detail of the default in the radiator for example, rusty or non-convector,
- A photo of the radiator in situ in the room,
- Small spaces such as landings do not require radiators,
- In situations where existing radiators are undersized, or two radiators may be required for one room, calculations should be provided.

Lower Temperature radiator/heat emitter (heat pump standard requirements): where the Heat Pump flow temperature is 45 degrees or less, and associated pipework and valves to suit calculated output requirements of each room following completion of any insulation measures (based on heat loss calculation methodology in 'CIBSE Domestic Heating Guide.' Where replacement radiators are required, this rate includes for the removal and safe disposal of the old radiator.

Additional notes on radiators: The contractor is to avoid installing two radiators in a space. Where possible they should incorporate a larger radiator into the space to heat the space appropriately. Small rooms adjacent to heated spaces, for example, ensembles, back halls and utility rooms should not require a radiator.

Contractors should note that copper pipework is to be installed throughout the heating installation. Contractors may use multilayer pipework where hidden in boxing/under floors. Any multilayer pipework and associated fittings must be installed in accordance with manufacturer's instructions and appropriate standards.

Contractor making good radiators: The contractor must ensure that the home is in an acceptable state of finish regarding radiators. Illustrated below some examples of works left on site.

We would ask that contractors assess each home on a case-by-case basis and ensure where existing pipework is being retained, that they install a radiator which will meet the location of the pipework and not permit unsightly patches as shown in Figure 29. Not only will this remove the unsightliness of what remains, but it will ensure there are no trip or break hazards left on site.

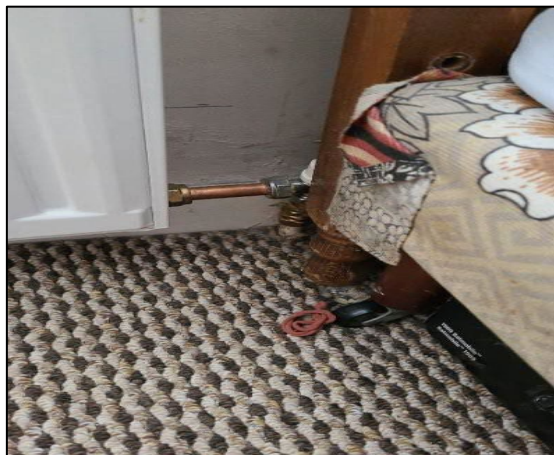


Figure 32: Excessive pipework

Figure 31: Unsightly patches pipework



Oil tanks: No works should commence onsite, prior to the Contractors Technical survey confirmation that the Oil tank is fit for resitting. Where an existing oil tank needs to be temporarily moved to accommodate the installation of EWI, the contractor is to submit a documented technical query for this measure before any works take place. Please note, contractors will be responsible for any unexpected works associated with fossil fuels as funding is no longer in place. This means the Contractor Technical Survey is key in discovering any potential risks around existing heating arrangements in the home so all contractors must ensure all survey forms and processes take account of this change. Where the condition of the tank is deemed a potential hazard as per OFTEC guidelines, contractors should leave a copy of the risk assessment with the details of the potential hazards with the applicant and upload a copy to the SEAI database. Where the condition of the tank is deemed an immediate hazard [as per OFTEC guidelines] contractors should inform the Homeowner to install a new tank. When an EWI installation requires the resitting of the tank, the new tank foundation cost is the responsibility of the homeowner. Any sub-contractors working on oil systems shall also be OFTEC registered. All OFTEC documentation must be used-

Gas back boilers units [BBUs]

Where a gas back boiler unit exists, and the heating is upgraded the BBU should be fully decommissioned in accordance with RGI Guidelines and left in place.

Expected works at completion

Handover: The contractor must ensure that all works are fully commissioned and operational, that all necessary documentation has been completed, that all relevant certificates and specifications have been provided to the homeowner, that the homeowner is fully aware on how to operate the system, and all remaining waste and redundant materials has been removed and safely disposed of. Contractors should check the REW table for heating systems in Appendix 1 of this document.

Photographic evidence: In addition to any photos relating to reworks, general photos of the heating system such as the relevant components of the heating system should be retained. This means the programmer, thermostats, zone valves, TRVs, cylinder, Heat pump, magnetic filter and oil tank must be photographed and all relevant paperwork such as logbooks, Commissioning, F gas certs, pressure test results and power flush declarations kept on file by the contractor for inspection. Video evidence to support the completion of power flush and pressure test must be uploaded to the database to support the pressure testing has taken place.

Quantities: As part of the scheme inspection process, the BER assessor or inspector shall verify the quantities on the WO. These quantities are made up of the surveyor's WO and any extra items added by the contractor that are not included in the gas or oil boiler and controls recommendations. These extras shall be verified by the inspector on site. Where items have been fitted but are not on the WO, these items should not be added to the quantities.

6.4 Window and Door Replacements

Windows: The U-Value to be achieved for windows is 1.4 Wm²K or better for window installations.

The programme replaces all **single-glazed windows** subject to the home receiving any wall insulation measure of over **20%** of the total wall area. Windows are to be installed as per Section 6.25 Window Replacement in the DTSS. The expected colour finish is white*.

Homes which have insulation installed by others does not trigger an entitlement for windows

Measurement: Windows are measured internally with the width measured between the existing side reveals. The height is measured from the junction of the bottom of the window and the sill to the underside of the head reveal. To calculate the area, the width is multiplied by the height in m².

The area on the WO will be rounded up or down accordingly. As an example, a window is 1.8m wide and 1.2m high, the area is 2.16m², this will appear as 2m² on the WO.

Associated works with windows

Ventilation and trickle vents: A trickle vent in a new window can replace/supplement ventilated wall vents. Following a review of air-tightness results, SEAI has examined the programme requirements for installing ventilation. Where new windows are to be installed and ventilation is required, contractors should ensure new windows should be installed with certified trickle vents where practical [for example, where the window is sufficiently large enough for a trickle vent with an equivalent area of >5000mm² or free area>6500mm²] instead of a cored wall vent.

Figure 31: [Safety catches] Windows need safety catches as per building regulations where window is over 1400mm above external floor level.

Airtightness - When replacing windows, the airtightness should be addressed by sealing around the window frame internally. Suitable airtightness tapes or sealants should be used with appropriate durability. The CO should provide evidence to show that this has been completed which should be uploaded to the database and left in the HO pack.

Additional notes on windows

***Colour-matching window frames:** Where a contractor is replacing some but not all windows on a house, SEAI expects the contractor to match the existing windows where possible even if non-white, particularly if these windows are at the front of the house. Given the low frequency of this scenario, we ask contractors to allow for this when compiling their rates/commencing on site. This is considered a reasonable exception to the standard installation of white windows.

Rooflight / roof window replacement

The U-Value to be achieved for rooflights/ roof windows is 1.4 Wm²K or better for rooflight installations.

This measure is only intended for instances where a CO is upgrading a flat roof with warm deck insulation and there is an existing rooflight/ roof window present that needs to be replaced as part of the roof upgrade. Rooflight/ roof windows should be installed as per Manufacturer's instructions and in line with S.R. 54.

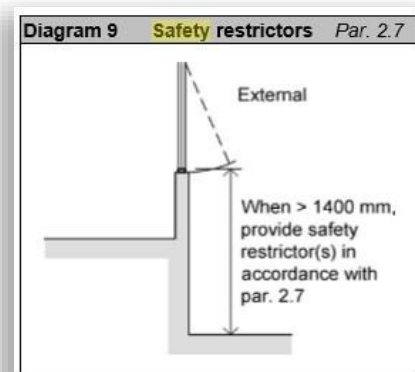


Figure 33: Safety catches Windows

Door replacement:

The U-Value to be achieved for doors is $1.4 \text{ Wm}^2\text{K}$ or better for door installations.

Doors are to be installed as per Section 6.24 'External Door Replacement' in the DTSS. This includes porch doors to the front and solid entrance doors within porches. The following rules apply where there is a porch with two doors. If there is no porch, replace the door if single-glazing present.

Rules for replacing the correct door

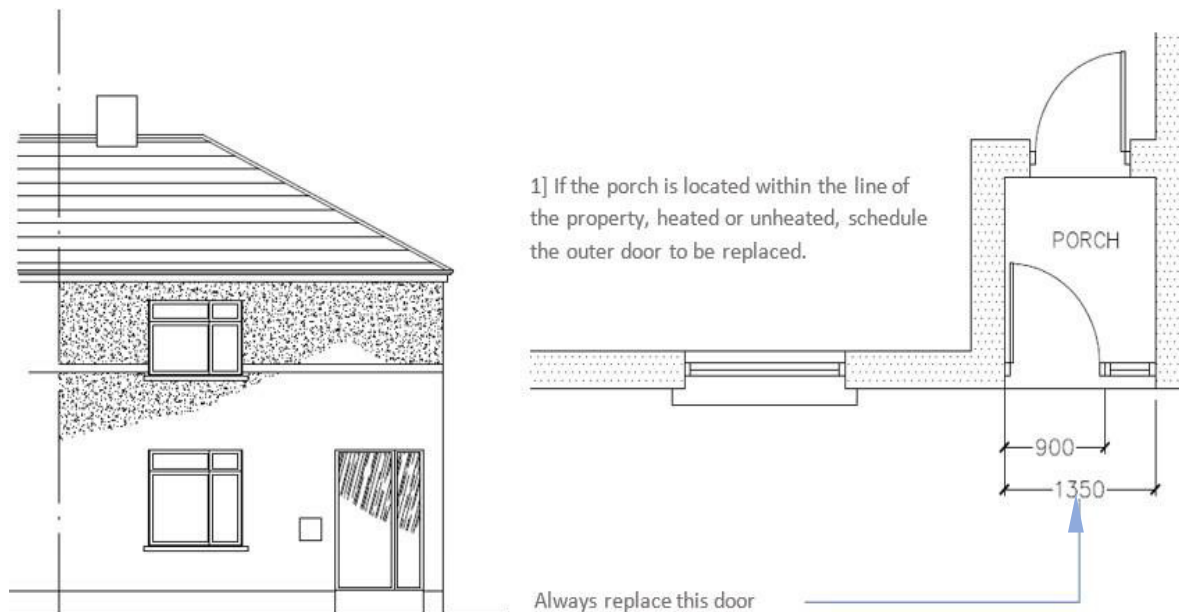


Figure 34: Rule 1 door within building line

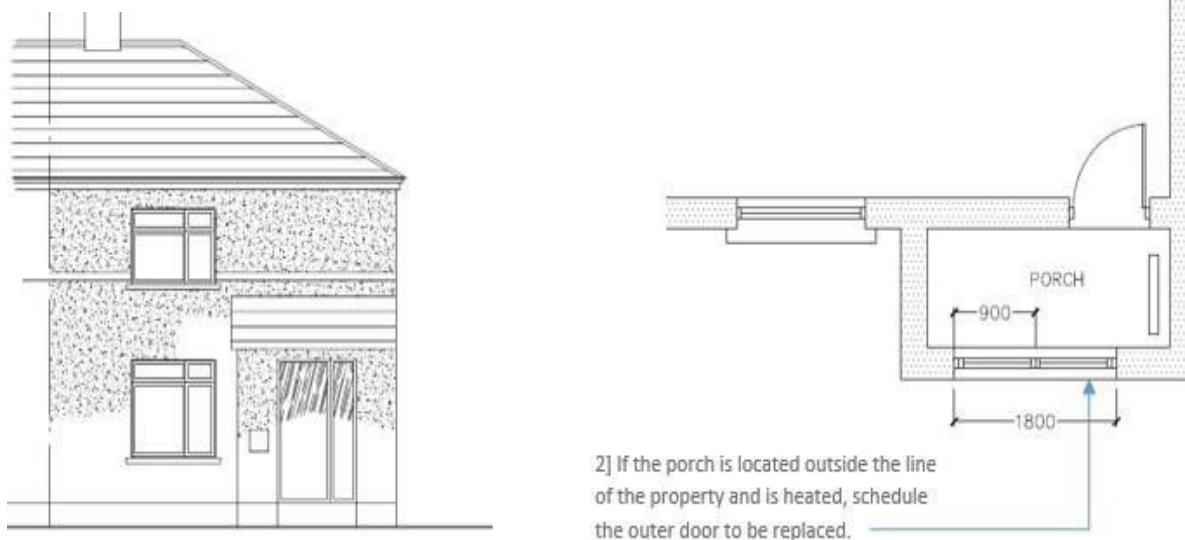


Figure 35: Door located outside building line, heated

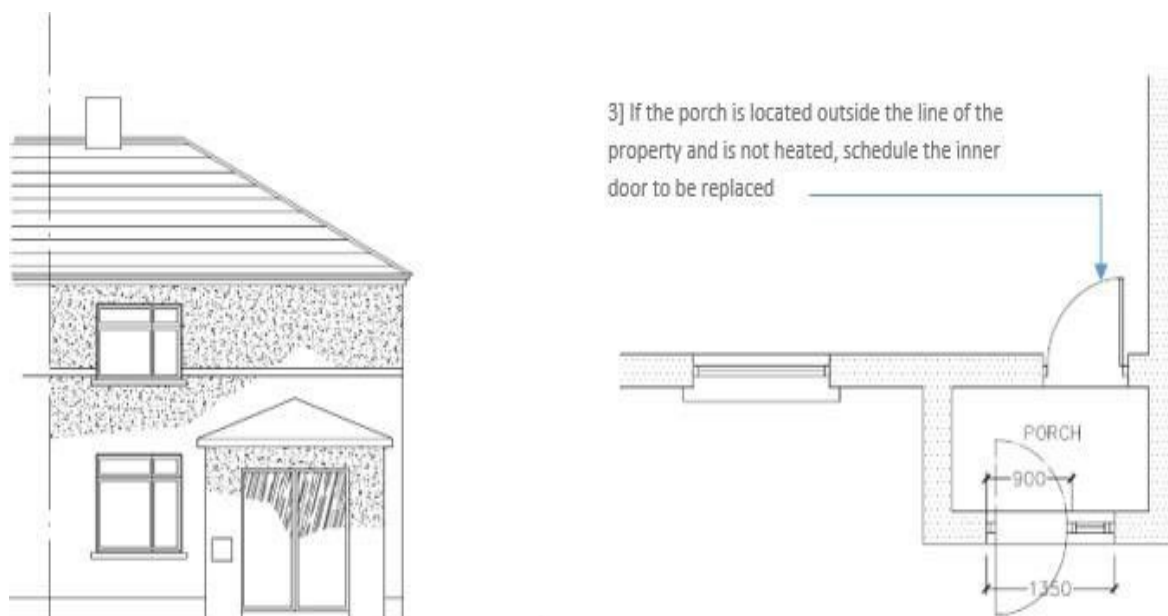


Figure 36: Door located outside building, unheated

Regulation Standards: All doors must be fitted in line with building regulations, specifically Part B, 'Fire Safety' and Part M, 'Access and Use', which requires minimum effective clear opening width recommended for the entrance door as 800mm [See Table 4]

Table 4 Doors to accessible habitable rooms	
Minimum effective clear width	Minimum unobstructed corridor width
775 mm	1050 mm (900 mm if approached head on)
800 mm	900 mm

Table 14: Doors to Accessible habitable rooms (Part M table 4)



Figure 37: Part M clear width as acceptable for fire escape

Although existing homes are exempted from Part M, we are still obliged to provide safe escape from fire. Part M sets out a clear width of 800mm as acceptable for fire escape. Where doors are being replaced, the contractor must not worsen the existing situation.

Correct door sizing: If a sliding door is present, an assessment must be completed to ascertain that if the sliding door is replaced with a new sliding door, that a minimum clear access of 800mm must be maintained. If it is not possible to manufacture a sliding door that complies with this regulation, then a door with a single opening section and fixed

side light shall be installed. The door must have an opening with a clear width of at least 800mm.

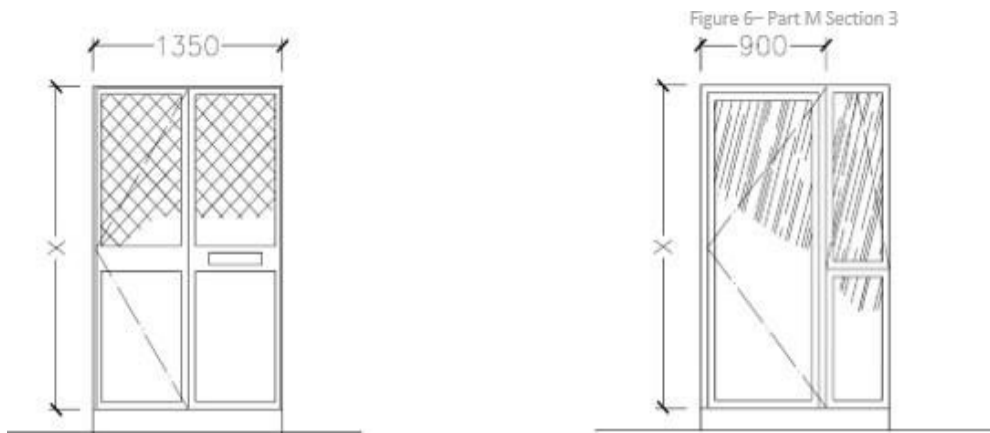


Figure 38: Typical door replacement option

In line with TGD M, a replacement for an existing door [left] for replacement must have clear opening of 800mm at the time of install. Suggested solution to scheduled replacement door [right] complies.

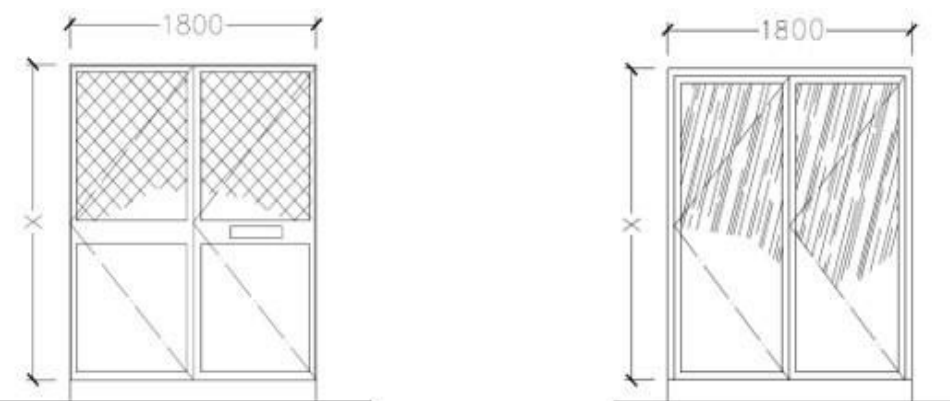


Figure 39: Typical sliding door replacement option

In line with TGD M, a replacement for an existing door [left] for replacement must have clear opening of 800mm at the time of install. Suggested solution to scheduled replacement door [right] complies.

Measurement

Doors are measured internally, the width measured between the existing side reveals. The height is measured from the finished floor level to the underside of the head reveal. To calculate the area, the width is multiplied by the height in m².

The area on the WO will be rounded up or down accordingly. As an example, a door is 0.95m wide and 2.1m high, the area is 1.995m², this will appear as 2m on the works order.

Another example, a door is 1.15m wide and 2.1m high, the area is 2.415m², this will also appear as 2m² on the WO.

Exceptions for providing doors on WHS

Where the door forms part of a screen incorporating windows, and where the windows have been recommended for replacement, the contractor may proceed to variate for a door.



Figure 41: Acceptable examples of door variations 1-2

Figure 40: Acceptable examples of door variations 2-2



6.5 Sealing a Fireplace

Please note that in certain cases for example Chimney sealing may be required to enable a BER rating or HLI result to be achieved. Chimney sealing which is no longer in use as described in Section 10.2.2.3.2 of SR 54 with two options. All works should be performed by a suitably qualified person.

[1] In the case of a fireplace that is no longer in use, the chimney should be sealed, please refer to Figure 96 of SR 54, as it will become a major air leakage path which no longer has a purpose. The chimney should be sealed:

- within the room and
- at the ceiling level of any insulated roof to ensure that the chimney breast within a heated room does not contain cold air. This should prevent the potential for both surface and interstitial condensation on or within the chimney.

Above the level of the insulated ceiling the chimney should be:

- ventilated from within the roof space to the outside of the dwelling and
- capped to prevent ingress of moisture or rain whilst maintaining ventilation.

[2] Alternatively, ventilation of the flue should be maintained by a vent in the sealed fireplace. Where the chimney is on an external wall, the internal face should be insulated.

Associated works with sealing up a fireplace

Depending on the method of sealing the chimney used by the CO, associated works should include, but are not limited to the following; closing off the fireplace within the room with timber stud and slab, painting of timber slab, fitting of air vent to allow for ventilation, coring of all new vents required, installation of chimney capping cowl where required, IWI where required, making good.

6.6 Ventilation

All contractors should be fully familiar with chapter 4 of the DTSS: Ventilation before referencing this section. Ventilation recommendations are aligned with S.R.54. and TGD Part F. Ventilation as an associated measure is directly referenced in all the WHS measures listed in this chapter which are summarised in table 15 below:

Table 15: Measures with associated ventilation works [DTSS]

Section	Ventilation references [DTSS]
6.1	Cavity wall insulation
6.2	External wall insulation
6.3	Internal wall insulation
6.4	Roof insulation at ceiling level
6.8	High efficiency boilers

Other ventilation considerations for WHS:

The installation of some upgrade works may have an impact on the level of airtightness of a home. Increasing airtightness, although better for the performance of a home, may introduce reduced air quality unless ventilation is addressed. For this reason, where IWI, EWI or windows have been installed as part of a wall measure, all contractors must carry out an airtightness test [ATT] to establish the level of airtightness. There is no requirement for an ATT where slopes have been internally insulated as part of an attic at ceiling level package, or a cavity has been pumped.

The result of the ATT will define the level of ventilation required post-works. If the result of the ATT is as follows:

- Above 5 m³/m²/hr – ventilation works can align with Table 31 in S.R.54
- Below 5 m³/m²/hr – ventilation requirements will change from the WO and demand control ventilation [DCV] or Continuous Mechanical extract ventilation [CMEV] fans **must** be installed

Please note the following:

- The ATT must be carried out only **after** all the fabric insulation works have been completed.
- Airtightness testers must be NSAI-registered.
- ATT certificates must be uploaded to the WHS database upon completion.
- All reports should capture the test taking place and the home being tested.
- There should also be a copy left in the handover pack.

CO must enter the ATT result for each home on the database prior to placing the job at Install complete

Ventilation legislative requirements:

Part F [2019] sets out the following requirements regarding existing dwellings and DCV/CMEV installations:

1. Ventilation systems should be designed by competent designers³.
2. Systems should be installed, balanced, and commissioned by competent installer, for example, Quality and Qualifications Ireland accredited or Education Training Board or equivalent.
3. Systems, when commissioned and balanced, should then be validated by a competent person

³ NSAI has established a registration scheme that certifies an individual as a competent independent third party to validate that a ventilation system has been installed, balanced and commissioned to meet the minimum requirements of Technical Guidance Document (TGD) F - Ventilation (2019) to the Irish Building Regulations. <https://www.nsai.ie/certification/agreement-certification/ventilation-validation-registration-scheme/>

to ensure that they achieve the design flow rates. The validation should be carried out by a person certified by an independent third party to carry out this work, e.g., Irish National Accreditation Board [INAB], National Standards Authority of Ireland [NSAI] certified or equivalent. Detailed information on the installation and commissioning of ventilation systems is provided in Installation and Commissioning of Ventilation Systems for Dwellings-Achieving Compliance with Part F.

The WHS already fulfils requirements for [1] and [2] where DCV/CMEV is installed in a dwelling. Therefore, the only change in operations applies to [3], regarding the certification of the system by an independent third party. This means where DCV/CMEV has been installed, the system must now be validated by a competent person to ensure that they achieve the design flow rates. The validation should be carried out by a person certified by an independent third party to carry out this work. This applies to all homes on the programme. Please note the following links to guidance and supporting documentation:

It is the contractor's responsibility to be fully aware of these guidance documents and interpret them appropriately when carrying out works of this kind in order to be compliant with the regulation.

Important ventilation definitions on the WHS ventilation requirements:

The following rooms will have ventilation dependencies and are considered as part of the overall ventilation strategy when the home is being assessed for recommendations.

Habitable room: A room in a dwelling used for living or sleeping purposes but does not include a kitchen having a floor area of less than 6.5m².

Kitchen: A room or part of a room used primarily for the preparation and cooking of food.

Utility room: A room used for laundry purposes which contains a sink, washing machine, tumble drier or similar equipment and which is not entered solely from outside the building. If there is a room present which resembles a utility room but does not have a sink, washing machine, tumble drier or similar equipment then this room does not require background or mechanical ventilation.

Wet room: A room used for domestic activities, for example, cooking, clothes washing, bathing which, by their nature are likely to give rise to significant production of water vapour. Typical wet rooms in dwellings are kitchens, utility rooms, bathrooms and sanitary facilities containing provision for showering or bathing. A utility room is categorised as a wet room.

What if a cooker is installed in a Utility room? If a cooker has been installed in what is perceived to be the utility room, then that room should be classified as a kitchen.

6.7 Mechanical Extract Ventilation

Where the ATT result **is above** 5 m³/hr/m², ventilation works can align with Table 31 in S.R.54. This means that where there is a wet room, contractors must ensure that there is appropriate mechanical extract subject to the following criteria:

- The provision of intermittent extract ventilation including fan control, fans, rigid and flexible ductwork
- Insulated ductwork if passing through an unheated area
- All ancillary items associated with finishes and making good surrounding areas associated with the installation work, including but not limited to, boxing in pipes, finishing around wall vents and

painting

- All material necessary to ventilate through an external wall, roof, or soffit
- Coring where required
- All MEV fans must be compliant with all applicable ETCI requirements
- A low voltage fan where required
- Provision of a back draught damper to external wall outlet
- Provision of a Safe Electric certificate for installed at completion.

As per SR 54, different types of wet rooms require different sized MEVs

- MEV 15l/s Bathroom,
- MEV 30l/s Utility,
- MEV 60l/s Kitchen

6.7.1 Whole House Mechanical Extract Systems

Refer to operation requirements and performance specification below and mechanical ventilation guidelines in the Installation and Commissioning of Ventilation Systems for Dwellings – Achieving Compliance with Part F 2019. Check Part F documentation [here](#).

Where the ATT result is below 5 m³/m²/hr, the contractor must design and install a validated mechanical extract system. This form of ventilation is not applicable to rooms with a requirement for permanent ventilation as per Part J of the Building Regulations. Part J requirements supersede all forms of other ventilation.

The contractor will be responsible for the design, installation and validation of these ventilation systems, meeting Part F of the building regulations.

6.7.2 Continuous Mechanical Extract Ventilation [CMEV]

Please refer to Part F for CMEV requirements [here](#).

6.7.3 Demand Control Ventilation [DCV]

A demand-driven mechanical ventilation system in a typical dwelling consists of three main parts:

1. The air inlets that bring fresh air into the habitable rooms of the dwelling
2. The extract units that facilitate the removal the moisture and odour from inside the dwelling
3. The centralised electric fan and ducting that extracts the used humid air from the kitchen, utility, and bathrooms in the dwelling

The **air inlets** must achieve the following performance criteria:

1. For any design air permeability, controllable background ventilators having a minimum equivalent area of 2,500 mm² should be fitted in each room, except wet rooms, from which air is extracted
2. A wind damping device to control draughts in windy conditions by reducing the size of the air passage duct
3. Silent operation

4. Acoustic attenuation incorporated into the air inlet to reduce the impact of sound into the dwelling
5. An internal grille which disperses the air without draughts, which is difficult to seal
6. Be provided with an external grille or slot with an insect screen
7. A manual closing device should be incorporated into the inlet

The **extract units** must achieve the following performance criteria:

1. An air flow rate of min. 12m³/hr and max. of 70m³/hr @100Pa. Bathrooms and ensuites with toilets shall be humidity-sensitive and shall also incorporate a boost function that opens the extract unit to maximum upon activation of a passive infrared (PIR) sensor, incorporated in the extract unit
2. Kitchen and utility rooms shall be humidity sensitive only
3. All extract units must operate silently
4. Provision of a back draught damper to external wall outlet
5. An accessible control indicator to show the system is operational

The **extract fan** must achieve the following performance criteria:

1. Be constant pressure/variable volume central extract fan
2. Use no more than 0.50 W/l/sec of specific fan power
3. Have a proven long service life
4. Be quiet in operation generating no more than 35 dB at full power
5. Be listed on Appendix Q database for 'Mechanical Ventilation' with specific fan power requirements based on the number of wet rooms in the dwelling

Extract air is to be brought to the exterior through appropriate ducting in compliance with all relevant codes, regulations, and manufacturer's recommendations.

Installation Requirements:

All elements must be installed in accordance with manufacturer's recommendations and in accordance with S.R. 54 and SEAI Specification.

- The system will consist of air inlet vents fitted to each wall generally to habitable rooms. This means the provision of a good quality external canopy, a 100mm diameter inner sleeve with a humidity sensitive strip and an internal plastic plate and grille
- Extract air must be brought through appropriate ducting in compliance with all relevant codes, regulations, and manufacturer's recommendations
- Contractors must box out and making good where ducting passes through living spaces,
- All ducting in unheated spaces shall be insulated in 25mm foil backed insulation. The foil backed insulation should have a thermal conductivity of 0.04 W/mK
- Contractors must allow for the materials required to expel extracted air to the exterior appropriately. The final exhaust terminal must be sized to suit the exhaust air volume. Where a tile vent is used it must be a min. of 20,000mm² free area
- Contractors to include for all remedial works and items associated with retrofitting DCV in an existing house including making good around vents both internally and externally
- Commissioning and certification will be required in accordance with Part F of the building regulations

6.8 Domestic Solar Photovoltaic [PV]

While the principles of the WHS follows a fabric-first approach, there may be instances where a solar PV system will be recommended. Where this is encountered on the WO, the solar PV system must be compliant with all applicable Irish legislation, building regulations, and applicable guidance documentation, in particular, the Domestic Solar Photovoltaic [Code of Practice](#). The contractor must:

- Ensure compliance
- Be registered on SEAI's Solar PV Installer Register at the time the installation is carried out
- Certify, that the solar PV system installation has been designed, installed, tested, and commissioned in accordance with this code of practice, and other relevant codes, standards and building regulations
- Ensure that all equipment and/or components of the PV systems must carry a valid CE mark as required by the specific EU directive[s]

Please note ESB Networks may reject the installation within 20 working days of receipt, in this instance No works can proceed on this element. Refused ESB Networks connection, The contractor must notify the Homeowner/SEAI/MA of this decision. In this instance the Contractor must variate off the Solar Photovoltaic as per normal operation procedures.

6.9 Domestic Solar Photovoltaic Hot Water Diversion

For homes with a well-insulated [factory insulated] hot water cylinder with electric immersion heater, self-consumption can be increased with the inclusion of a hot water diversion system. This will increase self-consumption, by storing excess energy [*i.e., energy which would export to the grid*] as hot water. Several technologies exist for hot water diversion, but it is recommended that the hot water diversion system shall;

- Automatically detect and measure exported energy from the home,
- Have a controlled diversion system which matches the amount of power diverted to the hot water cylinder to the power which otherwise would be exported [*i.e., the diversion controller has a variable or incremental output*],
- Meet the requirements of IEC 61000,
- Be compatible with equipment required for its intended use.

6.10 Showers

While the principles of the WHS follows a fabric-first approach, there may be instances where a shower system will be recommended when installing a Heat Pump. Where this is encountered on the WO, the shower system must be compliant with all applicable Irish legislation, building regulations, and applicable guidance documentation.

Installation Standard and Specification

- Qualifying shower systems must be fitted in accordance with manufacturer's guidelines and Industry Best Practice.

- Any documents supplied with the shower system installation shall be retained i.e. operation manuals for SEAI inspection and future maintenance purposes.
- SEAI recommends that a Shower system should have 'TMV2' type temperature mixing/blending valve(s) installed on the hot water system to prevent the likelihood of an occupant being scalded due to excess water temperatures (particularly in the case of elderly, infirmed or young users). 'TMV2' approval certifies that the valves conform to the performance requirements of I.S. EN 1111 and I.S. EN 1287.
- All Contractors must adhere to the requirements of DHLGH's "Heating and Domestic Hot Water Systems for Dwellings – Achieving compliance with Part L & Energy Performance of Buildings Regulations 2019".
- Water services should be operated at temperatures that prevent Legionella growth. Hot water storage cylinders (calorifiers) should store water at 60 °C or higher. Hot water should be distributed at 50 °C or higher. Ensure that hot water draw offs have temperature mixing/blending valve(s) to prevent scalding. The recommended maximum mixed hot water temperatures for safe use for the most common installations are listed in Table 16.

Table 16: Maximum mixed hot water temperatures for safe use

44 °C	For bath fill (46 °C for assisted bathing)
41 °C	For shower applications.
38 °C	For bidet applications

6.11 Electrical Installation Works

WHS works generally requires electrical work, from mechanical ventilation solutions in alignment with a recommended wall upgrade to provisions for complex heating solutions that will need electrical upgrading. The introduction of heat pumps on the scheme in particular, where electrical loads must operate safely, existing electrical arrangements will require appraisal. Meter tails, distribution boards and earthing and bonding must be compliant with the latest requirements under the current ECTI Rules. The contractor must assess the electrical system prior to any insulation measures proceeding when the following works are to be installed:

- CWI
- IWI
- EWI
- DCV
- Heating
- Windows

Refer to Chapter 5 'Contractor Work Stage' regarding expected standards of technical survey required to be carried out by the contractor. In the case of an addition or alteration to an existing heating installation, it shall be determined that the rating and condition of the existing electrical equipment, which will have to carry any additional load is adequate for the altered circumstances. Furthermore, the earthing and the bonding arrangements, should be adequate.

Please note that an extension, addition, alteration, or modification must not impair the safety of the existing installation, and the existing installation must not impair the safety of the new work. A new work to an existing installation must comply with the current National Rules.

Electrical measures on WHS

Given a growing level of electrical intervention required with the expanding Scheme, WHS will permit variations for the following items:

- Periodic Inspection Report
- Upgrade tails from meter to fuse board
- Upgrade earth for heating system works
- Upgrade fuse board
- Install and wire new earth rod
- Install Sub board

Note: WHS will not carry out extensive electric works outside the listed measures above. This means no variations for a complete rewiring will be considered. COs encountering systemic electrical issues at the technical survey stage, should advise the HO of the necessary works involved to enable the Scheme works to commence. The CO should cancel the home until the electrical remedial works have been completed.

Periodic Inspection Report (PIR)

This report is intended to identify the condition of the existing electrical system prior to works. The report consists of a 4-page report, with observations and recommendations made based on a combination of visual inspection and electrical measurement (*please refer to part 6, national rules for Electrical installations*). All sections of the report must be completed.

On pages 2 and 3 of the numbered questions answered “No” must be referred to in the comment section of the report. COs should use clear and unambiguous recommendations in the comment section.

Following the undertaking of a PIR, a schedule of defects, damage, deterioration, and potentially dangerous non-compliance shall be provided together with the recommendations for remedial works. Page 4 of the report comprises a numbering system to indicate the person(s) responsibility for the installation and action recommended.

The numbering system is as follows:

1. Requires urgent attention
2. Requires improvement
3. Requires some attention
4. Does not comply with current National Rules for Electrical Installations

Note that using (4) does not necessarily imply that the electrical installation is unsafe. The REC must provide a copy of their PIR accompanied with the completed Test Record Sheet to the HO and explain the next steps required to bring the installation in line with the relevant standards.

Electrical works associated with a wall measure

Homes receiving insulation to walls under the programme are assessed for Part F compliance. The responsibility to assess the electrical system in place prior to commencing works lies with the CO. Where there is a requirement to provide additional mechanical ventilation to ensure compliance, mechanical ventilation will need to be connected to the existing fuse board safely. Given the high percentage of poorer performing homes on the programme, there may be inherent problems in connecting to the fuse board. This means assessing the electrical system prior to any

insulation measures taking place where a mechanical vent is needed. If the provision of the vent is not possible due to the condition of the inherent electrics, COs should refer to S.R.54 Tables 30, 31 and 32 for the alternative installation approach. COs should document the system in place and the plan to comply with regulations and notify the MA.

Where the contractor has determined that the existing electrics may not be fit for purpose, the contractor must submit a PIR variation to the MA for approval before carrying out the report. The completed PIR results should be submitted back to the MA for review.

Based on the outcome of the PIR review, additional electrical works may be required. Any such additional items must be confirmed by the MA prior to installation.

Electrical works associated with heating measure

The surveyor will document the existing fuse board when recommending a heating system. Where the surveyor has determined that the existing electrics may not be fit for purpose, the surveyor will recommend a PIR variation to be undertaken by the CO.

The contractor must assess the electrical system prior to any measures where a heating system is recommended, and where the existing electrical system could be considered to be not fit for purpose. Where a PIR is not recommended, and no electrical work required to proceed, the contractor should commence with the heating works. Where a PIR is recommended, or the contractor has determined that the existing electrics may not be fit for purpose, the contractor must submit a PIR variation to the MA for approval. The completed PIR results should be submitted back to the MA for review.

Based on outcome of PIR review additional electrical works maybe required, any such additional items must be confirmed by the technical helpdesk prior to installation. If the level of works required to the existing electrical system is not economically feasible, for example, a re-wire of a home, the CO should issue the HO with a Notification of Hazard, outlining the scope of works required. They should then cancel the works until the HO has carried out the remedial works.

Please note: if the CO proceeds to install the heating package without first assessing the existing system, they will be responsible for any remedial works outside those covered by SEAL.

Table 17: PIR treatment

Ref	Wall insulation	DCV [Where no heating]	Oil/gas boiler	Heat Pump	PV
Electrical item	Mechanical fans	Mechanical fans	Upgrade tails from meter to fuse board Upgrade Earth for heating system works Upgrade fuse board Install and wire new earth rod	Upgrade tails from meter to fuse board Upgrade Earth for heating system works Upgrade fuse board Install and wire new earth rod	Only recommended where a HP is being installed
PIR?	No	No	Depending on Electrics	Yes	N/A
CO Action	Where a mechanical vent needed, if no electrical work to proceed, CO to refer to S.R.54 Table 32 for ventilation compliance	Where a mechanical vent needed, if no electrical work to proceed, CO to refer to S.R.54 Table 32 for ventilation compliance	PIR result determines. If measures approved can commence works, then proceed. If outside approved measures, notify HO and cancel	PIR result determines. If measures approved can commence works, then proceed. If outside approved measures, notify HO and cancel	N/A

***A PIR must be undertaken on all homes receiving a heat pump**

Please note: The Health and Safety Authority (HSA) has published guidance notes on Periodic Inspection and Testing of Electrical Installations. Refer to: [Here](#)

6.12 Soakaways

The provision of a soak-away for condense boilers, on the WHS, where an installer is choosing to terminate the condense through a soak-away, the following should be adhered to:

- The ground conditions must be taken into consideration to ensure that there is adequate drainage
- It should not be installed near any service pipework or cables
- It should be located a minimum of 500mm away from any foundations of the building
- It must also be located at least 500mm from the wall, filled with limestone chippings and have the holes pointing away from the property
- Custom-made soakaways should be approx. 300mm long x100mmØ sealed at the top and bottom with holes on one side for flow direction and filled with limestone chippings
- The soakaway should be installed in a hole minimum 400mm deep and 200mm wide filled with limestone chippings
- Holes and direction of flow should face away from the property

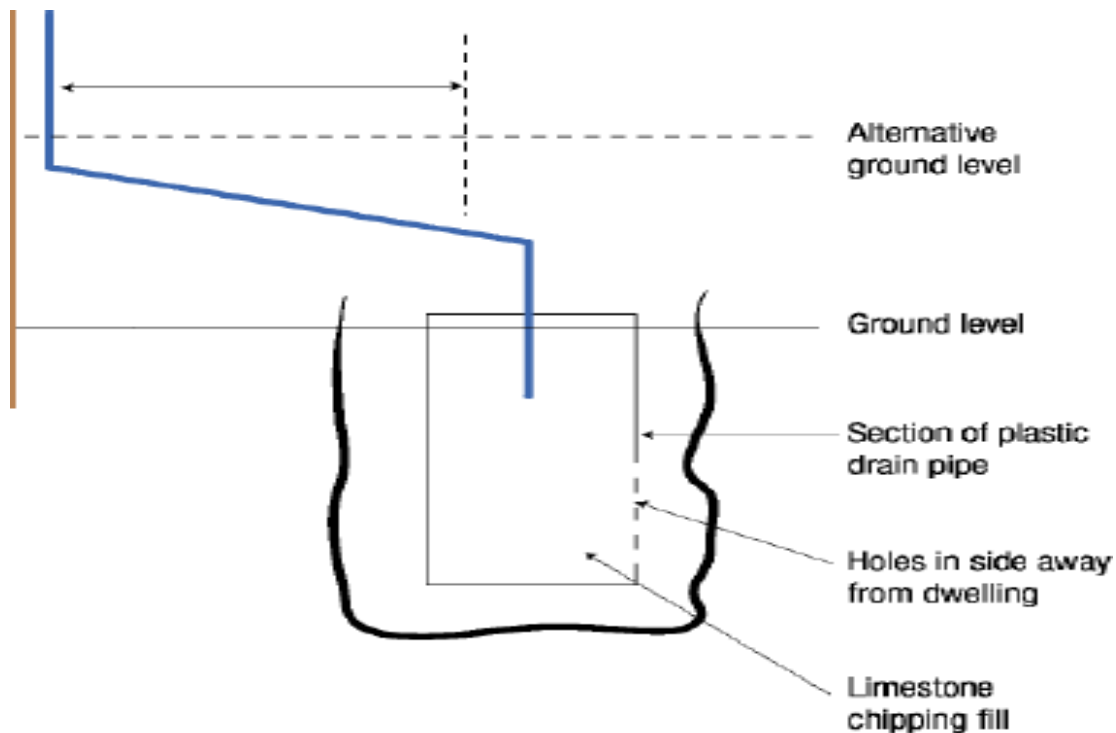


Figure 42: Soakaway Illustration

7.0 Appendices

Appendix 1: Reasonably expected works tables

The items listed below for the installation of attic insulation at ceiling level, internal and external wall insulation, and high efficiency heating system installations, are reasonably expected by SEAI for these works. Therefore, contractors must take them into account at time of installation. A list has not been included for reasonably expected items associated with CWI measures as enough detail and requirements are provided for in the DTSS and respective Agrément certificates associated with those products.

Some unusual or unforeseen items may occur from time to time during installation works. These items may be considered on a case-by-case basis and claimed as extras. These will be determined by SEAI's MA prior to installation and on receipt of a written submission from the contractor. Work carried out without approval cannot be claimed retrospectively.

The listed works below are not absolute. Other works may need to be carried out which may include additional items that can reasonably be assumed to be found in an insulation or heating system measure.

Attic insulation at ceiling level

Table 18: Reasonably expected attic insulation at ceiling level works

Reasonably expected attic insulation at ceiling level works
Appropriate warning signage in the attic.
Provision of 'Declaration of Attic Insulation' notice which must be fixed in a prominent, accessible and appropriately located position in the attic.
Any temporary or permanent measures required during installation.
Provision of ventilation card when blown fibre is being installed.
Provision of good quality, purpose-made recessed lighting housing, where lighting exists in the roof space.
Lagging to all pipes above the insulation level, except for overflow pipes. Pipework within or under the attic insulation that is potentially liable to frost damage must be insulated also. This assessment must be made by the contractor on site. Where pipes are located close to vertical elements [walls, rafters, joists, timber studs and similar elements], every effort should be made to provide adequate insulation.
Walk boards are to be provided from the attic hatch to the tank ball valve position and/or the appliance location for maintenance purposes. Walk boards are also to be provided to any serviceable item located in the roof space for example, an aerial, a ventilation unit, a water softener unit. Walk boards are to be orientated to provide safe access from the attic space to the access ladder.
Insulating all water storage vessels in the attic.
Draught-proofing to attic hatch including ancillary items required to make these access points airtight, such as but not limited to, latches, hooks and eyes.
Clearing of eaves, where required, prior to installation of attic insulation.
Making good of any existing attic insulation, where necessary, prior to the installation of attic insulation.
Provision of expansion pipe extension and appropriate lagging.
Insulation around MEV ducting.
Where encountered, re-routing existing mechanical extract duct in the attic.
Where there are necessary works to externally ventilate via a roof tile or a soffit grill.

Table 19: Reasonably expected warm deck flat roof insulation works

Reasonably expected warm deck flat roof insulation works		
Appropriate substrate, including OSB & VCL where applicable.		
Rigid or suitably dense semi rigid types of insulation to give an overall roof U-value of 0.22 W/m ² K		
New roof decking over insulation		
Uppermost weather protective layer, to include Solar reflective treatment.		
All trims, including but not limited to wall fillet trim, fascia trim & raised edge trim		
Any temporary or permanent measures required during installation, including scaffolding		
The making good of all disturbed surfaces and safe removal of equipment and all debris at completion.		
The removal of existing rainwater goods/gullies/drainage and the reinstatement of same in accordance with manufacturer's instructions		
The protection of a homeowner's dwelling during the installation, including appropriate protective coverings.		
The provision of scaffolding/access, provision of MEWPs or other suitable working at height equipment.		
Upstands for rooflights/roof windows where required, sized correctly, installed to eliminate any thermal bridges and weathered where required. The upstand must be designed to be capable of supporting the weight of the rooflight/roof window and any surrounding structures.		
The installation of any lead flashing where required.		
Upon completion of the installation, the rooflight/roof window should be checked for any leaks and should be functioning correctly		
The provision of all warranty and manufacturers paperwork to the HO, also to be uploaded to the Application.		

Table 20: Reasonably expected IWI and EWI works

Reasonably expected drylining internal wall insulation and external wall insulation installation works			
Works	IWI	EWI	
A pre-installation survey of the property to determine suitability for treatment and any repairs necessary to the building structure before application of the insulation system.	Y	Y	
An interstitial condensation risk analysis calculation for timber frame homes	Y		
All necessary repairs to the property's structure must be completed and dry before the installation of the insulation. Surfaces should be sound, clean, and free from any loose material.	Y	Y	
Where the existing wall surface is covered with a render, the bond between the background wall and render should be adequate. Otherwise, it must be removed and reinstated with an appropriate bond.		Y	
The insulation system to be installed as per Agrément or equivalent certificate.	Y	Y	
The provision of a suitable vapour check as per manufacturer's guidance with all planned breaks in the barrier securely sealed.	Y		
The provision of adequate site-specific number of battens, dabs for fixing and suitable metal fixings as required.	Y	Y	
The provision of protection of exposed electrical cables in rigid high impact conduit or equivalent.	Y	Y	
The installation of proper detailing of the insulation system at internal corners, external corners, stepped gables, eaves, sills and reveals.	Y	Y	
All switch/socket box extensions or replacements to allow for flush fitting of equipment.	Y		
The replacement of final circuit cables [if short] from last point of circuit. Do not join cables.	Y		
The sealing of existing windows prior to the application of the insulation.	Y	Y	

Works	IWI	EWI
The movement/replacement of window boards to accommodate the insulation system if required.	Y	Y
The movement of windows to accommodate the insulation system if required.		Y
The provision of movement joints to system were recommended by manufacturer's instructions.	Y	Y
The provision of horizontal and vertical fire stops where required.	Y	Y
The reinstatement/replacement of skirting, architrave, wall tiles and other fittings, painted in a white finish where applicable.	Y	
The provision of extended profiled sills as part of the insulation process and the cutting flush of existing sills dependant on the insulation system chosen.		Y
The provision of all metal flashings required.		Y
The creation of reveals to window/door openings as part of the insulation process.	Y	Y
The proper detailing of the insulation system below DPC level of the dwelling.		Y
The provision of drip beads to system were recommended by manufacturer's instructions.		Y
Where there is a risk of insulant exposure, for example window reveals, eaves, the system must be protected by an adequate overhang or by an adequately sealed, purpose-made flashing.		Y
The extension/refurbishment of eaves/barges to accommodate the proposed insulation system.		Y
The provision of scaffolding/access, provision of MEWPs or other suitable working at height equipment.	Y	Y
The removal of existing rainwater goods/gullies/drainage and the reinstatement of same in accordance with manufacturer's instructions.		Y
The removal of any outdoor taps and/or other permanent fixtures and reinstatement of same.		Y
The proper detailing of insulation system at a party wall.		Y
The making good of all disturbed surfaces and safe removal of equipment and all debris at completion.	Y	Y
The protection of a homeowner's dwelling during the installation, including appropriate protective coverings.	Y	Y
The careful storage of material on site and the proper attention taken to the storage and disposal of refuse from site including the provision of skips where appropriate.	Y	Y
The provision of system certification and warranty at completion.	Y	Y
Suitable protection of the ETICS System from the elements during and following installation and curing period as per manufacturer's instructions		Y
An optimum solution must be provided for both internal drylining and external insulation. The contractor must ensure that an optimal whole-surface solution is provided. In the case of internal wall insulation of exposed walls, the only allowable exceptions are the walls behind the kitchen units which would otherwise prove impossible or excessively expensive to reinstate such that the cost viability of the insulation is genuinely undetermined. Where an external wall is along a stairwell, the maximum thickness of internal insulation should be used without impinging on the minimum allowable stairway clear width [800mm] as per the building regulations. These cases must be noted by the contractor on the notes section of the database. For drylining to achieve a U-value if 0.27W/m ² K please refer to SR 54 Annex B for typical thickness of insulation that is required. If insulation of a thinner thickness is required, this should be brought to SEAI's attention. The installation of drylining generally involves a certain degree of disruption including the displacement of skirting boards, heating, and electrical fittings. In this regard, the necessity to move bath and plumbing fixtures is considered a normal possibility for such works and so, not a reasonable explanation for sub-optimal solutions. It would be deemed that the specification has not been met if a sub-optimal solution is implemented in a property without a justifiable explanation. The expected finish of dry lining is white painted.	Y	Y

Works	IWI	EWI
Ensuring that existing roof ventilation is not compromised by the external insulation system and if existing ventilation is reduced that it is adequately replaced and that the roof space ventilation is left compliant with TGD Part F. Payment for this will be under roof ventilation.	Y	
The adjustment and reinstatement of any timber/steel gates or fences that adjoin the property.	Y	
The replacement due to extension of any wiring of any sort for lights, burglar alarms, satellite dishes etc.	Y	
The extension of any soils and waste pipes through the insulation. No soils or waste pipework of any kind are to be embedded within the insulation. Queries are to be raised with technical before carrying out works.	Y	

Table 21: Reasonably expected Electric Storage/Panel Heater works

Reasonably expected Electric Storage/Panel Heater works
Correct location on an interior wall, near a power supply, and away from any combustible materials.
Appropriately sized heaters to suit the output requirements of each room following completion of any insulation measures, based on the heat loss calculation methodology in <i>CIBSE Domestic Heating Guide</i> .
Ensuring the electrical requirements for the electric storage/panel heater, including the voltage, amperage, and circuit size are met.
Preparation of the wall including ensuring that it is flat, level, and free of any obstacles.
Complete electrical installation for electric heaters to comply with I.S. 10101 National Rules for Electrical installations.
Supply and installation of all brackets, wiring, energy cells, power, timer, and controls where required.
The protection of a homeowner's dwelling during the installation, including appropriate protective coverings.
The making good of all disturbed surfaces and safe removal of equipment and all debris at completion.
Testing of heaters to ensure correct functioning of heater and controls.
The provision of all instructions, warranty and manufacturers paperwork to the HO, also to be uploaded to the Application. Client is also to be instructed on the use of the electric heaters
Complete removal and disposal of existing electric heating units where present.
All electrical certification, commissioning certs and associated documentation.

Table 22: Reasonably expected Solar PV works

Reasonably expected Solar PV works
Before installing the solar PV system, a site assessment should be conducted to determine the suitability of the site for solar energy generation. This may involve assessing the roof orientation and slope, shading, and any other factors that may affect the performance of the system.
Application to ESB Networks to connect the solar PV system to the electricity network. Approval to be received prior to installing the solar PV system.
Installation of mounting hardware and associated works, including assessment of roof structure where required. This includes works required for all mounting system types as outlined in the <i>SPV Code of Practice</i> : Section 4.3
Removal and re-instatement of roof vent tiles where required.
Emergency Isolation
Installation of PV panels, including but not limited to; attaching the panels to the mounting rails and wiring them together.
Installation of all electrical components for both the DC electrical system and the AC electrical system, including but not limited to; inverters, power converters, micro-inverters, string inverters, charge controllers, wiring, RCDs, Isolators, metering devices, cables, bonding.
All Safety and Information labels required
Connection of the system to the grid.
Inspection, Testing, Commissioning and Handover of the system after installation

Any temporary or permanent measures required during installation, including scaffolding
The making good of all disturbed surfaces and safe removal of equipment and all debris at completion.
The provision of all instructions, O&M manuals, warranty, Safety files, Inspection, test and commissioning reports and manufacturers paperwork to the HO, also to be uploaded to the Application. Please see Section 5 of <i>SPV Code of Practice</i> for detailed list of documentation required.
Client is to be instructed on the use of the PV system including information on how to monitor system performance, how to clean the panels, and how to troubleshoot any problems that may arise.
CO should also keep abreast of any new requirements set out in the SPV-Contractor-Technical Bulletins which may include new obligations that would be construed as REWs.

Table 23: Reasonably expected Window/Door installation work

Reasonably expected Window/Door installation works
Measurement and assessment of the existing window/Door openings to assess the condition of the surrounding structure to determine the appropriate size and type of windows.
Careful removal of old windows/doors, taking care not to damage the surrounding frames, reveals or walls.
Preparation of the opening, ensuring it is free from debris and any necessary repairs or adjustments are made.
Insulation and weatherproofing: Insulation materials such as foam or fiberglass will be used to fill gaps between the window frame and the surrounding wall, ensuring proper energy efficiency and sealing against air and water infiltration.
All windows must be installed with an airtightness strategy delivered. This shall be achieved by the use of airtight tapes, gaskets, and sealants where appropriate, to seal the windows to the building envelope. Records such as photographs must be kept, to demonstrate how the airtightness measures were installed in parallel with the newly installed windows and or doors.
Certified Trickle vents to be installed instead of wall vents to achieve the required ventilation rates as set out in S.R.54 where practicable.
Reveals to be made good and Interior trim or casing around the window frame to provide a clean and finished look to be installed where required.
Removal and re-instatement of internal windowsills where required.
Installation of safety catches where required.
Any temporary or permanent measures required during installation, including scaffolding
The making good of all disturbed surfaces and safe removal of equipment and all debris at completion.
All documentation regarding the windows/doors including but not limited to Operation & Maintenance Datasheets, all documentation required for the BER assessor to enter the window/door into DEAP. These documents are to be uploaded to the database and copies left in the HO pack.

Table 24: Reasonably expected heating system installation/upgrade works*

Works	Air-to-water heat pumps	Air-to-Air heat pumps
Supply and install magnetic filtration device to new heating system. This device is to be cleaned/flushed at time of commissioning as per manufacturer's instructions. The heat distribution system should be cleansed, and pressure tested as required and in accordance with the draft NSAI'S.R.50 and B.S.7593 Code of practice for treatment of water in domestic hot water central heating System	Y	
Suitably sized Part L compliant indirect hot water cylinder with anode where required, where a heat pump is being installed the hot water cylinder must meet the heat pump manufacturer's requirements and the HPAI installation guidelines, with attention to the size of the heat exchanger and insulation. An immersion should be included where required.	Y	
Existing oil & gas installation: CO needs to fully decommission existing system and remove existing pipework. The making good of all disturbed surfaces and safe removal of equipment and all debris at completion.	Y	Y

Automatic bypass valve where TRVs have been installed or were recommended by manufacturer	Y	
Condensate pipework to drain, soakaway, gully or another appropriate terminal. Note: all external condensate pipework shall be run minimum 32mm diameter plastic pipework. Insulating 22mm pipework will not be accepted. Condensate pipework to be insulated where running in unheated areas	Y	Y
Timber pipe casings to vertical pipe work drops	Y	Y
Pipe work insulation in accordance with Part L of the Building Regulations 2019 - Conservation of Fuel and Energy/Dwellings, in all unheated areas. External pipe insulation shall be UV protected	Y	Y
All interconnecting copper pipe work for the heating system [including cold feed and vent] to be in copper. This must conform to I.S. EN 1057 and copper tube joint fittings must conform to I.S. EN 1254-1, I.S. EN 1254-2, I.S. EN 1254-3, I.S. EN 1254-4 and I.S. EN 1254-5. Solder used for jointing copper shall be lead free. Copper pipework to be used on heating system	Y	Y
High efficiency circulating pump with valves when the selected Heat Pump does not include pump	Y	
System cleaning and inhibitor to manufacture's guidelines. Heating system to be balanced/commissioned fully	Y	
Post installation pressure test including for the completion of the appropriate documentation to be included in handover pack and uploaded to WH database	Y	
Where power-flushing, including for the completion of the appropriate documentation to be included in handover pack and uploaded to WHS database, video evidence to support the completion of power flush and pressure test must be uploaded to the database	Y	
Complete electrical installation for heat pump isolation, earthing/bonding, programmer to comply with the I.S. 10101 National Rules for Electrical installations., including any refrigeration Pipework	Y	Y
Complete electrical installation for controls, isolation, earthing/bonding, boiler interlock, immersion timer, programmer, thermostats to comply with I.S. 10101 National Rules for Electrical installations rules.	Y	Y
Appropriate protection of homeowner's property and making good all disturbed surfaces and removal of equipment and all debris.	Y	Y
Client instruction of heating system including manuals.	Y	Y
Provision of all relevant heating documentation to be included in handover pack to the homeowner.	Y	Y
System commissioning, SR50 calculations, certification and warranty, Heating passports, commissioning certificates, logbooks and benchmark books to be completed and left adjacent to the Heat Pump for inspection purposes.	Y	Y
A technical assessment carried out by Contractor, shall verify that the heat loss indicator [HLI] is such that the installation of a heat pump system is appropriate, and the HLI is assumed to be compliant.	Y	Y
Supply and install a suitably sized heat pump system [300 +% efficiency as per <i>Heat Pump Tool</i> for DEAP], to provide a minimum of 100% of space heating demand and 80% of hot water demand, to manufacturer's instruction and SEAI specifications.	Y	
Where the heat pump has a cooling function, this should be disabled.	Y	Y
The outdoor and indoor unit of the heat pump should be correctly sited, as per manufacturer's instructions and be accessible for maintenance.	Y	Y
Heat emitters should be sized in line with room-by- room heat loss calculation. The sizing must be based on an external design temperature of -3°C.	Y	Y

All penetrations through walls to facilitate pipework shall be properly sealed.	Y	Y
Heat pump -Full system commissioning. The commissioning report shall contain all the relevant parameters and checklists required. A list of the installer settings shall be provided to the homeowner for future reference.	Y	Y
Where applicable, equipment must be labelled according to the F-Gas regulations.	Y	Y
All vertical pipework to be boxed in a timber casing.	Y	Y
Pressure relief valves must be run with a continuous fall terminating externally in a safe Maner	Y	
Expansion vessels shall not have maintenance isolation valves fitted; expansion vessels must remain unrestricted	Y	
F-Gas pipework shall be mechanically protected in potential impact areas	Y	Y
F-Gas certificate shall be included in handover documents where required	Y	Y
Complete removal of existing electric heating units		Y

Appendix 2: Quality assurance processes on WHS

Introduction to QA processes: The quality of service delivered under the WHS is central to the effectiveness of delivery of all domestic energy-efficient works carried out under the scheme. This will have an impact on the energy savings in the home and the value for public money as well as providing warmer, healthier homes to those in need. The quality of service has two dimensions: competence and compliance.

Current arrangements: WHS contractors are subject to the same obligations as all registered contractors carrying out works on SEAI grant programmes but have a different contractor scorecard system. Currently, the WHS is in the process of carrying out a review on all QA processes with a view to releasing a programme-specific document appropriate to the operations of the programme and separate to other SEAI grant programmes. The purpose of this appendix is to set out those processes and scoring procedures, which will form part of the new document when the review is complete. Until such time, all WHS contractors should refer to the current prevailing document SEAI's QADP [SEAI Home Energy Upgrades - QADP](#) and adhere to the relevant categories regarding the WHS measures and processes.

Important points regarding contractors operating under the WHS:

- SEAI requires that all contractors operating on projects funded under the WHS are registered with SEAI¹
- All contractors must carry out works to best practice and in accordance with the *Domestic Technical Standards and Specifications document* and *The Warmer Homes Operations Manual*
- All contractors must ensure that they and their operators are fully familiar with all key elements and processes outlined in the Programme Documentation and SEAI's QADP
- Contractors must refer to Appendix 1 of the above document, QADP, to ensure full compliance for each measure being installed. Failure to deliver all the relevant requirements will compromise the quality of the project and risk the achievement of the requirements of the WHS, which may result in the reduction or removal of allocations for that contractor. Continued failure to deliver in accordance with the expected standards will result in suspension from the scheme
- SEAI continuously monitors the performance of all contractors operating on the WHS. All non-compliances will be recorded against their profile and may affect their future and current allocations and inspection rates
- All contractors must have a robust quality management system in place that ensures both the quality of works and quality of service delivery. Failure to meet these requirements will inform future allocations and inspection rates.

¹ Information on registering with SEAI can be found at:

http://www.seai.ie/Grants/Better_energy_homes/contractor/How_do_I_get_Registered/

Overview

This quality assurance document sets out the standard that must be adhered to in order to ensure the high-quality delivery of projects that are funded under the WHS. It is also to support the project management delivery of high-quality upgrades to eligible homes. To achieve these objectives, the quality assurance principles include pre-works, site works and post-works quality requirements with an emphasis on pre-works procedures, where appropriate. This ensures high-quality delivery and reduces the risk of reworks, post completion.

In addition to technical quality, contractors are expected to uphold high standards of service delivery, which includes clear communication with homeowners, respectful conduct on-site, timely scheduling and completion of works, and responsiveness to queries or concerns. SEAI views service quality as integral to the overall success of the WHS and will monitor contractor performance in this area through homeowner feedback, inspection observations, and complaint resolution processes.

WHS's Quality Assurance includes the following actions:

- Promoting best practice amongst contractors on the WHS
- Enforcing the DTSS guidelines through accompanied and unaccompanied inspections
- Providing advisory/mentoring inspections to guide contractors in meeting scheme requirements
- Enforcing disciplinary actions where contractor quality does not improve
- Monitoring and evaluating contractor performance not only on technical compliance but also on service delivery standards, including homeowner engagement, professionalism, and responsiveness

Contractors must read, understand, and adhere to the obligations of the WHS as contained within:

- The WHS Operations Manual
- The DTSS
- The WHS Quality Assurance processes [this appendix to the Operations Manual]
- All relevant technical bulletins and notifications as SEAI may issue from time to time
- All prevailing Building Regulations and Standards
- All relevant technical bulletins, newsletters, and notifications as NSAI may issue from time to time for measures where SEAI require NSAI certification for the installed measures.
- The National Standards Authority of Ireland's [NSAI] S.R.54: Code of practice for the energy efficient retrofit of dwellings, 2014A*.

Inspection Process

The purpose of the inspection process is to validate and ensure high-quality delivery of the WHS. SEAI's MA will carry out routine site inspections to confirm and monitor compliance with requirements.

Unaccompanied inspections

Site inspections of this kind are carried out on a selection of measures per contractor and are in place to ensure that contractors are demonstrating compliance with scheme requirements. Contractors must demonstrate that all requirements have been achieved throughout the upgrade works, which include key specified elements of design and works, have been implemented and are of the required standard. It is important that contractors communicate these requirements to all contractors who are engaged on each of their projects. The key specified elements of design are given in Appendix 1 and 2 of the BEH QADP. Contractors should retain appropriate evidence of all items specified in the QADP appendices to facilitate any potential SEAI inspection or inspection follow-up. Most inspections will be unaccompanied so contractors must ensure that all works are aligned with these corrective actions for non-compliance.

Accompanied inspections

Supported site inspections of this kind are carried out to confirm works on site meet requirements. Such inspections may be selected at any stage of the WHS upgrade process and aims to assist the contractor in meeting the high-quality expectations for works on the programme. The aim of the inspection and inspection process is to identify issues and administrative and technical non-compliances so that:

- SEAI has confidence that the design of the project will meet the requirements of the WHS
- Technical issues can be addressed via reworks in order to make the measure[s] compliant
- SEAI has confidence in the installed measures performing as specified
- SEAI can provide feedback to contractors on the quality of measures required in order to continuously improve the delivery of projects funded through the programme
- Contractors can avoid future errors through QA mentoring support and if necessary, disciplinary sanctions

Work in progress inspections

SEAI will conduct randomly select homes for in process inspections to assess the quality of services delivery, which will but not limited to:

- Pre-start checks completed (*utilities, access, vulnerable occupant needs, Non-standard issues assessed, signed consent forms*)
- Pre-works schedule agreed with homeowner
- **Homeowner communication & customer care**
 - Clarity of scope & schedule explained in plain language.
 - Advance notice given for each visit ($\geq 24/48$ hrs as policy).
 - Single point of contact provided to homeowner.
 - Information pack/leaflet provided (*what to expect, safety, complaint route*).
 - Handling of vulnerable homeowners (*flagged, special measures in place*).
- Site management (*Site set-up: protective coverings for floors and paths etc, Waste management process*)

- Complaint handling
- Health, Safety & Compliance (*on-site practice*)

Inspections and inspection selection

Selection for an inspection is based on both a random and targeted approach. Targeted inspections will be selected on a risk-based approach.

Demonstration of compliance with upstream quality requirements may reduce the level of downstream inspection and site inspection rates per contractor.

The selection of projects from the WHS for an inspection should not be interpreted as being indicative of any presumption by SEAI that there will be errors or non-compliances in the project. These are a crucial part of maintaining high standards of work and validates the spending of public monies which are scrutinised regularly. Inspections will also be used to learn from where contractors have applied best practice in their projects, which would inform SEAI how to continue to improve delivery of energy- efficiency works.

Demonstration of Compliance Administrative Compliance

Contractors are required to fulfil their obligations in respect of design, testing, certification, and installation through to operation. The documentation providing confirmation of the required works, including photographic evidence, and completed QA checks is an important element of the WHS as it provides assurance that the systems have been installed and commissioned, as appropriate, in line with all standards and specifications in place. These obligations include, but are not limited to the following provisions:

- System guarantees
- Confirmation of registration with the National Standards Authority of Ireland [NSAI] as a registered installer of external wall insulation and full-fill cavity wall insulation, as appropriate
- Confirmation of NSAI registration for air-pressure testing
- Airtightness test reporting
- RECI and/or ETCI completion certificates where required
- Commissioning checklist, report, certificates as appropriate
- Declarations of Conformity
- Handover documentation and operating manuals for the homeowner

WHS contractors are required to upload the Register Checklist along with the completed QA Checklist at Install Complete. All contractors must ensure their EWI/CWI installers are up to date with their registrations and maintain robust internal processes to flag upcoming registration renewal dates.

Discovery of any reported works carried out by deregistered [sub]contractors will be reviewed by WHS QA and may result in impacts to contractor allocations.

Table 25: Sample checklist required for upload

Register for ETICS – External wall Insulation		
1	Approved installer	<i>Munster External Wall Insulation Ltd</i>
2	Insulation System	<i>Baumit 60 External Insulation Systems[]</i>
3	Registered Number	<i>IAB/E078.1</i>
4	Agrément cert No:	<i>09/0336</i>
5	Date register checked	<i>09/04/2025</i>
NSAI List of registered installers here		

Technical Compliance

In order to demonstrate technical compliance, SEAI will expect contractors to confirm the following:

- Compliance of the design of the project measures and
- Compliance of the works involved in installing the measures.

Compliance of the design is important because it lays out very clearly what is required to be delivered onsite and reduces the need for decisions to be made at that time. It is important that designs be based on site surveys so all contractors must carry out a pre-works survey.

The compliance of the works is critical to ensuring that a high-quality design is installed to the same standard in quality and gives confidence in the performance of the measures, as per the design.

Corrective actions for non-compliance [Appendix 1 and 2, BEH QADP]

The actions listed in Appendices 1 and 2 are the key elements of the design and installation of a measure carried out by the WHS [and other grant programmes] which ensure that the measures are delivered to that standard of high-quality expected on the programme. Measures that are designed and installed as required by S.R.54 and the DTSS guidelines should be achieved as a matter of course and contractors must refer to these documents when notified of reworks. SEAI retains the right to amend these appendices as required to maintain the integrity of the programme.

Biannual scoring

SEAI issues contractor scorecards twice per year to provide a formal assessment of quality performance. In addition to this, SEAI conducts weekly and monthly analysis of contractor activity throughout the year and takes appropriate corrective actions where necessary. Contractors are informed of their quality standing through summary Scorecards and other communications [See figure 43]. SEAI also expects WHS contractors to actively monitor their own Quality Assurance Key Performance Indicators (QA KPIs) through their internal Quality Management Systems (QMS). This proactive approach is essential to maintaining high standards and ensuring continuous improvement across the scheme.

Contractor QADP performance	
Contractor Details	
Company Name	
Date of Issue	July 2025
Evaluation Period	01 st Jan 2025 to 30 th Jun 2025

As part of SEAI's ongoing monitoring of performance, SEAI has completed a recent evaluation of your performance in accordance the revised Warmer Homes Scheme (WHS) QADP. The evaluation provides a detailed overview of performance over a period of time and includes details on the relative impact of inspected findings by penalty points and also benchmark information relating to all appointed WH Contractors. An evaluation of performance on reworks is also included, all of which inform impact on allocations and areas of focus and demonstrated improvement in order to rectify.

Your results are detailed below:

Inspection Results	
1	Number of properties inspected
2	Number of measures inspected
3	Gross penalty points (relating to Sev 1 and Sev 2 fails only)
4	Gross penalty points/ number of measures inspected
5	Number of measures with at least one Sev 1 fail
6	Present SNCs (Serious Non-Compliances) in the last 12 months
7	Current performance zone
	Low Risk
Comments	

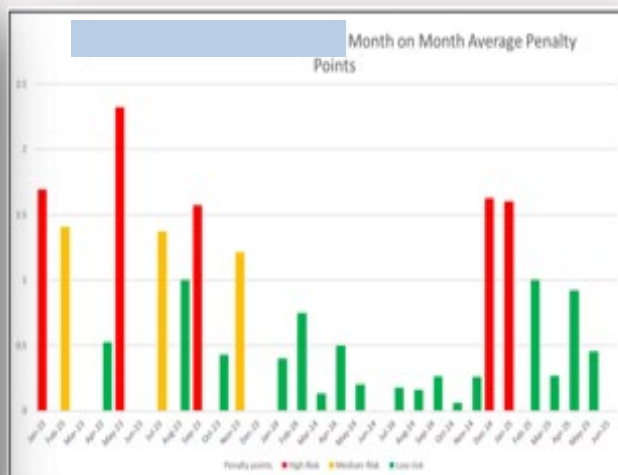


Figure 1: Displays Monthly average penalty points per measure inspected across the selected timeframe. The criteria for defining Low, Medium, and High-risk zones are continuously reviewed and may be adjusted based on the ongoing performance of the contractor panel.

seai SEAI ENERGY AUTHORITY OF IRELAND CONTRACTOR QUALITY REPORT

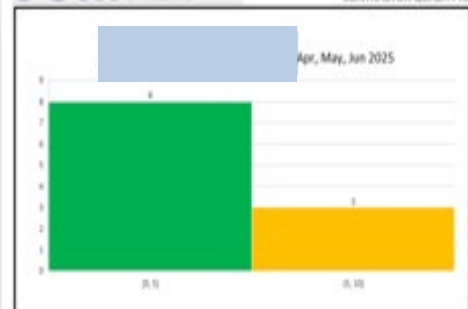


Figure 2: Shows the volume of homes within bands of total penalty points received for the Most recent months. Example first band shows the volume of homes inspected that received a total of between 0 to 5 penalty points. The second band shows the volume of homes inspected that received a total of between 5 to 10 penalty points.



Sev 1s per home 1st of Jan to 30th Jun 2025

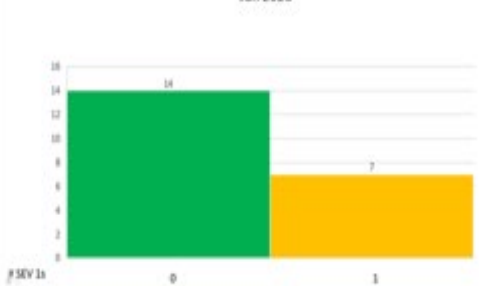


Figure 4: Number of homes inspected V Severity 1 reworks received

Fully Funded Energy Upgrades - Quick Stats		Inspections per Measure			
		Number	Pass	Pass %	Pass %
Boiler Installation	11	10	91%	1	0.09
Control Unit Installation	15	14	93%	1	0.07
External Wall Installation	19	11	58%	2	0.11
Internal Wall Installation	6	5	83%	0	0.00
Gas Boilers	3	1	33%	1	0.33
Oil Boilers	2	1	50%	1	0.50
Heat Pumps	4	1	25%	1	0.25
Hot Water	19	19	100%	0	0.00
Drains	2	2	100%	0	0.00
AVS	3	3	100%	0	0.00
Windows	2	2	100%	0	0.00

Figure 43: Sample Contractor Scorecards

Risk Criteria

Risk criteria are explained as follows:

Contractors will be assessed based on several key performance indicators which include the following

- Health and Safety issues
- Average penalty points per measure inspected
- Month on Month penalty point average
- Number of severity 1 penalty points received
- Total penalty points per home i.e. number homes with > a total of 10 penalty points
- Level of complaints and nature of complaints
- In process inspection results
- Outstanding reworks > 28 days
- Average penalty points position on the 10-point scale
- Overall position on the QA results league table

Contractor QA positioning on Panel of Contractors

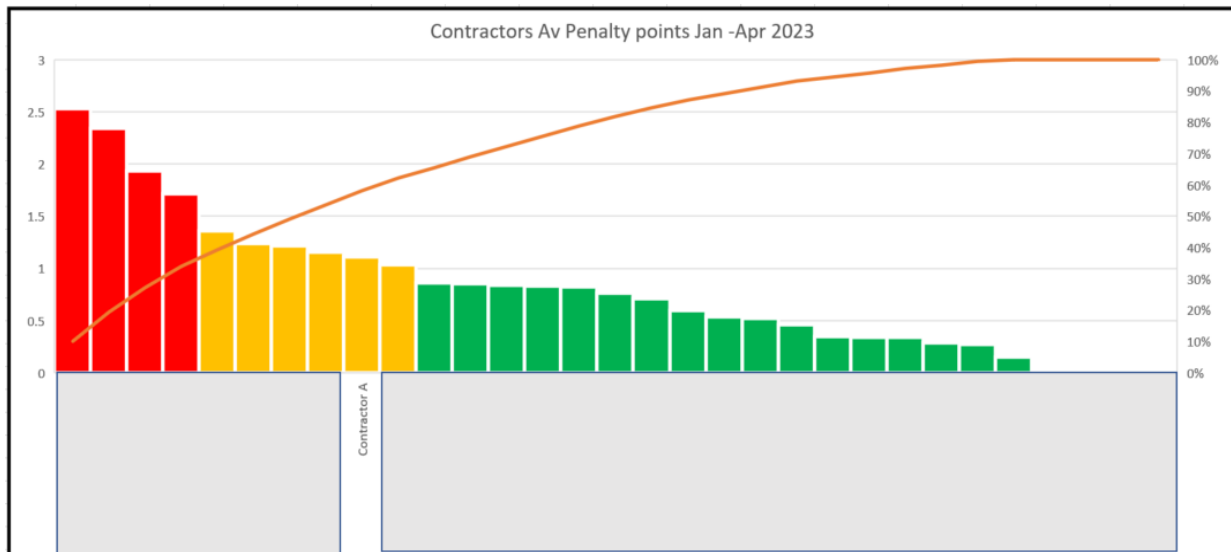


Figure 44: Sample Quality League Table

Severity of re-works

Periodically, each contractor's performance will be analysed, where re-works have been identified. Performance will be compared with last month's performance and the performance of other contractors, with a view to allocating risk to on-going works. Where risk is identified, allocations may be affected, and inspection rates may increase.

Contractors' own quality assurance system

Lack of quality assurance by the contractor will result on an increase of the number of expected inspections. This includes SEAI reviewing the following on a regular basis:

- The volume of activity in the preceding three months – a lower volume of completions represents a higher risk
- Claims for works not performed or not rightfully due to be performed
- Homes closed on the database prematurely
- Differences between quantities shown on the works order and the actual work carried out onsite
- Incomplete data uploaded to the WHS database
- Presence or lack of explanatory notes on the database
- Continued reworks
- Cancellation of works
- Refusal of works
- Other potential risks arising

Severity of health and safety fails

Health and safety fails are identified as serious issues among the pre-determined inspection questions for each measure. A repetitive Severity 1 non-compliance or a trend on this type of fail, will see an increase in inspections allocated to that contractor and potential non-allocation of works until such time as performance scores improves.

Complaints

The contractor is responsible for the resolution of any disputes with the applicant in relation to works. It is important that the contractor can demonstrate appropriate methods of communication in relation to a dispute and within a reasonable timeline from response to resolution. Where a contractor receives excessive homeowner complaints, the contractor will see an increase in inspections allocated to that contractor.

Other risk criteria considerations

There may be other risk criteria which may come evident through:

- Trend analysis, changes to the scheme rules or changes to regulations
- When high number of properties receive an unusually large quantity of works
- Where the requirement for an inspection is triggered by a 'Risk Trigger Assessment' during a BER assessment on a home not selected for inspection

Other identified risks

Other factors will affect the level of QADP oversight carried out by SEAI. A risk-based approach is adopted where properties with the following risks are included in the selection:

Cost/value of the works: The higher the value of the works, the higher the number of measures and associated complexity, the higher the risk. Properties with a higher risk profile will be selected.

Location of the property: Evidence suggests that urban homes in well-serviced areas tend to present a lower risk of non-compliance compared to those in remote counties and poorly serviced areas of the country. Properties with a higher risk profile will be selected.

Random Sampling: Random sampling is performed from time to time, to allow for unknown or unidentified risks. Randomly selected homes will be nominated to complete a sample selection, including times when the sample size is not fulfilled by the risk criteria defined above.

Classification system for non-compliances

SEAI require appropriate demonstration of compliance for any works involved in installing the measures. Compliance will be determined by the contractor's evidence of implementation of the reworks as inspected upon completion of the works. An inspection finding of non-compliance may arise from a technical error or non-compliance with the DTSS, the Operations Manual or in not having completed one of the specified design or works elements.

Each non-compliance is assigned a 'Severity' rating and penalty points are assigned to each severity rating for the purpose of evaluation of the performance of the stakeholder responsible for compliance of the element.

The severity rating classifications of non-compliances are defined as follows:

Table 26: Severity rating classifications

Severity Rating	Severity 1 [3 points]	Severity 2 [2 points]	Severity 3 [0point]
Classification	Possible health and safety risk Highly non-compliant and compromising the effectiveness of the installed measure	Non-compliant and compromising the effectiveness of the installed measure	Not best practice Not giving confidence in the installation of the measure, e.g., administrative non-compliance

Reworks Requirement	Reworks required to make compliant	Reworks required to make compliant	Reworks may be required Provision of required documentation
----------------------------	------------------------------------	------------------------------------	--

The contractor is responsible for the end-to-end project management delivery of all elements of the WHS in ensuring that all stakeholders involved in design and works are delivered to the required standard.

Non-compliances may potentially result in reduced allocations and continued non-compliances over a prescribed period may result in suspension from the scheme.

Contractors are responsible for ensuring that each property is accessed to be suitable for the intended installation works in line with the system suppliers design specifications before proceeding with the works.

Response time to reworks requirement notifications: The allowable period for reworks to take place is determined by the Severity level discovered at the time of inspection. All reworks' instructions must be responded to within the timeframe indicated. This will vary depending on the severity.

- **Severity 1:** Contractor will be notified within 1 week of inspection and they must undertake reworks and submit confirmation of same to SEAI within 28 days of dated notification,
- In certain instances, a **Severity 1** merits immediate action to ensure the issue is made safe and, in such circumstances, SEAI will notify the contractor that immediate remedial action is required. This rework must be completed as a matter of urgency and confirmation of completion of same submitted to SEAI within 48 hours of notification of rework requirement,
- **Severity 2 and 3:** The contractor is notified within 1 week of inspection and they must undertake reworks and submit confirmation of same to SEAI within 28 days of dated notification.
- Where a **Severity 3** requires the provision of supporting documentation SEAI notifies the contractor and requests that the documentation be provided. The documentation must be provided within 7 days of notification. SEAI will send a contractor a 'Reworks Notification' with a deadline of four weeks to complete reworks and return the attached Reworks Form to the stated SEAI address.

Where the notification from SEAI requires the provision of supporting documentation, the deadline for receipt of documentation is 14 days.

A reworks notification may be appealed within 7 days, in writing only. All appeals must only be sent to whinspections@betterenergyhomes.ie

Reminder: Failure to comply with a direction to undertake reworks may result in reduction of allocations and increase in inspections.

Disciplinary Procedures Overview

Purpose:

To maintain the expected high levels of quality for all works installed on the Warmer Homes scheme while accounting for delivery volume, SEAI evaluates contractor performance using an objective, auditable metric:

- **Average Penalty Points per Measure (PPPM) =**
Total gross penalty points for Severity 1 and Severity 2 non-compliances ÷ Total number of measures inspected.

Note: Only Severity 1 and Severity 2 non-compliances contribute to PPPM. Lower PPPM indicates better performance.

Performance Scoring (10-Point PPPM Scale)

Contractor performance in each evaluation period is scored on the following scale (lower is better).

Score 10 (“Unacceptable”) is anchored at > 1.20 PPPM.

Score Descriptor PPPM Range

Table 27: Score Descriptor PPPM Range

Score	Descriptor	Penalty Points per measure inspected Range(PPPM)	Risk
1	Outstanding	≤ 0.07	Negligible
2	Excellent	> 0.07 – 0.12	Very Low
3	Very Good	> 0.12 – 0.18	Low
4	Good	> 0.18 – 0.26	Low
5	Above Average	> 0.26 – 0.34	Low–Moderate
6	Average	> 0.34 – 0.44	Moderate
7	Below Average	> 0.44 – 0.60	Moderate–High
8	Poor	> 0.60 – 0.90	High
9	Very Poor	> 0.90 – 1.20	Very High
10	Unacceptable	> 1.20	Critical

Boundary rule: Upper bounds are inclusive; lower bounds are exclusive, except Score 1 which is ≤ 0.07.

Risk Zones (for operational actions)

Zones translate the 10-point score into action-oriented risk bands:

- **Green Zone (Low Risk): Scores 1–4** (PPPM ≤ 0.26)
- **Yellow Zone (Moderate Risk): Scores 5–7** (PPPM > 0.26–0.60)
- **Orange Zone (High Risk): Score 8** (PPPM > 0.60–0.90)

- **Red Zone (Very High/Critical Risk): Scores 9–10 (PPPM > 0.90)**

Disciplinary Procedure Guidance

- **Metric scope.**

The calculation of PPPM is based on **Severity 1 and Severity 2** non-compliances only.

Severity 1 = 3 penalty points, Severity 2 = 2 Penalty points

- **Severity 3 handling:** Severity 3 non-compliances must still be addressed to SEAI's satisfaction to receive payment for the relevant home. However, they are **excluded** from the PPPM score used for performance evaluation.
- **Automatic escalation for critical patterns:** Where **three different measures** each have **at least one Severity 1 fail** in any single evaluation period, the contractor is **automatically placed in the Orange Zone** for that period, **regardless of PPPM score**. This reflects the gravity of issues such as potential health and safety risks or highly non-compliant work.
- **Sample size sufficiency:** If the **number of properties inspected is five or less** in an evaluation period, the period is considered based on too few inspections to represent performance reliably. SEAI will still evaluate the works and use results to **monitor trends** across multiple periods.
- **Sustained non-compliance engagement:** Where a contractor has been in a **non-compliant zone (Orange or Red)** for **three months or more**, SEAI will request an explanation for the trend and a detailed corrective action report outlining causes and solutions to improve quality management. SEAI may require additional training in response to identified weaknesses.
- **Orange Zone Persistence:** Where a contractor remains in the Orange Zone for three-month periods, this may result in an immediate suspension from the scheme. The term of suspension may range from one to six months depending on contributing factors. However, SEAI reserves the discretion to continue working with contractors who demonstrate active and credible efforts to improve their quality assurance processes, including submission of corrective action plans and evidence of implementation.
- **Red Zone Trigger:** Where a contractor is in the Red Zone in any three-month periods, this may result in an immediate suspension from the scheme. SEAI may, at its discretion, allow continued participation under strict conditions if the contractor is actively implementing robust corrective measures and demonstrates a clear commitment to quality improvement. Failure to improve beyond a reasonable time will result in suspension of allocations.

SEAI Reserves Rights: SEAI monitors performance on an ongoing basis and reserves the right to act as required where contractor performance is not meeting expected standards. This includes the flexibility to apply proportionate measures, balancing enforcement with

opportunities for contractors who are actively engaged in improving their quality management systems.

Scoring Examples (PPPM-based)

Example A – Multiple measures (external wall insulation, attic insulation, gas boilers, windows)

- 20 homes inspected: **65 measures** in total
- Severity mix: **22 penalty points** (S1/S2)
- **PPPM = $22 \div 65 = 0.338$ → Score 5 (Above Average) → Yellow Zone**

Example B – Multiple measures (cavity wall insulation, attic insulation)

- 12 homes inspected: **24 measures** in total
- Severity mix: **13 penalty points** (S1/S2)
- **PPPM = $13 \div 24 = 0.542$ → Score 7 (Below Average) → Yellow Zone**

Example C – Multiple measures (external wall insulation, attic insulation, gas boilers, windows)

- 18 homes inspected: **60 measures** in total
- Severity mix: **11 penalty points** (S1/S2)
- **PPPM = $11 \div 60 = 0.183$ → Score 4 (Good) → Green Zone**
Automatic escalation applies: because **three distinct measures** each had at least one **Severity 1 fail**, the contractor is placed in the **Orange Zone** for this period **regardless of PPPM**.

Appendix 3: Wall insulation contractor declaration template

For a BER assessor to properly calculate, and account for the improvement measures within the BER rating, the *Wall Insulation Contractor Declaration* form and supporting information must be completed accurately. A copy is to be left with the homeowner and a copy uploaded to the database.

Wall insulation measures requiring documentation.

1. Pumped cavity wall insulation [CWI]
2. External wall insulation [EWI]
3. Internal wall insulation/dry lining [IWI]

Pumped cavity insulation [CWI]

Area of added insulation [m²]:

Total cavity depth:

Thickness of existing insulation [if present]:

Thickness of added insulation:

Product name [as appears on Agrément certificate]:

Product Agrément certificate number:

Product conductivity [λ]:

External wall insulation [EWI]

Area of wall covered [m²]:

Existing wall type [solid, 9" Hollow block:

Thickness of added insulation:

Product Name – [as appears on Agrément Certificate]:

Product Agrément Certificate number:

Product Conductivity [λ]:

Internal wall insulation/dry lining [IWI]

Areas of walls insulated [m²] indicating different wall types [if applicable]:

Thickness of insulation [*inclusive of 12.5mm for plasterboard*]:

Product Name [as appears on Agrément Certificate]:

Product Agrément Certificate number:

Product Conductivity [λ]:

Notes on completing Wall Insulation Declaration Template

- Ensure **all** applicable fields are filled in.
- Be as descriptive as possible when entering wall type, for example, *“rear extension with flat roof”*.
- Product type used must match exactly the product description on the Agrément Cert, as more than one product in a range can be covered by a certificate.
- All internal insulation products should be noted as overall thickness, for example, include plasterboard thickness of 12.5mm.
- No U-value calculations/declarations to be provided.
- Conductivity [λ] values to be entered as follows e.g., 0.033 W/mK.

<Insulation Contractor Header>

Date of Letter: <20YY-MM-DD>

To whom it may concern

Address of Dwelling:

I confirm that the following works have been carried out at:

Date works carried out: < 20YY-MM-DD>

Cavity Wall Insulation [CWI]

Wall Type/Description	Area m ²	Depth of cavity [Including existing insulation if present]	Depth of additional bead pumped
Main house cavity walls	50m ²	100mm	60mm
Rear extension 1 cavity walls	30m ²	80mm	40mm
.....			
.....			

Product name/Agrément cert no./conductivity of bead used: <Name/cert. no./conductivity of bead used>

External Wall Insulation [EWI]

Wall Type/Description	Area m ²	Thickness of EPS Insulated Installed	
Main walls: Solid/mass concrete	75m ²	100mm	
Flat roof extension 1: 9" Hollow Block	25m ²	100mm	
.....			
.....			

Product name/Agrément cert no./conductivity of EPS used: <Name/cert no./conductivity of EPS used>

Internal Wall Insulation [IWI]

Wall Type/Description	Area m ²	Thickness of Insulated Board [incl. thickness of plasterboard installed]	
Front and rear elevation: 9" Hollow block	75m ²	92.5mm	
Gable wall/staircase	30m ²	62.5mm	
.....			
.....			

Product name/Agrément cert no./conductivity of insulated board: <Name/Cert. no./conductivity of IB>

Attach Copy of the Agrément certificate in all cases where applicable

Yours faithfully,

<Contractor Signature>

Appendix 4: Declaration template for power-flush/pressure test

Company header

Declaration of power flushing and pressure testing of Heating System

Applicant Name: _____

Applicant Address: _____

Reference: _____

Date: ____/____/____

This is to confirm that where applicable this heating system has been flushed, cleanser and inhibitor has been installed and this system has been pressure tested.

Pressure Test Results				
Pre-works	Y/N	Bar	Duration	Result
Post- works	Y/N	Bar	Duration	Result
Comments:				
Signed:			Date:	

Power flush			
Completed	Y/N	Number of photos attached	
Comments:			
Signed:		Date:	

Cleanser and inhibitor			
Cleanser added	Y/N	Inhibitor added	Y/N
Comments:			
Signed:		Date:	

Photos: Links to important documents

Appendix 5: Refused Access Process for Completing Works/Reworks

Template for contractors where access is refused

Contractors may have to return to a home to complete works after a hiatus and/or reworks following a BER visit or an inspection. In some instances, there may be challenges in gaining access back into a home and consequently, to final payment. It is important that the contractor can demonstrate that they made reasonable attempts in trying to complete the reworks. To support this, SEAI has developed a standard operating procedure [SOP] which will assist contractors in this event. In order to process a home for payment, the contractor will have to submit to the MA, the completed process below so that the effort can be recognised and recorded.

Purpose	Why is this procedure carried out? What does it help do? Where a contractor wishes to complete works/reworks/reworks consisting of regulatory breaches
Risk	Long delays in contractor not being paid/potentially unsafe works / breaches in Building Regulations
Who leads?	Specify role not person responsible for carrying out the procedure Contractor
Who else?	Who else internally or externally is involved/affected? MA [follow-up and logging] Inspections team; Warmer Homes Team [Consulted]
Steps in procedure How to carry out the procedure. Include IT screenshots on next page and reference	
Overview: Where completion of works is at risk/following an inspection/BER home visit, contractor is attempting to return to site to complete reworks/reworks which may have caused a regulatory breach. 1. If HO is <u>not</u> reachable or refuses access, CO must demonstrate that they have <u>made reasonable and consistent efforts</u> ¹ to gain access to complete works with the homeowner at different times and on different days. CO will then send a letter² to the HO with the suggested template below [T1]; i) If HO does engage within prescribed number of days, the CO can agree milestones;	

- ii) If HO does not engage or is reachable but refuses to allow access to the contractor to complete reworks, then contractor to send a letter² to the HO with the suggested template below after a reasonable timeframe [T2].
2. If ii) applies, CO must ensure they have carried out the correct steps above, then should contact the MA, submitting all evidence and correspondence confirming that the 'Refused-Access' protocol has been adhered to.
 3. Once the MA verifies the Refused Access Process has been followed correctly, the CO can proceed for payment.

[T1]: Letter from CO to HO, where HO not reachable or allowing access:

Dear [homeowner], we are writing to you regarding your application WHXXXXXX. We have attempted to reach you to arrange a visit to your property at XXXXXXXXXXXXXXXXXXXX on XX/XX/20XX and XX/XX/20XX, for carrying out [re-]works consisting of:

- XXXXXXXXXXXXXXX [standard rework] and/or [technical breach rework],
- e.g.: Ventilation works in association with an insulated attic,

and/or...

- e.g.: Ventilation works in association with a heat-producing appliance, in this instance, a functioning XXXXXXXXX.

Please find attached a copy of our log recording the times we tried to contact you.

We recommend you contact [insert contractor's scheme manager name] at XXX-XXXXXXX to arrange a suitable time to complete the works. We would like to advise you that if we are unsuccessful in gaining access within 14 days of the date of this letter, we will inform SEAI that we have been prevented in completing the works and you may not be in compliance with the terms and conditions of the Scheme.³[*The CO should convey the consequences of not allowing the rework to proceed if applicable-choose from below suggested content, insert/adapt as applicable*],

Yours sincerely, CO. END

**[Prescribed paragraphs to insert/adapt as required]

Attic ventilation, in line with Building Regulations [Part F for Ventilation in this instance]. This technical breach relates to the absence of ventilation in the attic, which is necessary to ensure your home and roof-space do not manifest mould when the fabric is thermally improved. If this ventilation requirement

is not completed, your home may be in breach of Building Regulations Part F regarding ventilation of attic spaces, and you may have to re-visit this at your own cost, if you decide to rent or sell your home.

Background/permanent ventilation, in line with Building Regulations [Part J for Heat-Producing Appliances in this instance]. This breach relates to the absence of vents, which are necessary for homeowner safety where there is a heat-producing appliance, in this instance, a functioning XXXXXXXXXXXX. If this ventilation requirement is not completed, your home may be in breach of Building Regulations Part J for heat-producing appliances, and you may have to re-visit this if you decide to rent or sell your home.

We would be obliged if you might contact us within 7 days from the date on this letter to arrange access for the contractor to carry out this important work. Yours sincerely, CO. END.

[T2] START: We are writing to notify you of a failure to allow access to your property at XXXXXXXXXXXXXXXXXXXX on XX/XX/20XX for completing [re]works you are receiving/have received under the Warmer Homes Scheme. You have not responded/agreed to provide access, so we are confirming that you have withdrawn from the scheme. Yours sincerely, CO END

¹ 'Reasonable effort' means demonstrating including failed arrangements for appointments on separate occasions, telephone calls, texts or similar correspondence that shows the contractor has attempted on more than two occasions to fulfil the completion of the works.

²The CO may send a registered letter as proof of endeavour.

³The terms and conditions relating to 'Access' as follows;

"20. The applicant shall give SEAI and the Contractor access to their home for the purpose of surveying the home, carrying out the relevant Work[s] available under the Scheme and/or, carrying out inspections and any necessary reworks, at a time to be arranged between the applicant and the Contractor and/or SEAI. 21. If access is requested by SEAI at the Post Work[s] phase of the Scheme subsequent to an inspection, the applicant shall provide SEAI access to their home. 22. SEAI reserves the right to cancel the Work[s] and/or seek re-imburement of the grant funding in circumstances where the applicant:

a. does not engage or fails to engage meaningfully, in SEAI's view, with SEAI and/or the Contractor to arrange for the home to be surveyed, for works to be carried out and/or for any inspection to take place; b. is not available to grant SEAI and/or the Contractor access to the premises at the appointment agreed between the SEAI and/or the Contractor and the applicant"

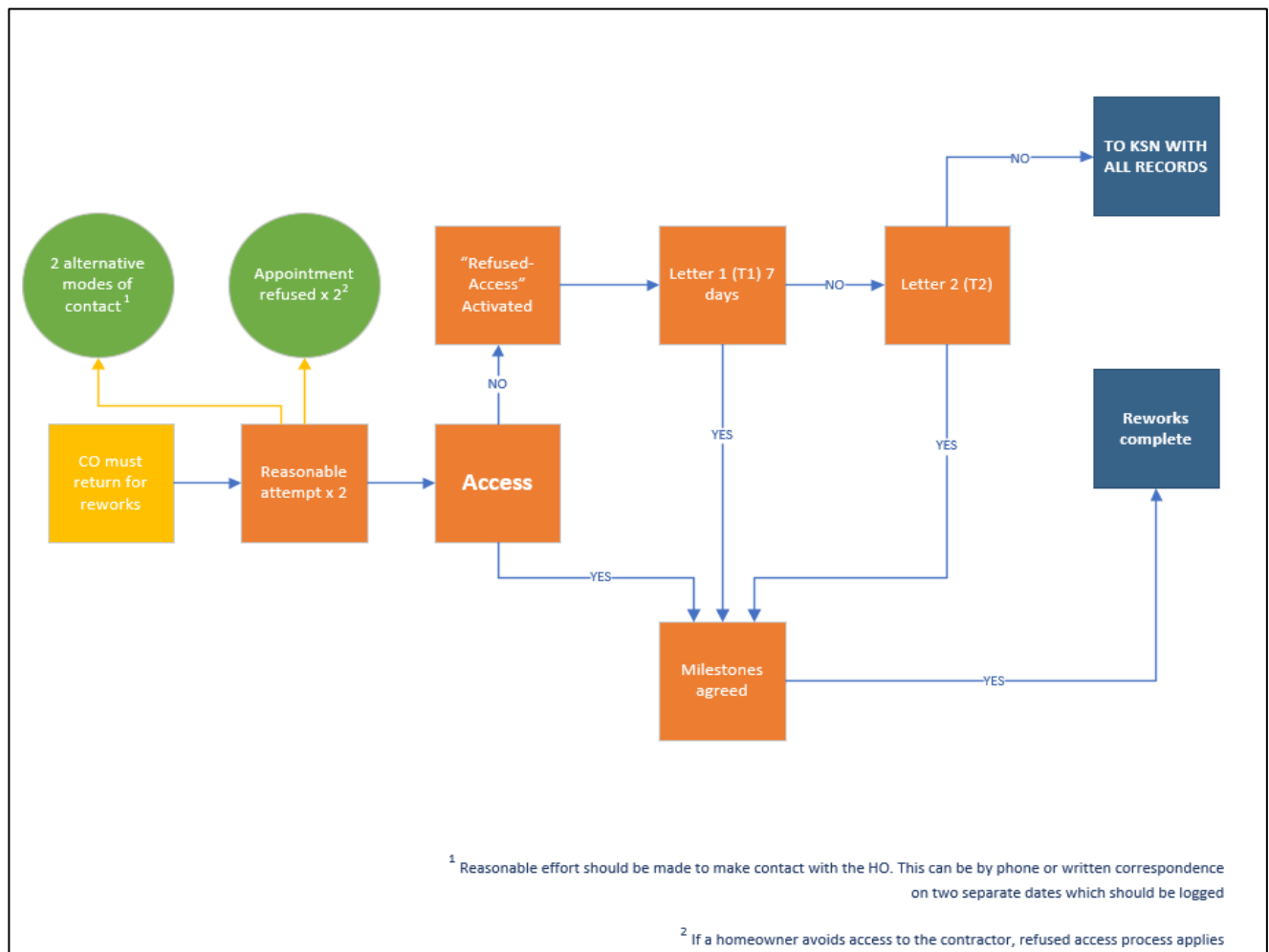


Figure 45: Refused access process for [Re]Works

Appendix 6: Sample 'Method Statement' LFE boundaries

The picture below, of a mid-terrace house is typical of the type of property which *[the contractor]* proposes to extract fibre from in this Method Statement.

Following on from *[my/our]* initial risk assessment on the site and preparing a Safe System of Work Plan, in line with health and safety requirements, *[I/we]* will drilled our own inspection hole[s] on *XX/XX/2X* to confirm that the property is fit for extraction- *[please find site and cavity photos attached]*.

From this inspection, it is possible to confirm that if brushes are present between the property boundaries, this will allow safe extraction of fibre from only the property concerned.

However, if it is found that there are no brushes fitted it is at this point, we propose to fit them. The method for this is as follows.



Figure 46: Sample of LFE boundaries

- A core will be drilled at the upper most point of the wall at the boundary line [See picture].
- A second is drilled at the midway point and a third is then drilled at the lowest point [See picture].
- This will allow for a rod to be fished from the top to the bottom and a brush pulled through to protect against any fibre being extracted from the adjoining property.
- This process will be repeated to all boundary lines totalling 12 no. cores being drilled.
- These cores will be replaced as each brush is fitted and the colour and texture matched as appropriate.

Appendix 7: Health and Safety Templates

Safety, Health and Welfare at Work [Construction] Regulations 2013 – Approved Forms

https://www.hsa.ie/eng/Publications_and_Forms/Forms/

Health and Safety Sample Templates:

1. Designer Risk Register
2. PSCS/PSDP Competency Questionnaire
3. Preliminary Safety Plan
4. Health and Safety Sample Appointment & Acceptance Letters - PSDP & PSCS

Appendix 8: BEWHS/OHS 1 - Designers [Surveyors and Contractors] Risk Register

The following risk registers to be completed initially by Managing Agents Surveyors and thereafter by Contractors when completing the Works Order.

Location:			
Risk Assessment prepared by:		Managing Agents Surveyors [Name]	Date:
Risk Assessment prepared by:		Contractors [Name]	Date:
	2.00	Hazard/ Risk	Yes or No
2.01	Risk: Falling from Height		All working at height activities must be Risk Assessed. Use of ladders to be restricted to works of short duration, where the risk of fall is assessed as low and alternative means of access are not possible. Use of ladders must be undertaken strictly in accordance with the provisions of Safety Health and Welfare at Work [General Application] Regulations 2007. Scaffolding must be erected and protected strictly in accordance with the HSA Code of Practice for Access Scaffolding. Weekly and other statutory inspections must also be undertaken and records of such. inspections must be maintained on site for inspection by the Project Architect / PSDP.
2.02	Risk: Burial under earth falls		
2.03	Risk: Engulfment in swampland		
2.04	Risk: From Chemical or Biological substances		
2.05	Risk: Use of ionising radiation		
2.06	Risk: Work near high voltage power lines		
2.07	Risk: Of drowning		
2.08	Risk: Works on wells, underground earthworks, and tunnels		
2.09	Risk: Work by divers with a system of air supply		
2.10	Risk: Work in a cassion with compressed air supply		
2.11	Risk: Work involving the use of explosives		
2.12	Risk: Overhead lines		
2.13	Risk: Occupied dwelling		
2.14	Risk: Working on or close to the party boundary		
2.15	Risk: Work in attics		

2.16	Risk: Electrical equipment		
2.17	Risk: Construction traffic		Operative carparking must not block, hinder, or cause nuisance to the dwelling occupier or neighbours. Vehicles must not be parked in a dangerous manner which will cause blockage on the roadway or impair vision for other road users.
2.18	Risk: Other		
2.19	Risk: Other		

Note to Contractors: The foregoing Particular or Significant Risks have been identified by the Managing Agent's Surveyors. If you have identified additional Particular or Significant Risks during the pre-survey, please enter in table below. If no further risks have been identified, please confirm below.

We-----[Contractors] confirm that we have identified no further Particular or Significant Risks to those identified above in

completing the Works Order pre-survey.

Additional Risks Identified by Contractor during Works Order pre-survey

2.20	Risk: Other		
2.21	Risk: Other		
2.22	Risk: Other		
2.23	Risk: Other		

3.00 General Safety Requirements

3.01	Disposal of materials	Waste materials must be disposed of to properly licensed waste centres. Every effort must be made to recycle waste. Waste must be stored / stacked in a safe and secure manner on site prior to disposal to ensure against it being dispersed and blown.
3.02	Housekeeping , Dirt, Dust.	The Contractor must ensure for the control of dirt and dust is required to keep the site tidy at all times to minimise nuisance to neighbours. Spray suppression or other similar methods should be used for the control of dust as necessary.
3.03	Noise	Noise creation must be kept to a minimum on site because of the adjoining residences and for the protection of building operatives. Risk assessments must be undertaken to assess the likely noise levels for building operatives, local residents and the public. Noise must be controlled in strictly accordance with the provisions of BS. 5228.
3.04	Manual Handling.	Manual handling must be avoided as far as is reasonably practicable. The Contractor must therefore make arrangements for the mechanical lifting of materials wherever and whenever practicable.
3.05	First Aid	The Contractor must provide First Aid facilities on site and appoint a competent and trained Occupational First Aider for the contract.
3.06	Emergency Plans	The Contractor must outline Emergency Plans in the Safety Plan for the Works and must maintain access to all locations of the site for emergency services in the event of accident.
3.07	Operatives	All operatives must be holders of Safe Pass safety training card or a recognised equivalent. Operatives must wear adequate personal protective equipment at all times.
3.08	Slips trips and falls	The site must be kept in good and clean order at all times to ensure against the possibility of slips and trips. Waste materials must be stored in a designated safe space and must be removed from site before excessive accumulation. Unhindered access and egress for householders must be maintained at all times.

4.00 General Householder Safety Requirements

4.01	Safety of occupants	The dwelling will remain occupied during the works. The safety and comfort of occupants is an absolute priority during the works. Special consideration must be given for the safety of children if present. The works must therefore be demarked as far as reasonably possible and must be secured against possible access from children. Procedures for the safety of occupants and in particular children must be co-ordinated with householders and must be reviewed at regular intervals.
4.02	Works area security	Security of the work area and storage area is an absolute priority. Security must be checked on the closure of the site each evening to ensure against access during non-work hours and in particular during weekend periods. Storage of materials in the public domain must be avoided. Ladders must be removed and locked secure at the conclusion of each day's activities.
4.03	Adjoining residents and public safety	The safety of adjoining residents and the public is an absolute priority. Deliveries and waste removal must be scheduled when there is least activity in the vicinity of the premises. Operative carparking must not block, hinder or cause nuisance to the dwelling occupier or neighbours. Vehicles must not be parked in a dangerous manner which will cause blockage on the roadway or impair vision for other road users.
4.04	Control of waste	Waste must be stored / stacked in a safe and secure manner on site prior to disposal to ensure against it being dispersed and blown. If a skip is required, it must be located in a location to be agreed with the householder and if necessary, with adjoining residents. Waste materials must be disposed of to properly licensed waste centres. Every effort must be made to recycle waste.
4.05	Control of dust, dirt and noise.	Site Management must ensure for the control of dirt, dust and noise and will be required to keep the site tidy at all times to minimize nuisance to the householders, public and to neighbours. Spray suppression or other similar methods must be used for the control of dust as necessary. Adequate and suitable PPE [eye, ear and face protection] should be provided to at risk operatives. Excessive noisy activities must be limited as far as reasonably possible and must not be undertaken before 10am.
4.06	Fire safety	There is always the risk of fire from construction activities in an existing building. Adequate first aid firefighting equipment must be on hand at all times. A pre-closure fire safety inspection must be undertaken before closure each and every evening. Smoking will not be permitted in the premises. Hot works should be avoided wherever possible. If, however hot works are necessary they must only be undertaken on foot of a hot works permit. Firefighting hydrants must not be obstructed by materials, waste or vehicles.

Ref BEWHS-OHS 3 - PSCS/ PSDP CONTRACTOR COMPETENCY QUESTIONNAIRE		SEAI LOGO
Project: BEWHS	Date:	

It is the statutory requirement that the competence of Contractors, PSCS and PSDP is established in accordance with Section 2 [2] [a] of the Safety, Health and Welfare at Work Act 2005. In accordance with the SHWW Act 2005 *“a person is deemed to be competent where having regard to the task he or she is required to perform and taking account of the size or hazards [or both of them] of the undertaking or establishment in which he or she undertakes work, the person possess sufficient training, experience and knowledge appropriate to the nature of the work to be undertaken”*

Tenderers should note that it will be a condition of engagement that Tenderers, if appointed, will be required to undertake the roles of PSDP and PSCS. It should further be noted that, in preparing the Works Order, the Contractor assumes the duties of Designer as outlined in Regulation 15 of the SHWW [Construction] Regulations 2013. Contractors must therefore demonstrate competency to undertake this duty. Please therefore provide the requisite information to confirm your competence for the above works in the format detailed below. Please attach relevant documentation with your submission.

Name of Company:		
Directors:		
Name:		
Name:		
Company Address.		
Contact Details:	Phone:	
	Fax:	
	Email:	
1.00	GENERAL POLICY	ANSWER / CONFIRM INFORMATION ATTACHED
1.01	Does your company have a current Safety Statement?	
1.02	When was your Safety Statement last updated?	
1.03	Are key staff familiar with the requirements of the SHWW [Construction] Regulations 2013 including the duties of Designers, PSDP and PSCS?	
2.00	ORGANISATION / RESOURCES	
2.01	Provide details of the organisational structure for implementing safety. Note: These details to include the allocation of duties, delegation of responsibilities, the name of the most senior person in your organisation responsible for Health & Safety and the and the resources to be allocated to manage Health and Safety. Please attach an organisational chart.	
2.02	Provide details of the experience, qualifications, membership of professional bodies etc. and arrangements for continuing safety training of key staff who will be employed.	
2.03	Outline the names, qualifications, and experience of the individuals within your organisation who will be responsible for procedures in relation to Asbestos.	

2.04	Outline the names, qualifications and experience of the individuals within your organisation who will undertake the duties of PSCS/PSDP [Curriculum Vitae & details of PSCS/PSDP training required]	
3.00	SAFETY MANAGEMENT	
3.01	Does your company have and operate to a Safety Management System? Please attach details.	

Ref BEWHS-OHS 3 - PSCS/ PSDP CONTRACTOR COMPETENCY QUESTIONNAIRE		SEAI LOGO
Project: BEWHS	Date:	

3.02	Is there a procedure in place for the engagement, competency assessment and management of contractors and sub-contractors? Please attach details.	
3.03	Please attach the names of the project manager and site foreman for this project along with details of their safety training.	
3.04	Please submit a copy of a Method Statement utilised by the company in the last 12 months.	
3.05	Please outline your company's safety inspection / safety auditing procedures during construction works?	
4.00	PSCS / PSDP EXPERIENCE AND MANAGEMENT	
4.01	Provide details of projects, which are comparable in size and nature to BEWHS works on which your company has previously been appointed as PSDP and PSCS.	
4.02	Please attach a sample copy of a Preliminary Safety and Health Plan and a Construction Safety Plan for a typical BEWHS upgrade project.	
4.03	Provide details of procedures for the assessment, selection and management of competent sub-contractors on projects comparable in size and nature to BEWHS works.	
4.04	Provide details to demonstrate procedures for the provision of information for the Safety File.	
5.00	ACCIDENTS / INCIDENTS	
5.01	Please provide accident / incident statistics for projects under your company's control covering the last 3 years [2014, 2015, and 2016]. Note: Sub-contractors' notifiable accidents / incidents to be included.	
5.02	Have any formal notices been issued or legal procedures taken against your organisation by the Health and Safety Authority in the last three years?	
5.03	What procedures are in place, which ensure that corrective actions resulting from an accident, incident or near miss are effectively implemented?	
6.00 DECLARATION OF COMPETENCY AND ADEQUACY OF RESOURCES		

The Directors of **[Name]** declare that the company is competent [as defined by Section 2[a] of the SHWW Act 2005] to fulfil its duties in respect of the duties of Contractors, Employers and in respect of the duties of Designers, PSCS and PSDP as outlined in the SHWW [Construction] Regulations 2013. The Directors further declare that the Company will allocate adequate resources to carry out its duties in the role of Contractor, Employer, Designer, PSDP and PSCS. We further declare that **[Contracts Manager for these works]** has adequate working knowledge and training in respect of the requirements of the Safety Health and Welfare at Work Act 2005 and the Safety Health and Welfare at Work [Construction] Regulations current at the above date.

Name	Position in Company	Signature	Date
Witness			

Appendix 9: BEWHS/OHS 2 - Preliminary Safety and Health Plan

This Safety & Health Plan has been prepared on a preliminary basis in accordance with the Safety Health and Welfare at Work [Construction] Regulations 2013 and is based on project information available of this time.

Location of works: _____		PSDP: _____		Date: _____
1.0 General description of the Project				
1.01	Description of site/ property:			
1.02	General Description of the Works:			
1.03	Proposed start date:		Estimated completion date:	
2.00 Information on other activities taking place on site				
2.01	The dwelling will remain occupied while the above works are on hand.			Yes ☐ No ☐
2.02	Other than 2.01 above will there be further activities on site while the above works are on hand? If yes list other activities:			Yes ☐ No ☐
3.00 Work related to the project which will involve Particular Risks or Safety Critical Risks Note: Safety Critical Risks are those risks whose outcome will result in a fatality, near fatality, serious injury, damage to property and /or damage to the environment.				
3.01	Having taken account of the Principles of Prevention Particular / Safety Critical Risks as listed on the attached risk register have been identified.			Yes ☐ No ☐
4.00 The basis upon which time in 1.03 and 1.04 above was established.				
4.01	Project program time as noted under 1.03 above is estimated from other similar projects undertaken by the company with a similar allocation of resources. The estimated project time assumes reasonable weather conditions for the time of year and for continuity of access. We confirm that the works can be safely undertaken in this time.			
5.00 Conclusions drawn by Designers and Project Supervisors as regards the taking account of the Principles of Prevention and any relevant Health and Safety Plan or Safety File.				
5.01	After enquiry to the homeowner, we confirm that there is ☐ is not ☐ a Safety File/Safety Plan in respect of this dwelling.			
5.02	Following the taking account of the Principles of Prevention, Particular / Safety Critical Risks still remaining are noted in the attached Risk Register. These risks should be noted by the PSCS in the Safety Plan and the Contractor shall prepare a Risk Assessment Method Statement [RAMS] to provide for their safe execution. Collective protective measures should be provided as an absolute priority over individual protective measures.			
6.00 The location of electricity, water and sewage connection where appropriate to facilitate adequate welfare facilities.				
6.01	Location of electricity: _____	Location of water: _____	Location of sewage: _____	

I / We confirm that the above Preliminary Safety and Health Plan has been prepared taking account of the Principles of Prevention as outlined in Schedule 3 of the SHWW Act 2005 and in accordance with Regulation 12 of the SHWW [Construction] Regulations 2013.

Signed [PSDP]-----[Date-----]

BEWHS/OHS 1 Designers [Surveyors and Contractors] Risk Register

The following risk register to be completed initially by Managing Agents Surveyors and thereafter by Contractors when completing the Works Order.

Location:

Risk Assessment prepared by:	Managing Agents Surveyors [Name]	Date:
Risk Assessment prepared by:	Contractors [Name]	Date:

2.00	Hazard/ Risk	Yes or No	
2.01	Risk: Falling from Height		All working at height activities must be Risk Assessed. Use of ladders to be restricted to works of short duration, where the risk of fall is assessed as low and alternative means of access are not possible. Use of ladders must be undertaken strictly in accordance with the provisions of Safety Health and Welfare at Work [General Application] Regulations 2007. Scaffolding must be erected and protected strictly in accordance with the HSA Code of Practice for Access Scaffolding. Weekly and other statutory inspections must also be undertaken and records of such inspections must be maintained on site for inspection by the Project Architect / PSDP.
2.02	Risk: Burial under earth falls		
2.03	Risk: Engulfment in swampland		
2.04	Risk: From Chemical or Biological substances		
2.05	Risk: Use of ionising radiation		
2.06	Risk: Work near high voltage power lines		
2.07	Risk: Of drowning		
2.08	Risk: Works on wells, underground earthworks and tunnels		
2.09	Risk: Work by divers with a system of air supply		
2.10	Risk: Work in a cassion with compressed air supply		
2.11	Risk: Work involving the use of explosives		
2.12	Risk: Overhead lines		
2.13	Risk: Occupied dwelling		
2.14	Risk: Working on or close to the party boundary		
2.15	Risk: Work in attics		

2.16	Risk: Electrical equipment		
2.17	Risk: Construction traffic		Operative carparking must not block, hinder, or cause nuisance to the dwelling occupier or neighbours. Vehicles must not be parked in a dangerous manner which will cause blockage on the roadway or impair vision for other road users.
2.18	Risk: Other		
2.19	Risk: Other		

Note to Contractors: The foregoing Particular or Significant Risks have been identified by the Managing Agent's Surveyors. If you have identified additional Particular or Significant Risks during the pre-survey, please enter in table below. If no further risks have been identified, please confirm below.

We-----[Contractors] confirm that we have identified no further Particular or Significant Risks to those identified above in

completing the Works Order pre-survey.

Additional Risks Identified by Contractor during Works Order pre-survey

2.20	Risk: Other		
2.21	Risk: Other		
2.22	Risk: Other		
2.23	Risk: Other		
3.00 General Safety Requirements			
3.01	Disposal of materials	Waste materials must be disposed of to properly licensed waste centres. Every effort must be made to recycle waste. Waste must be stored / stacked in a safe and secure manner on site prior to disposal to ensure against it being dispersed and blown.	
3.02	Housekeeping , Dirt, Dust.	The Contractor must ensure for the control of dirt and dust is required to keep the site tidy at all times to minimise nuisance to neighbours. Spray suppression or other similar methods should be used for the control of dust as necessary.	
3.03	Noise	Noise creation must be kept to a minimum on site because of the adjoining residences and for the protection of building operatives. Risk assessments must be undertaken to assess the likely noise levels for building operatives, local residents and the public. Noise must be controlled in strictly accordance with the provisions of BS. 5228.	
3.04	Manual Handling.	Manual handling must be avoided as far as is reasonably practicable. The Contractor must therefore make arrangements for the mechanical lifting of materials wherever and whenever practicable.	
3.05	First Aid	The Contractor must provide First Aid facilities on site and appoint a competent and trained Occupational First Aider for the contract.	
3.06	Emergency Plans	The Contractor must outline Emergency Plans in the Safety Plan for the Works and must maintain access to all locations of the site for emergency services in the event of accident.	
3.07	Operatives	All operatives must be holders of SafePass safety training card or a recognised equivalent. Operatives must wear adequate personal protective equipment at all times.	
3.08	Slips trips and falls	The site must be kept in good and clean order at all times to ensure against the possibility of slips and trips. Waste materials must be stored in a designated safe space and must be removed from site before excessive accumulation. Unhindered access and egress for householders must be maintained at all times.	

4.00 General Householder Safety Requirements		
4.01	Safety of occupants	The dwelling will remain occupied during the works. The safety and comfort of occupants is an absolute priority during the works. Special consideration must be given for the safety of children if present. The works must therefore be demarked as far as reasonably possible and must be secured against possible access from children. Procedures for the safety of occupants and in particular children must be co-ordinated with householders and must be reviewed at regular intervals.
4.02	Works area security	Security of the work area and storage area is an absolute priority. Security must be checked on the closure of the site each evening to ensure against access during non-work hours and in particular during weekend periods. Storage of materials in the public domain must be avoided. Ladders must be removed and locked secure at the conclusion of each day's activities.
4.03	Adjoining residents and public safety	The safety of adjoining residents and the public is an absolute priority. Deliveries and waste removal must be scheduled when there is least activity in the vicinity of the premises. Operative carparking must not block, hinder or cause nuisance to the dwelling occupier or neighbours. Vehicles must not be parked in a dangerous manner which will cause blockage on the roadway or impair vision for other road users.
4.04	Control of waste	Waste must be stored / stacked in a safe and secure manner on site prior to disposal to ensure against it being dispersed and blown. If a skip is required, it must be located in a location to be agreed with the householder and if necessary, with adjoining residents. Waste materials must be disposed of to properly licensed waste centres. Every effort must be made to recycle waste.
4.05	Control of dust, dirt and noise.	Site Management must ensure for the control of dirt, dust and noise and will be required to keep the site tidy at all times to minimise nuisance to the householders, public and to neighbours. Spray suppression or other similar methods must be used for the control of dust as necessary. Adequate and suitable PPE [eye, ear and face protection] should be provided to at risk operatives. Excessive noisy activities must be limited as far as reasonably possible and must not be undertaken before 10am.
4.06	Fire safety	There is always the risk of fire from construction activities in an existing building. Adequate first aid firefighting equipment must be on hand at all times. A pre-closure fire safety inspection must be undertaken before closure each and every evening. Smoking will not be permitted in the premises. Hot works should be avoided wherever possible. If, however hot works are necessary they must only be undertaken on foot of a hot works permit. Firefighting hydrants must not be obstructed by materials, waste or vehicles.
Appendix A –Safety File Requirements		
Regulation 13[a] [b] imposes a duty on the PSDP to prepare a safety file and deliver it to the client [householder] on completion of the works. The Safety File should typically include: • Introduction to the purpose of the • Safety File Outline of Client duties in • respect of the File • A general description of the works • undertaken Materials used including • MSDS if available Installers and suppliers • contact details Warrantees • Residual risks • Asbestos information if encountered		

DRAFT LETTER OF APPOINTMENT / PSDP –PSCS	BEWHS /OHS/5	Logo
--	--------------	------

To: Contractor [NAME]

Date:

Works:

Re: Appointment of Project Supervisor for the Design Process [PSDP] / Project Supervisor for the Construction Stage [PSCS] in accordance with the SHWW [Construction] Regulations 2013.

Dear Sirs,

As Clients for the above works we *SEAI* wish to appoint *NAME* as Project Supervisor for the Design Process [PSDP] and Project Supervisor for the Construction Stage in accordance with the provisions of the Safety Health and Welfare at Work [Construction] Regulations 2013. Please confirm acceptance of this appointment in writing and confirm your competency and sufficiency of resources to perform the duties in accordance with the requirements of the above Regulations.

Yours Faithfully,

Name [Client]

DRAFT LETTER OF APPOINTMENT ACCEPTANCE / PSDP –PSCS	BEWHS /OHS/6	Contractors Logo
--	--------------	------------------

To:
Client: Date:
Works:

Re: Appointment of Project Supervisor for the Design Process [PSDP] / Project Supervisor for the Construction Stage [PSCS] in accordance with the SHWW [Construction] Regulations 2013.

Dear **CLIENT**

We acknowledge receipt of your letter of appointment of the **DATE** as Project Supervisor for the Design Process [PSDP] and as Project Supervisor for the Construction Stage [PSCS] in respect of the above project. **NAME** will be undertaking this duty on behalf of the company.

COMPANY declares that it is competent to carry out its duties in the role of PSDP and PSCS and has adequate working knowledge of the requirements of the SHWW [Construction] Regulations 2013. We further declare that the company will allocate sufficient resources to perform the duties in relation to the above appointments.

Yours Faithfully

Appendix 10: SEAI WHS redundant boiler declaration - Oil

Application ID									
Address									
Appliance details									
Boiler manufacturer: Model and location:									
Age/year of manufacture:									
Working [Y/N] Details:							Safe [Y/N]		
							Details:		
Boiler efficiency:							Boiler age:		
Parts available [Y/N]							Condensing [Y/N]		
Casing -	Good		Average		Poor		Damaged		
Baffles -	Good		Average		Poor		Damaged		
Transformer -	Good		Average		Poor		Damaged		
Oil pump -	Good		Average		Poor		Damaged		
Flue -	Good		Average		Poor		Damaged		
Comments –									
*Please include description of the fault, details of the parts that are not available including documentation from suppliers and photos									
Cost of repair									
Recommendation									
WH Contractor name							Date		
Signature									
OFTEC Contractor name							Date		
Signature				OFTEC technician's number					

Appendix 11: SEAI WHS redundant boiler declaration - Gas

Application ID									
Address									
Appliance details									
Boiler manufacturer: Model and location:									
Age/year of manufacture:									
Working [Y/N] Details:							Safe [Y/N]		
							Details:		
Boiler efficiency:							Boiler age:		
Parts available [Y/N]							Condensing [Y/N]		
Casing -	Good	☐	Average	☐	Poor	☐	Damaged	☐	
Heat exchanger -	Good	☐	Average	☐	Poor	☐	Damaged	☐	
Gas valve -	Good	☐	Average	☐	Poor	☐	Damaged	☐	
PCB -	Good	☐	Average	☐	Poor	☐	Damaged	☐	
Flue -	Good	☐	Average	☐	Poor	☐	Damaged	☐	
Comments –									
*Please include description of the fault, details of the parts that are not available including documentation from suppliers and photos									
Cost of repair									
Recommendation									
WH Contractor name							Date		
Signature									
RGI Contractor name							Date		
Signature					RG11 technician's number				

Appendix 12: SEAI Warmer Homes Scheme PV Completion checklist

The Installer must confirm that all the below documentation is complete and has been provided to the homeowner

Required Document	Tick if provided
Declaration of Works – Completed and signed by the Installer	
Inspection, Test and Commissioning Report [EN 62446]	
Safe Electric ['RECI'] Certificate – Completed and signed by a Registered Electrical Contractor	
Submitted ESB Networks NC6 Form	
Photographs of the installation	
a. Mounting system as installed	
b. PV Module Array as installed	
c. PV Module Nameplate	
d. Inverter as installed – showing isolators	
e. Consumer Unit with Solar PV MCB/RCD and Solar PV Meter	
f. Battery Energy Storage System as installed [IF APPLICABLE]	
g. Inverter data label	
h. Battery Energy Storage System data label [IF APPLICABLE]	
i. Shunt Switch as Installed	
j. Power Diverter as installed [If Applicable]	

Required Document for Homeowner	Tick if provided
Datasheets for Solar PV Modules, Inverters, and Battery Energy Storage System [IF APPLICABLE]	
Warranties for Solar PV Modules, Inverters, Mounting System	
O&M Manual for Homeowner	
Basic start up, shut down, safety, operation, and maintenance instructions	
Estimation of system performance calculated using common estimator tools and databases such as PVSyst, PVSol, PVGIS or other equivalent, considering the actual location, orientation, pitch, location, and over shading conditions of the PV modules.	

Appendix 13: SEAI PV - Inspection, Test and Commissioning Report

Test Report for grid-connected photovoltaic systems- according to EN 62446, Annex A

Customer:

Customer Name:

Customer Address:

Customer Eircode:

Installation Contractor:

Company Name:

Representative:

Company Address:

PB System Description:

PV Module:

Manufacturer: _____

Module Type: _____

PV Module Performance: _____

Number of Modules: _____

Short Circuit Current I_{sc} [A]: _____

MPP Current [A]: _____

Open Circuit Voltage V_{oc} [V]: _____

MPP Voltage [V]: _____

PV Inverters:

Manufacturer: _____

Inverter Type: _____

AC Nominal Power [W]: _____

Inverter Quantity: _____

AC Maximum Power [W]: _____

DC Maximum Power [W]: _____

Test Date: _____

Test Reason:

Initial inspection:

Next Test Date: _____

Retesting:

Electrical Certs:

Safe Electric Cert Number: _____

Test Record Sheet Cert Number: _____

DC Test Results: RE: _____ Loop: _____ RCDx1: _____ RCDx5: _____

Design, construction, inspection, and testing

I/we, the responsible person[s] for the design, construction, inspection, and testing of the electrical system [as specified by the signature[s]], details of which are described above, have inspected, and tested the design and structure with suitable skill and care and confirm that the said words, for which I/we am/are responsible, were carried out to the best of our knowledge and expertise.

Test Result:

No defects were found: _____ Defects were found:

The Photovoltaic system complies with the standards of electrical engineering:

Signature/Tester: _____ Date:

Remarks:

Inspection test report - according to EN 62446, Annex B

Testing:

Test Date: _____ Signature/Tester:

Inspected circuits [fill out one sheet for large systems and for separate inspections per inspection]:

Design and installation of the PV generator

☐ The DC system was generally designed, selected, and set up in accordance with the requirements in DIN VDE 0100 [IEC 60364] and in particular in accordance with DIN VDE 0100-712 [IEC 60364-7-712]

☐ The DC components were measured for DC operation

☐ The DC components are rated for the maximum current and maximum voltage

☐ Protection is provided by application of class II or equivalent insulation on the DC side

☐ PV strand cables, PV generator cables and PV DC main cables have been selected and constructed so that the risk of earth faults and short circuits is reduced to a minimum [DIN VDE 0100-712 para. 522.8.1]

☐ The wiring system has been selected and constructed so that it can withstand expected external influences such as wind, ice temperature and solar radiation [DIN VDE 0100-712. 522.8.3]

☐ AC and DC cables are physically separated

☐ Systems without strand overcurrent protective device: Strand cables are designed so that they can take up the highest combined leakage current of parallel lines [DIN VDE 0100-712 para.433]

☐ Systems with strand overcurrent protective device: Overcurrent protective devices are set correctly according to local rules or according to the PV module manufacturer's instruction [DIN VDE 0100-712 para. 433.2]

☐ There are DC load break switches installed on the DC side of the inverter [DIN VDE 0100-712 para. 536.2.2]

PV System/overvoltage protection/electric shock

☐ The inverter has a simple separation between the AC side and the DC side

☐ Alternatively: A residual device is installed in the circuit and corresponds to a type B RCD [DIN VDE 0100-712 para. 413.1.1.1.2]

☐ The area of wiring loops was kept as small as possible [DIN VDE 0100-712, para. 54]

☐ If equipotential bonding conductors are installed, they run in parallel and in as close contact as possible to the PV DC cables

Special factors of PV system – AC circuit

☐ Devices for disconnecting the inverter are provided on the AC side

☐ Separating and switching devices are connected so that the PV installation is connected on the "load" side and the public supply on the "sources" side [DIN VDE 0100-712 par, 536.2.2.1]

☐ Protection settings of the inverter are programmed according to local regulations

Marking and labelling of the PV system

☐ All circuits, protection devices, switches and terminals have appropriate markings

☐ All DC connection boxes [PV sub-generator connection box and PV generator connection box] bear a warning that the active parts present in the connection box are supplied by a PV generator and may still be live after the shutdown of PV inverters and public supply

☐ The AC main switch has a clear inscription

☐ Warnings are present for the double supply at the point of interconnection

☐ The protection settings of the inverter and details of the installation are provided on site

☐ The procedures for emergency shutdown are provided on site

☐ All signs and markings are suitable and permanently attached.

General [mechanical] installation of the PV system

- ☐ Ventilation is provided behind the PV generator to prevent overheating/reduce the fire risk
- ☐ The frame and materials are properly attached and stable; the roof fasteners are weather resistant
- ☐ The cable routing is weather-resistant

Notes:

Test Report for grid-connected photovoltaic systems

according to EN 62446, Annex C

Test

String		1	2	3
PV generator	Module			
	Quantity			
PV generator parameters	Voc [STC]			
	Isc [STC]			
Protection device [branch fuse]	Type			
	Rated Value [A]			
	DC rating [A]			
	Capacity [kA]			
Wiring	Type			
	Phase conductor [mm ²]			
	Earth conductor [mm ²]			
Testing and Measurement of the strand	Voc [V]			
	Isc [A]			
	Irradiance			
Polarity monitoring				
Array Insulation Resistance	Test Voltage [V]			
	Pos – Earth [MΩ]			
	Neg – Earth [M Ω]			
Earth continuity [where fitted]				
Switchgear functioning correctly				
Inverter Make/Mode				
Inverter Serial Number				
Inverter functioning correctly				
Loss of mains test				

Notes:

Appendix 14: Periodic Inspection Report Sample

Date _____ **Periodic Inspection Report for an Electrical Installation** PR No: _____

REGISTERED CONTRACTOR DETAILS:
 Name _____
 Address _____
 Reg No. _____ Installation Approx Age _____

SAFE ELECTRIC

INSTALLATION DETAILS:
 Occupant Name/Trading as _____
 Address _____
 Occupant in Attendance? Yes No

PLEASE CIRCLE ANSWERS OR TICK BOXES AS APPROPRIATE

Installation Category? Domestic ☐ Commercial ☐ Industrial ☐ Other (specify) _____
 Reason for inspection? Insurance inspection ☐ Safety Audit ☐ If Other (specify) _____
 Extent of installation covered by this report? Entire installation* ☐ YES ☐ NO (see partial inspection details below)
 * N.B. Cables concealed within trunks and conduits within the scope of the building or underground have not been inspected unless stated otherwise.
 If partial inspection: Specify what part the report refers to: _____

TYPE OF SYSTEM EARTHING: TNCS, TT, TNS, IT
 Installation voltage Single Phase ☐ Three Phase ☐ L 1 ☐ L 2 ☐ L 3 ☐ L 1-L2 ☐ L2-L3 ☐ L 3-L1 ☐

Max prospective S/C current _____ A Main isolation** and overcurrent device type? NONE ☐ SWITCH FUSE ☐ MCB ☐ MCCB ☐
 Nominal rating _____ A ** If a main RCD is used as a main isolating device the following details are required. Rated current I_n _____ A
 Tripping current I_{Δn} _____ mA
 PAGE 1 of 2

SAFE ELECTRIC **Periodic Inspection Report for an Electrical Installation** PR No: _____

N.B. Any Questions answered "no" must be referred to in the comment section of this report. ALL QUESTIONS MUST BE ANSWERED
 PLEASE TICK BOX AS APPROPRIATE

1. Have all electrical outlets / accessories been inspected? Yes ☐ No ☐
 2. Are all outlets / accessories undamaged? Yes ☐ No ☐
 3. Are all live parts covered? Yes ☐ No ☐
EARTHING/BONDING DETAILS
 4. If TNCS is main protective conductor connected? Yes ☐ No ☐ N/A ☐
 5. If present is it the correct size? Yes ☐ No ☐ N/A ☐
 6. Earth Electrode Inspection Chamber? Yes ☐ No ☐
 7. If yes... is earth electrode visible? Yes ☐ No ☐
 8. If yes... is protective tape used? Yes ☐ No ☐
 9. If visible is the earthing conductor the correct size? Yes ☐ No ☐
 10. Is all main equipotential bonding correct? Yes ☐ No ☐ N/A ☐
 11. All supplementary bonding correct & connections verified? Yes ☐ No ☐ N/A ☐
 12. Protective Earthing sleeved where appropriate? Yes ☐ No ☐ N/A ☐
 13. Polarity earthing of all switches/outlets correct? Yes ☐ No ☐
 14. All metallic switches / outlets earthed? Yes ☐ No ☐

DISTRIBUTION BOARD/S
 15. Labelled correctly? Yes ☐ No ☐
 16. Located correctly? Yes ☐ No ☐
 17. Sub circuit isolation & overcurrent device type? Fuse ☐ MCB ☐
 18. Are all devices correctly rated for S/C & O/L? Yes ☐ No ☐
 19. Circuit sequence correct for F, N, +E? Yes ☐ No ☐
 20. RCD's

Circuit description	Tripping current	Longest tripping time
Sockets	30 mA	ms
Electric Shower	30 mA	ms

PAGE 2 of 2

Figure 47: Periodic Inspection report sample (pp1-2)

SAFE ELECTRIC Periodic Inspection Report for an Electrical Installation PR No: _____

GENERAL

21. Correct cable colours used at the time of installation? Yes ☐ No ☐

22. Are cables in good condition? Yes ☐ No ☐

23. Cables correctly selected? Yes ☐ No ☐

24. Correct routing of cables in attic area? Yes ☐ No ☐ N/A ☐

25. Cables correctly installed where visible? Yes ☐ No ☐

26. All excessive heating effects from luminaires avoided? Yes ☐ No ☐

27. Correctly selected accessories & switches? Yes ☐ No ☐

28. Are they in a good condition? Yes ☐ No ☐

29. Are they correctly located? Yes ☐ No ☐

30. Are they suitable for their environment? Yes ☐ No ☐

QUALITY OF WORKMANSHIP:

Very Good ☐

Satisfactory ☐

Poor ☐

SUMMARY TEST DATA

Min Insulation Resistance _____ MΩ

Max Resistance of protective conductor _____ Ω

Max fault loop impedance _____ Ω and type and size of associated protective device

Type _____ Size _____

TEST INSTRUMENT SERIAL NUMBERS :

Continuity Tester _____

Insulation Resistance Tester _____

Loop Impedance Tester _____

RCD Tester _____

DECLARATION

I/We the undersigned are responsible for the inspection and testing of the electrical installation described on page 1. of this report. I/We confirm to the best of my /our knowledge that tests and observations made on pages 1, 2, 3, 4, & _____ represent an accurate assessment within the limits specified, of the condition of the electrical installation.

Inspected and tested by (Signed) _____

(BLOCK CAPITALS) _____

This report is issued on behalf of the person responsible for the inspection of the installation concerned. The report should be used only for the specific and stated circumstances. The IEE is Safe Electric is not responsible for the electrical installation or for the accuracy of the information given on the report.

PAGE 3 of

SAFE ELECTRIC Periodic Inspection Report for an Electrical Installation PR No: _____

OBSERVATIONS AND RECOMMENDATIONS (tick boxes as appropriate)

(Note subject to the limitations specified on Page 1 of this report)

☐ NO REMEDIAL WORK IS REQUIRED ☐ THE FOLLOWING OBSERVATIONS ARE MADE

REF NO.	COMMENTS (USE NUMBERED CONTINUATION SHEETS IF NECESSARY)	Recommendations As detailed below ●

● One of the following numbers, as appropriate, is allocated to each of the observations made above to indicate to the person(s) responsible for the installation the action recommended.

(1) REQUIRES URGENT ATTENTION (2) REQUIRES IMPROVEMENTS (3) REQUIRES SOME ATTENTION (4) DOES NOT COMPLY WITH CURRENT NATIONAL RULES FOR ELECTRICAL INSTALLATIONS*

*THIS DOES NOT NECESSARILY IMPLY THAT THE ELECTRICAL INSTALLATION INSPECTED IS UNSAFE.

On the basis that all observations requiring "urgent attention" have been completed without delay, I/We recommend that this electrical installation is further inspected and tested after an interval of not more than months / years. (N.B. Future national requirements may modify the specified time interval in question)

Signed _____ Certifier No. _____ Date _____

(BLOCK CAPITALS)

PAGE 4 of

Figure 48: Periodic Inspection report sample (PP 3-4)

Appendix 15: Lead in Pipe from ESB

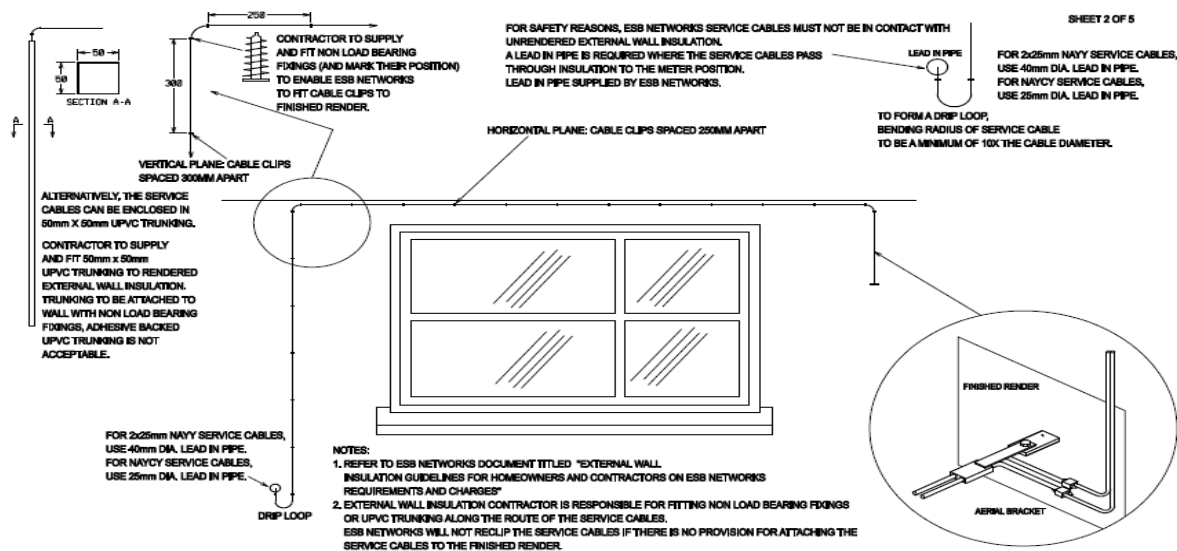


Figure 49: External wall Insulation fixing of service cable to finished render detail

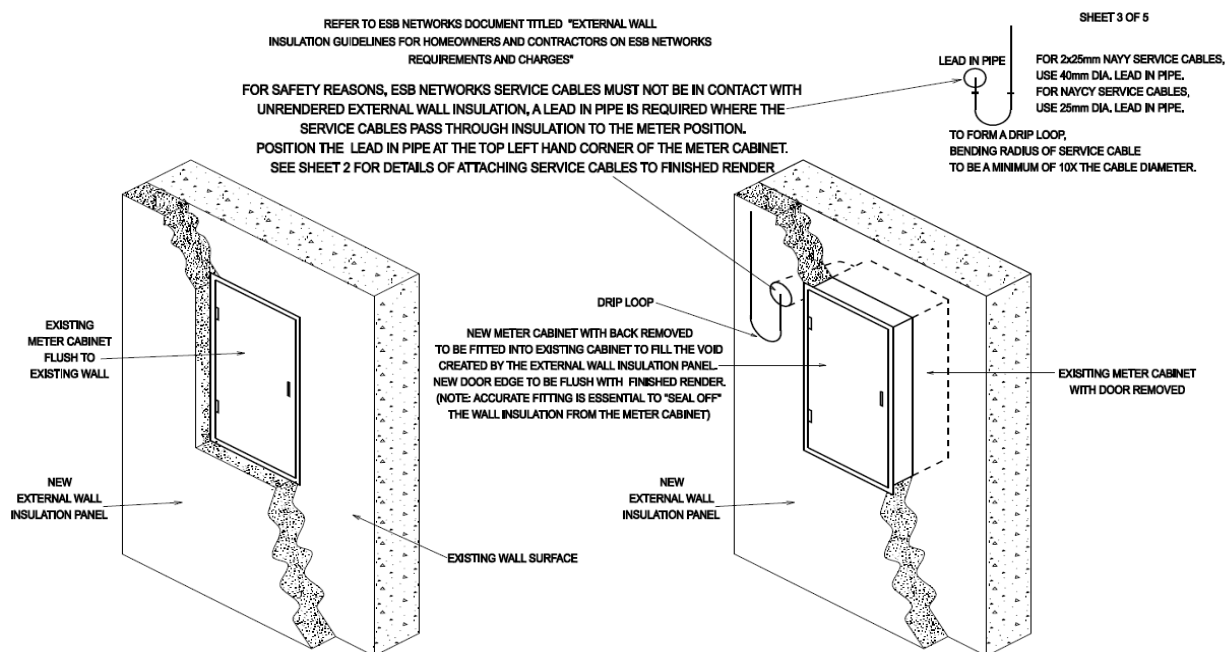


Figure 50: External wall Insulation fixing of service cable to extension of existing meter cabinet detail

Appendix 16: Contractor Communication Log

The Contractor must confirm that all the below documentation is complete and uploaded to the portal and has been provided to the homeowner.

Table 28 :Contractor Communication Log

[illegible]