



Specification Document

For

Development at: 3No Apartments, Social Housing, Munster

Avenue

Co Galway

Ref No: 23635 Rev 2

Completed by: BERcerts.ie

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Date: 28th Feb 2024

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Date: 20th Nov 2024

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The following system was used to calculate the u-value:

U-value calculation

by BRE U-value Calculator version 2.02

Note: any deviation from the above may not demonstrate compliance with the Part L 2022.

SPECIFICATION

Property Details

Year of construction:	2024
Building Regulations	Part L 2022
Structure Type:	Masonry
Draught Lobby (>2m2, within building line)	No
Ground Floor Type	Concrete
First Floor Type	Concrete
No of Storeys	1 per apartment
Percentage of LED/CFL Lighting	100%

Dwelling House Electric Vehicle Recharging Infrastructure

Adequate provision to enable the installation of an electric vehicle recharging point should include appropriate electric vehicle recharging infrastructure to the car parking space. The infrastructure should be installed in accordance with I.S. 10101:2020.

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Heating & Controls

Primary Space Heating System

Make and Model of Heat Pump	Kronotherm Versi-0
Heat emitter type Ground Floor	underfloor heating
Weather Compensation:	Yes

*Heat pumps: Eco design directive 811/2013 must be referenced on each document including ERP labels, eco design data, Hot water test report etc.

** Heat Pump supplier must produce certified data from an accredited test centre stating that the Heat pump can raise the Temperature of the Domestic Hot Water to 60 degrees or more without the assistance of an immersion (immersion either integrated into the heat pump unit or on an indirect HW Cylinder). The European Standard of testing must also be stated on the Document along with the testing body.

SR50- will need to be supplied when Heat Pump is installed, this is to be completed by the Heat pump supplier/installer

NOTE: If combined radiators and Underfloor is installed – Sr50 stating 45° flow must be provided

If rads only is used - 45° flow must be provided on the Sr50

Please speak to your Heat pump supplier/installer

Note: any deviation from the above may not demonstrate compliance with the Part L 2022.

Primary Space Heating Controls

No of Space Heating Zones (Each Zone must include room stat & motorised valve / pump & programmer). Includes boiler interlock.	Min: 3 Zones over 300m ² Min: 2 Zones (up to 300m ²): 1 zones for day time areas 1 zone for night time areas
Efficiency of system pumps	A-rated and less than 40w.
Quantity of pumps: If there are more than 2 pumps then the dwelling may not comply.	No more than 2

Hot Water & Controls

Hot Water heated by	Main heating system
Hot Water Cylinder Details	
Cylinder Make and Model	Kronotherm Hydro C
Cylinder size (L)	TBC

*Hot water cylinder: must be provided with an ERP label with eco design directive 811/2013 referenced on the document, to conform to SEAI requirements

Hot Water Controls Details	
Hot water zone: (must include cylinder stat & motorised valve / pump & programmer)	HW Zone: Yes
All pipework from boiler to hot water cylinder insulated with high performance pipe insulation. A material having a thermal conductivity at 40oC of 0.035 W/mK and a thickness equal to the outside diameter of the pipe, for pipes up to 40 mm diameter, and a thickness of 40 mm for larger pipes.	Primary pipework insulated Min 0.035 thermal conductivity YES
All pipework from hot water cylinder to hot water taps insulated with high performance pipe insulation.	Min 0.035 thermal conductivity YES

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Air Pressure Test Target

The test must achieve this figure or less

This value may not be achieved where down lighters are fitted.

If down lighters are to be fitted then an air tight box must be used e.g. Optime Airtight Downlight Housing.

3.0
m³/m²/hr
@ 50Pa

See Air Test Report

Ventilation

Natural Ventilation:

No of intermittent fan e.g. Kitchen	1
No of open fires	None
No of Open Flues (i.e. Stoves)	None
No of flue less gas fires	None

NOTE: External ventilation ducting (unheated roof space) to be insulated to limit risk of condensation

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Centralized Mechanical Extract Ventilation, CMEV

Type	Index number	Status
Centralised MEV and MVHR systems	500576	Normal
Brand	Model name	Model qualifier
Domus Ventilation	CMX-MULTI	

System type	centralised mechanical extract ventilation
Duct type	rigid
Minimum duct size	125 mm diameter or 204 x 60 rectangular or larger
Original manufacturer name	Polypipe Ltd
Current manufacturer name	Polypipe Ltd
Manufacturer address	New Edlington Broomhouse Lane Broomhouse Lane Doncaster DN12 1ES
Manufacturer phone	01709 770000
Manufacturer website	www.polypipe.com
First year of manufacture	2018
Final year of manufacture	current
Summer bypass	
Integrated to exhaust air heat pump	No
Entry updated	24/10/2018 07:36

K+n wet rooms	SFP (W//l/s) [2009]	Efficiency (%) [2009]	SFP (W//l/s) [2012]	Efficiency (%) [2012]	SFP (W//l/s) [10]	Efficiency (%) [10]
n = 1	0.14	-	0.14	-	0.14	-
n = 2	0.16	-	0.16	-	0.16	-
n = 3	0.20	-	0.20	-	0.20	-
n = 4	0.25	-	0.25	-	0.25	-
n = 5	0.31	-	0.31	-	0.31	-
n = 6	0.37	-	0.37	-	0.37	-

NOTE: Ventilation validation test must be provided by an NSAI registered tester. We at BERcerts.ie provide this service.

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Building Elements

Acceptable Construction Details

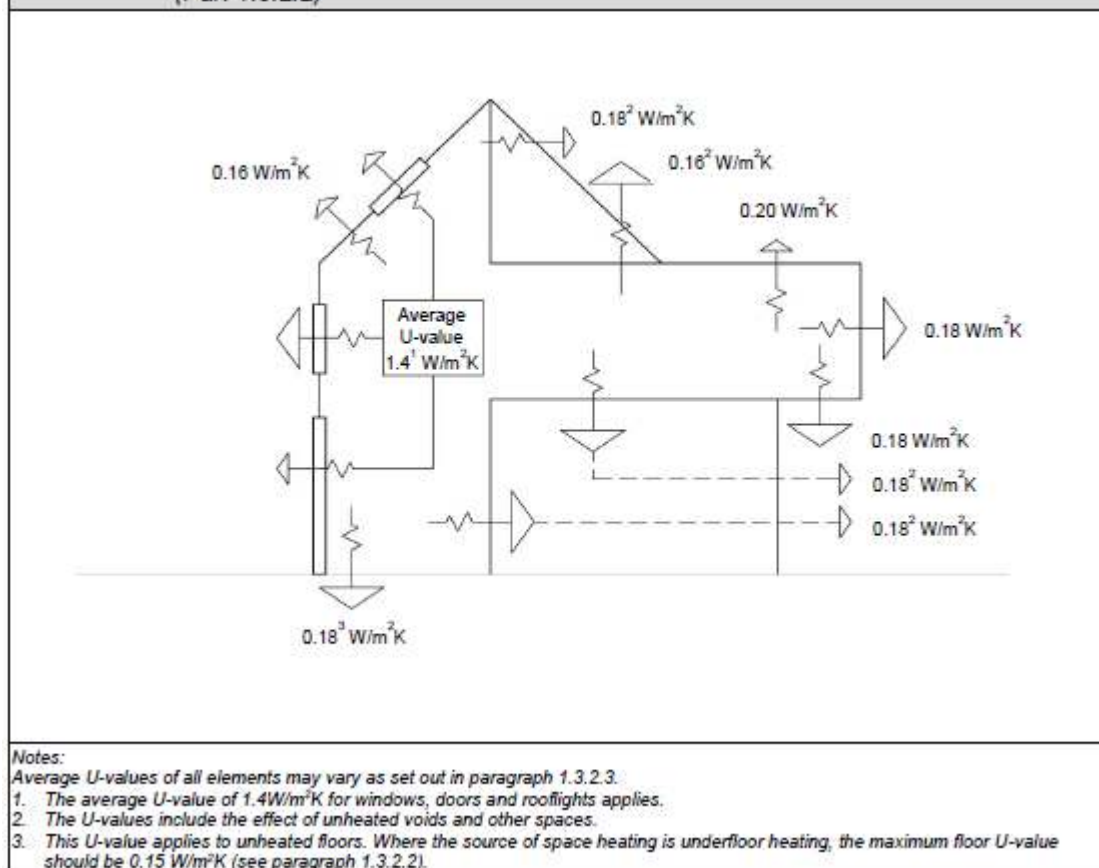
Acceptable Construction Details must be adhered to at all times. Please refer to the 2021 edition of the document “Limiting Thermal Bridging and Air Infiltration – Acceptable Construction Details”.

The guide is presented in 2 sections. Section 1 discusses the general theory of insulation continuity and airtightness in construction. Section 2, in seven separate parts, provides indicative detail drawings of thermal insulation and airtightness provisions for specific construction interfaces.

The relevant Accredited Construction Details (ACDs) will need to be signed off by the site foreman/builder, supervising engineer or architect prior to publication by the BER assessor.

Building Fabric

Diagram 1 Average Area Weighted Elemental U-values
(Par. 1.3.2.2)



Note: any deviation from the above may not demonstrate compliance with the Part L 2022.

Thermal Mass of building

Ground Floor: Concrete

Upper floors: Concrete

External walls: no insulation internally

Separating walls: none

Internal walls GF: Internal walls are constructed of metal frame stud walls

Internal walls FF: Internal walls are constructed of metal frame stud walls

Party Walls / Separating Walls

Ensure there is no thermal bridge to the front walls or neighbouring walls.

Additional insulation will be required on separating walls where the adjoining house is off set and does not line up with adjoining wall.

Thermal Bridging factor

The Thermal Bridging factor must achieve

Where Acceptable Construction Details for sections 1 to 6 in the 2021 edition of the document “Limiting Thermal Bridging and Air Infiltration – Acceptable Construction Details” are used for all key junctions the value of (y) can be taken as 0.08. See p 62 BR 2011

The relevant Accredited Construction Details (ACDs) will need to be signed off by the site foreman/builder, supervising engineer or architect.

AND

The relevant **Enhanced Construction Details** (ECDs) will need to be signed off by the site foreman/builder, supervising engineer or architect.

Drawings with ECD & ACDs junctions labelled must be provided along with a legend for each junction type.

**0.08
or less**

Note: any deviation from the above may not demonstrate compliance with the Part L 2022.

Floor – Concrete floors ACD 1.02a

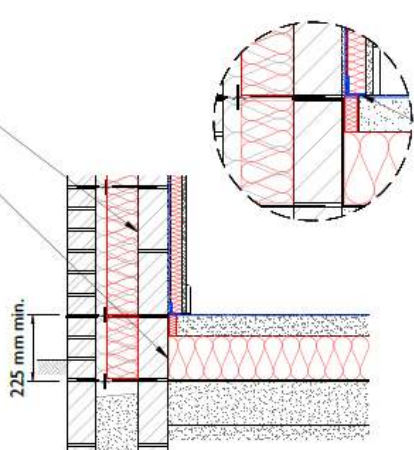
Calculated u-value 0.15 W/m²K

120 mm Unilin Thin-R insulation IAB Cert No. 03/0183 (Thermal Conductivity 0.022W/mk) has been placed in the floor.

A minimum of **60 mm** screed has been applied over the above. See Engineers spec for details.

Edge insulation - for ACD 1.02a

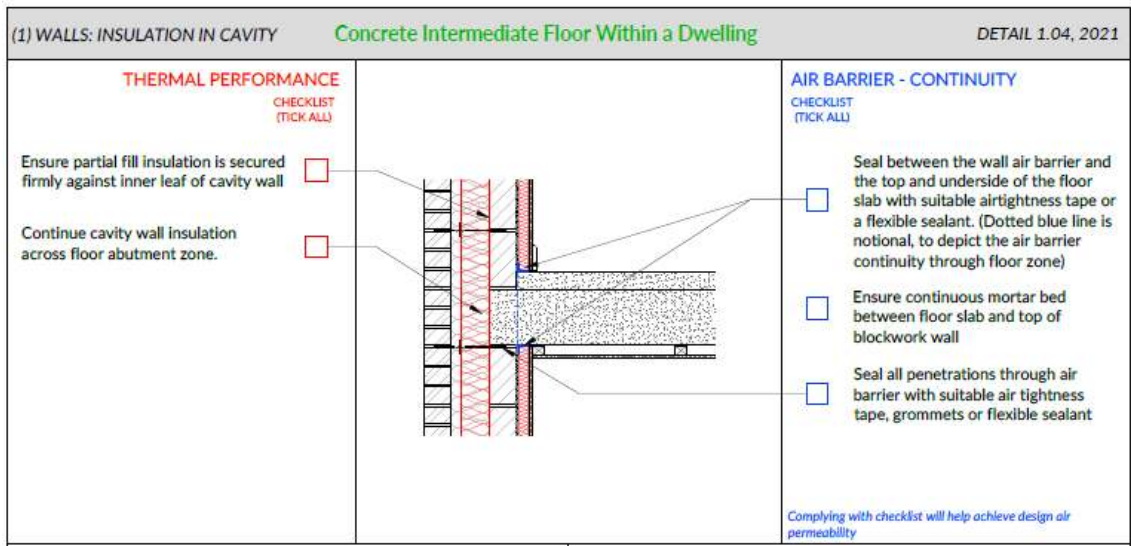
25mm Unilin Thin-R insulation IAB 03/0183 edging provided around the concrete floor throughout including separating walls and all internal rising walls.

(1) WALLS: INSULATION IN CAVITY	Ground Floor - Insulation Above Slab	DETAIL 1.01a, 2021
THERMAL PERFORMANCE CHECKLIST (TICK ALL) Ensure partial fill insulation is secured firmly against inner leaf of cavity wall ☐ Floor insulation to tightly abut blockwork wall ☐ Ensure wall insulation is installed at least 225 mm below top of floor ☐		AIR BARRIER - CONTINUITY CHECKLIST (TICK ALL) ☐ Seal between wall and floor air barriers with suitable air tightness tape or a flexible sealant ☐ Seal all penetrations through air barrier with suitable air tightness tape, grommets or flexible sealant <i>Complying with checklist will help achieve design air permeability</i>

Note: any deviation from the above may not demonstrate compliance with the Part L 2022.

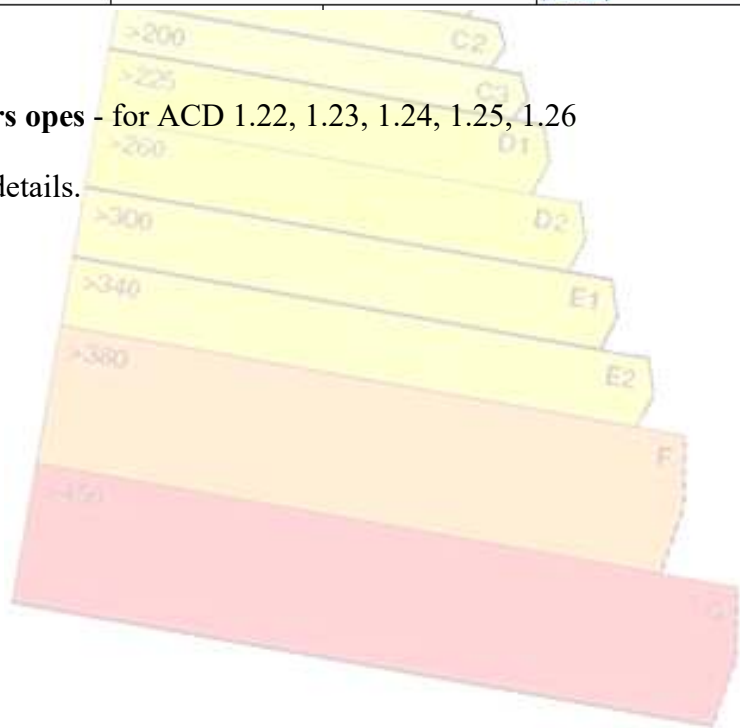
Floor – Intermediate concrete floors ACD 1.04

Ensure an air tight membrane is placed around the concrete floor such that it will create an air tight barrier when taped back to the top of the ground floor wall and the base of the first floor walls. See blue line on drawing below.



Window and doors opes - for ACD 1.22, 1.23, 1.24, 1.25, 1.26

Refer to ACD for details.



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Walls Block - Cavity – Block ACD 1.01a, 1.01b, 1.04a, 1.07,

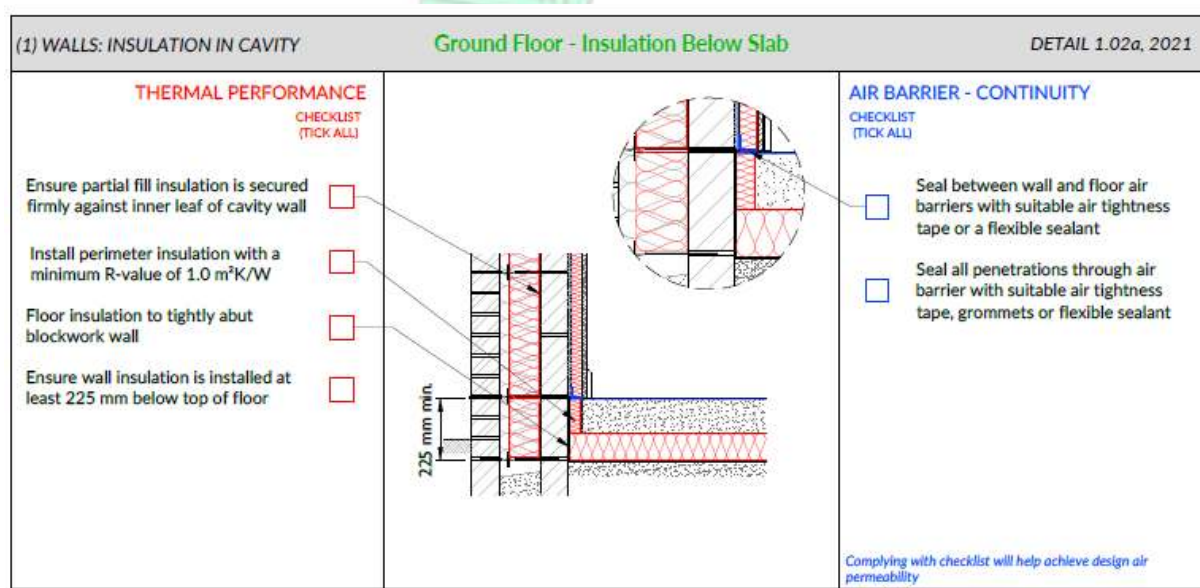
Calculated u-value 0.18 **W/m²K**

Rendered externally, 100 mm block with

100 mm Unilin Thin-R Partial Fill Cavity Board insulation IAB 03/0183 with **10mm** cavity remaining with R-Value 0.665 **m²K/W**

100mm block.

NOTE: Sand and cement applied internally for air tightness.



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Roof - Standard ceilings ACD 1.10, 1.12, 1.15

Calculated u-value 0.11 W/m²K

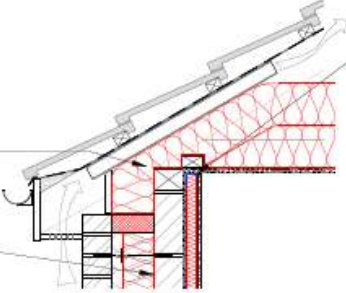
150 mm of Moy fibre glass insulation over joists.

150 mm of Moy fibre glass insulation between joists

NOTE: Plus air tight breathable membrane barrier to create an air tight seal under joists.

Plus plasterboard and plastered internally.

Please Note: All attic hatches or Stira Attic Stairs must be insulated & Draught Sealed.

(1) WALLS: INSULATION IN CAVITY		Eaves - Ventilated Attic	DETAIL 1.10, 2021
THERMAL PERFORMANCE CHECKLIST (TICK ALL)		AIR BARRIER - CONTINUITY CHECKLIST (TICK ALL)	
Ensure continuity of insulation throughout junction ☐		Fix ceiling first and seal between ceiling and masonry wall air barriers with plaster, suitable airtightness tape or flexible sealant ☐	
Ensure full depth of insulation between and over joists abuts eaves insulation ☐		Seal all penetrations through air barrier with suitable air tightness tape, grommets or flexible sealant ☐	
Ensure gap between wall plate and proprietary eaves vent is completely filled with insulation having a minimum R-value across the insulation thickness of 3.00 m²K/W ☐		Bed wall plate on continuous mortar bed ☐	
Ensure partial fill insulation is secured firmly against inner leaf of cavity wall. ☐			
Note: Detail is indicative for thermal purposes. Where continuity of insulation is maintained throughout the junction, alternative structural design may be used.		Complying with checklist will help achieve design air permeability	

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Windows & Doors

Windows:

Rational AURAPLUS

Windows with u-value of 1.4 W/m²K or less

Window Solar Factor G perpendicular (glass only) 0.5 - TBC

See spec for full details. *

BFRC or WEP Certs to be supplied and approved prior to purchase.

Doors:

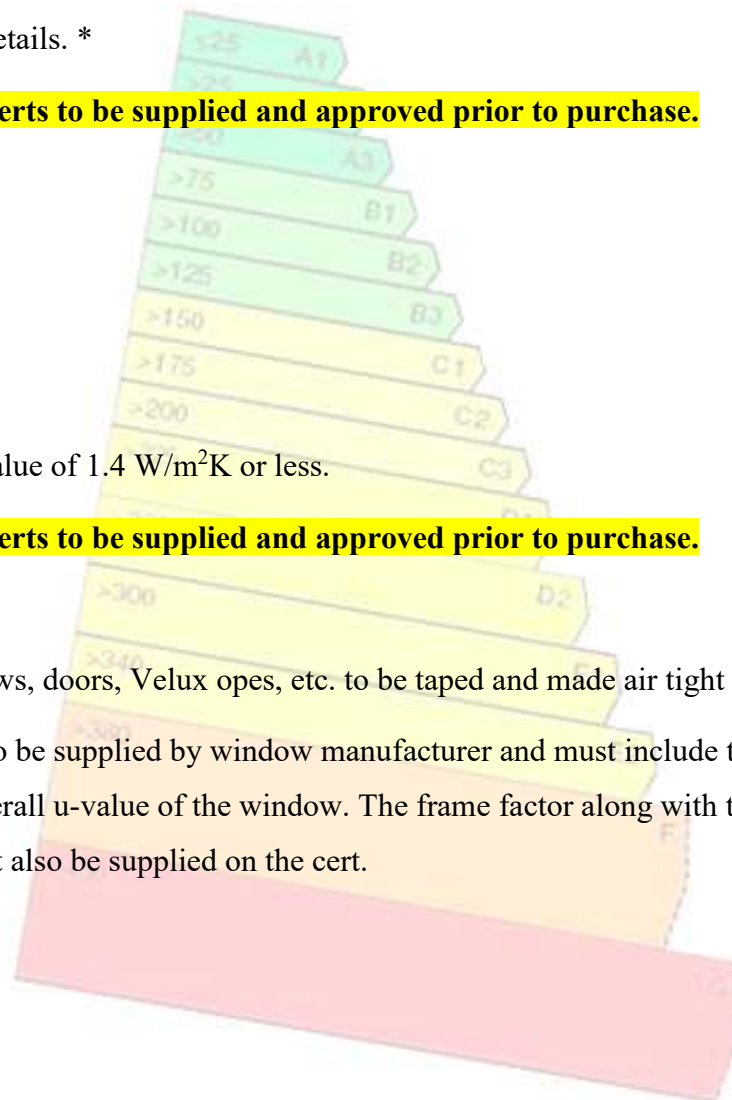
Rational

Supplied with u-value of 1.4 W/m²K or less.

BFRC or WEP Certs to be supplied and approved prior to purchase.

NOTE: All windows, doors, Velux opes, etc. to be taped and made air tight using air tight tapes.

*Specification is to be supplied by window manufacturer and must include the independent test cert stating the overall u-value of the window. The frame factor along with the solar transmittance must also be supplied on the cert.



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Compliance and sign off

I confirm that the specification as laid out in this document has been followed and the building elements have been constructed as stated.

The dwellings have been built to comply with the Conservation of Fuel and Energy standards according to the Building Regulations Technical Guidance Document Part L 2022 & all relevant details from Acceptable Construction details 2021.

House address:

The thermal bridging factor of $y = 0.08 \text{ W/m}^2\text{K}$ applies for this development:

The Acceptable Construction Detail drawings have been adhered to for the above dwelling in order to achieve the above thermal bridging factor:

Signed:

Company:

Date:

Position

Company Stamp

Registered Assigned Certifier
Registered Site Engineer
Registered Site Architect
Full address
Contact

Note:

Following the above specification will yield compliance to the building regulations.

However, any deviation from the specification may result in non-compliance.

The Assigned Certifier or site engineer or site architect must sign the above document and return via email or post.

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Result: A3

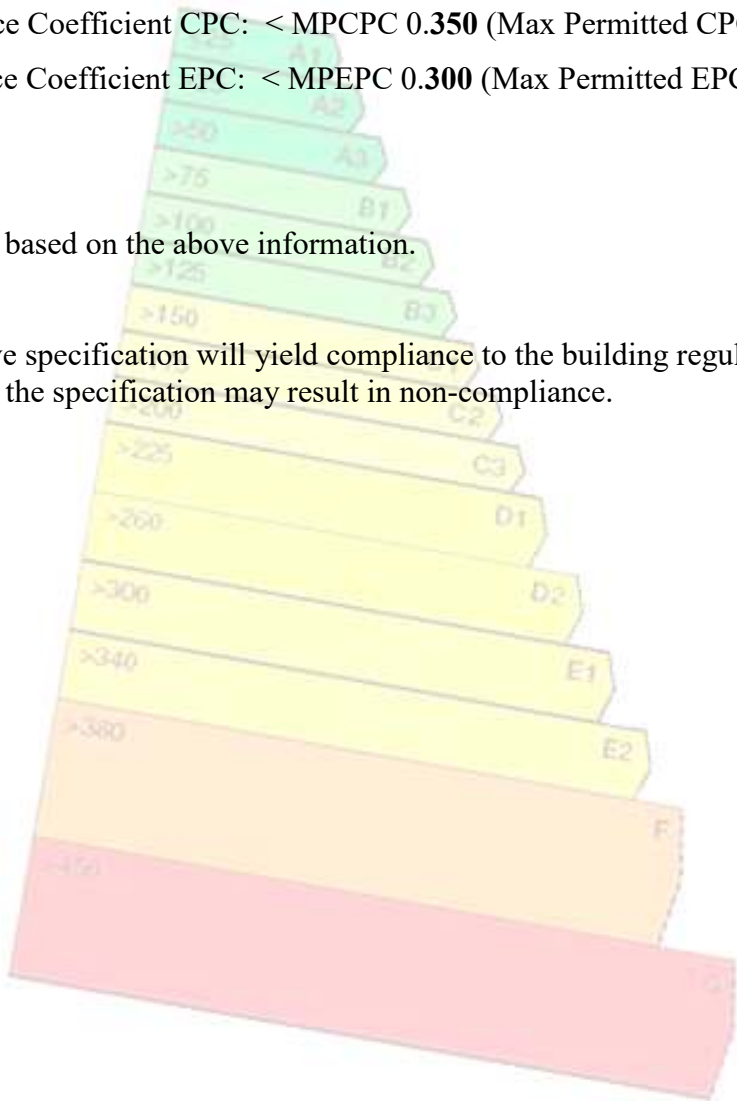
Building Energy Rating: A3
Energy Value: < 75 kWh/m2/year
Co2 Emissions Indicator: < 15 kgCo2/m2/year

Part L 2022 – nZEB

Carbon Performance Coefficient CPC: < MPCPC 0.350 (Max Permitted CPC)
Energy Performance Coefficient EPC: < MPEPC 0.300 (Max Permitted EPC)

Building Complies based on the above information.

Following the above specification will yield compliance to the building regulations. However, any deviation from the specification may result in non-compliance.



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Appendix

Sign off List

MPRN:	
Eircode:	
Specification Document to be signed and dated with full company name and address.	
ACDs - Acceptable Construction Detail each sheet to be ticked and signed and dated	
Drawings to be labelled showing ACDs junctions with legend - signed and dated by the site engineer or architect	
Heat pump Designer-Installer-Sign-Off-Form filled out in full and signed, including heating design page ie SR50	
Eco design data and labels for heat pump installed.	
Heat Pump commissioning Certs	
Ventilation system - MVHR / DCV / MCEV commissioning cert	
Ventilation system - Letter on headed paper from the company stating make and model of ventilation unit fitted specifying the address where fitted and dated	
Ventilation system - Letter on headed paper from the company stating rigid ducting was installed throughout and all external ducting has been insulated specifying the address where fitted and dated	
Flow restrictor – provide sign off stating it has been installed and also data sheet and cert	

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Sign off List Continued

Windows and doors - Letter on headed paper from the window company stating make and model of windows and doors fitted specifying the address where fitted and date	
Windows –BFRC or WEP Certificates	
Doors - BFRC or WEP Certificates	
Photovoltaic, PV panels – provide sign off stating it has been installed specifying the address where fitted and date and also data sheet and commissioning cert	

NOTE: All aspects of the above list to be signed off and provided to the BER assessor prior to publication of the final BER certificate.

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