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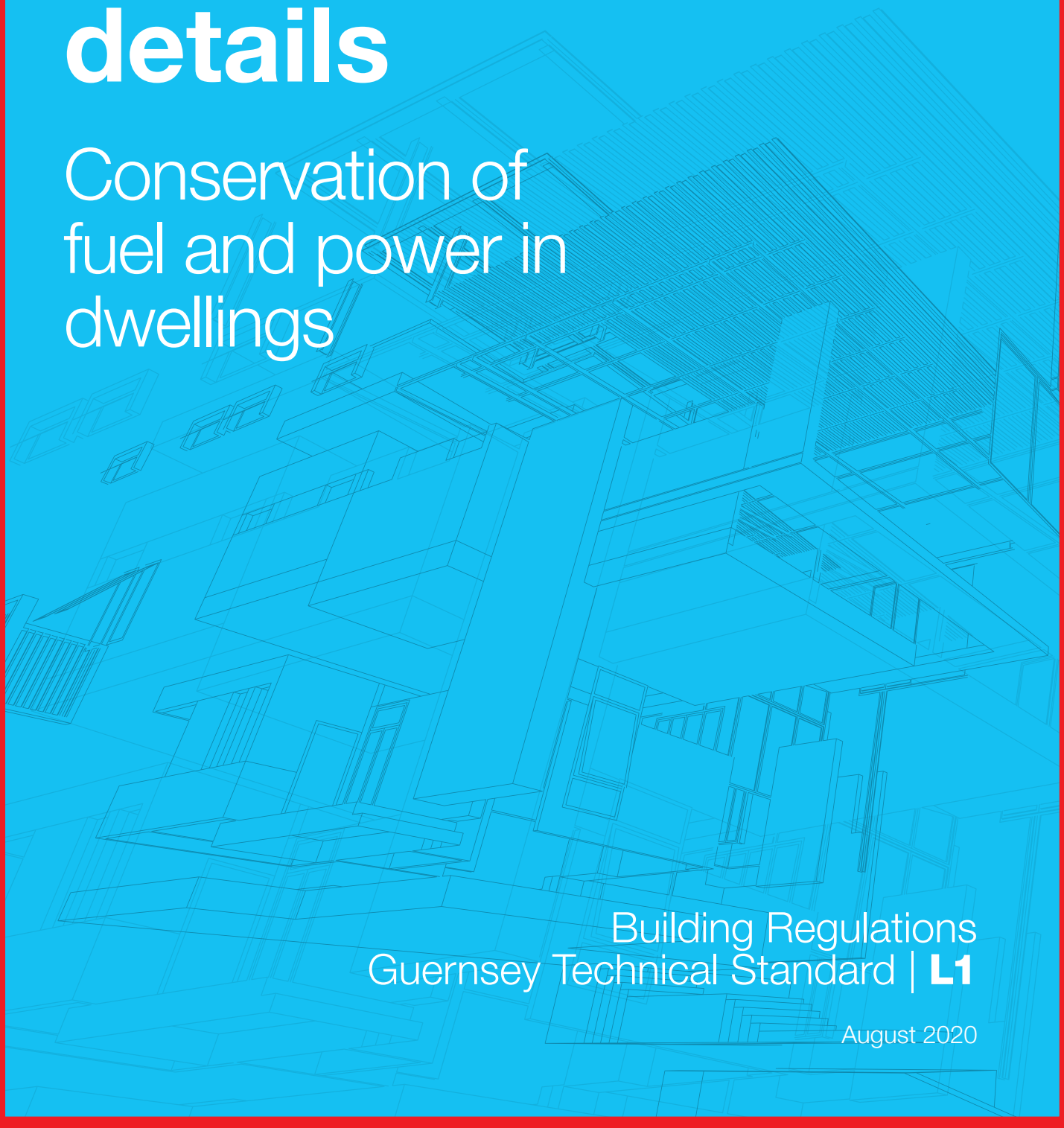
Norman Piette

Guernsey approved details

Conservation of fuel and power in dwellings



Building Regulations
Guernsey Technical Standard | **L1**

August 2020

CONTENTS

This set of 'Guernsey Approved Details' has been produced to enable simple and straightforward guidance to satisfy the current requirements of the Guernsey Technical Standards L1 and L2 2020 revisions.

The U-values and construction details shown, have been verified by the States of Guernsey Building Control, as complying with the requirements of the Regulation, subject to the total area of glazing, including roof lights, not exceeding 25% of the total floor area.

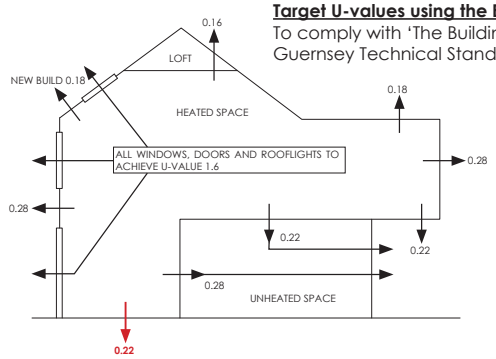
NB. Where the total area of glazing, including roof lights, exceeds 25% of the total floor area, separate calculations are required.

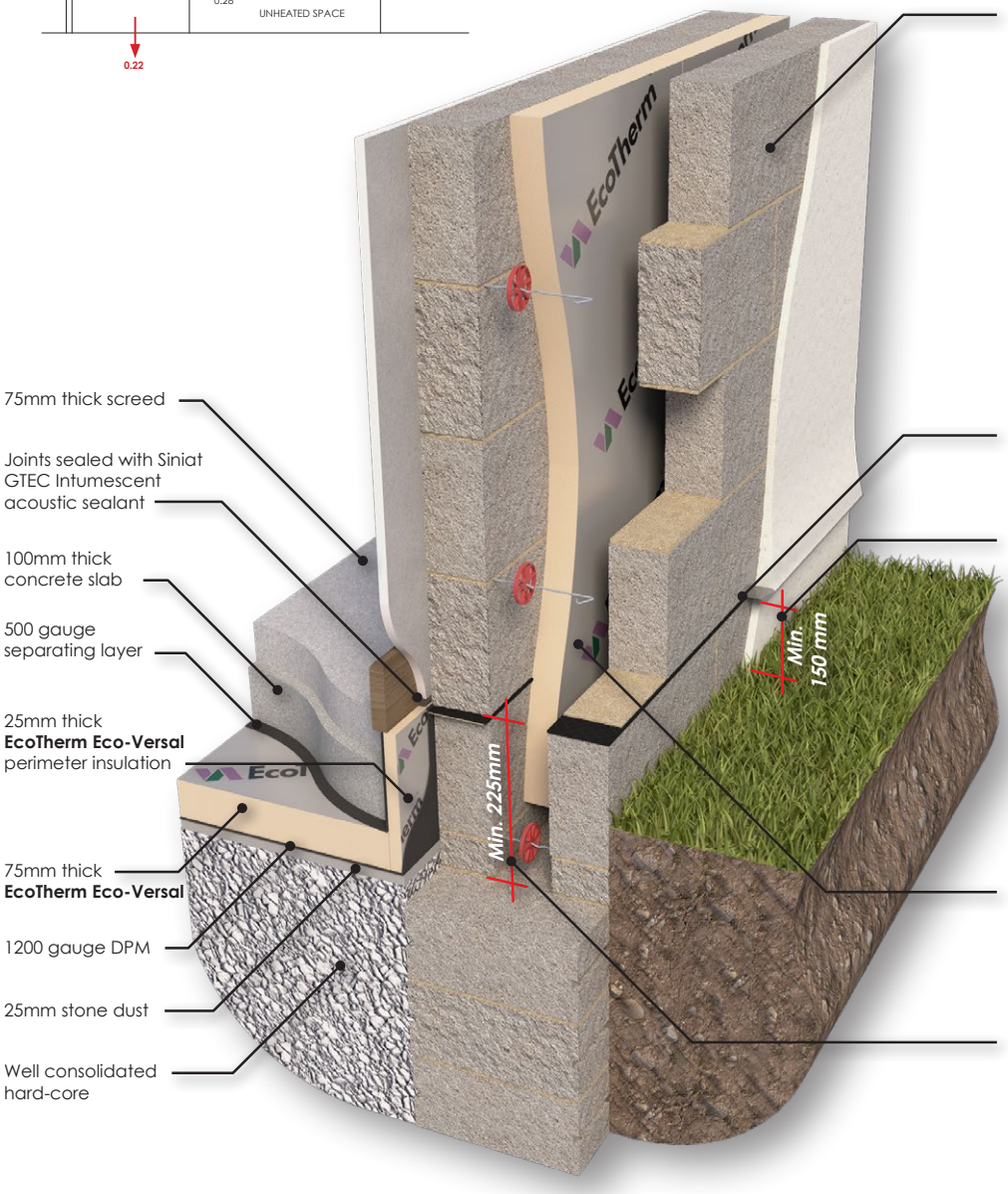
As Guernsey's leading Builders Merchant, Norman Piette is proud to be part of the Guernsey construction industry, supplying high quality materials at competitive prices. We are confident that this document will become a standard reference of work for architects, surveyors, builders and all involved in the design and construction of dwellings in Guernsey.

For further information about this document or any of the products included within it, please contact the Norman Piette Sales Team on 01481 245801 or email sales@norman-piette.com.

Target U-values using the Elemental Method

To comply with 'The Building (Guernsey) Regulations, 2012' (2012 edition including upto May 2020 amendment). Guernsey Technical Standard (GTS) L1: Conservation of fuel and power - Dwellings





300mm blockwork cavity wall construction, with 60mm **Ecotherm Eco-Cavity** insulation installed, achieving an overall U-value of **0.28 W/m²k**

Refer to; **Exterior Partial Fill Cavity Wall** detail: **WB/1**

75mm thick screed

Joints sealed with Siniat GTEC Intumescent acoustic sealant

100mm thick concrete slab

500 gauge separating layer

25mm thick **EcoTherm Eco-Versal** perimeter insulation

75mm thick **EcoTherm Eco-Versal**

1200 gauge DPM

25mm stone dust

Well consolidated hard-core

Ruberoid Hyload DPC with stainless steel rendered belldrip

Ensure ground level is a minimum of 150mm below DPC level

Ensure insulation is continued a minimum of 150mm below top of perimeter insulation and support on row of wall ties

Minimum of 225mm deep void from DPC to accommodate mortar droppings during wall construction

Foundation design and final depth to suit ground conditions and to Building Control approval.

NOTE
All products are to be installed inline with manufacturers written instructions.

Compliance
When used with 100mm thick concrete slab and 75mm deep sand & cement screed, 75mm **Ecotherm Eco-Versal** improves upon the minimum U-value of **0.22 W/m²k** at a P/A ratio of between 0.1 and 1.0.
To calculate the P/A (Perimeter area ratio), the calculation is '*Perimeter ÷ Area = P/A*'
A detailed U-value calculation and condensation risk analysis should be carried out for each individual project.

Concrete Ground Floor

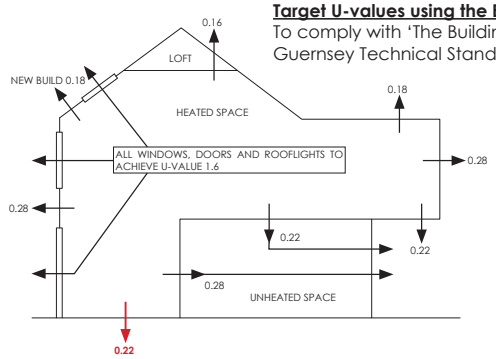
Insulation under Slab

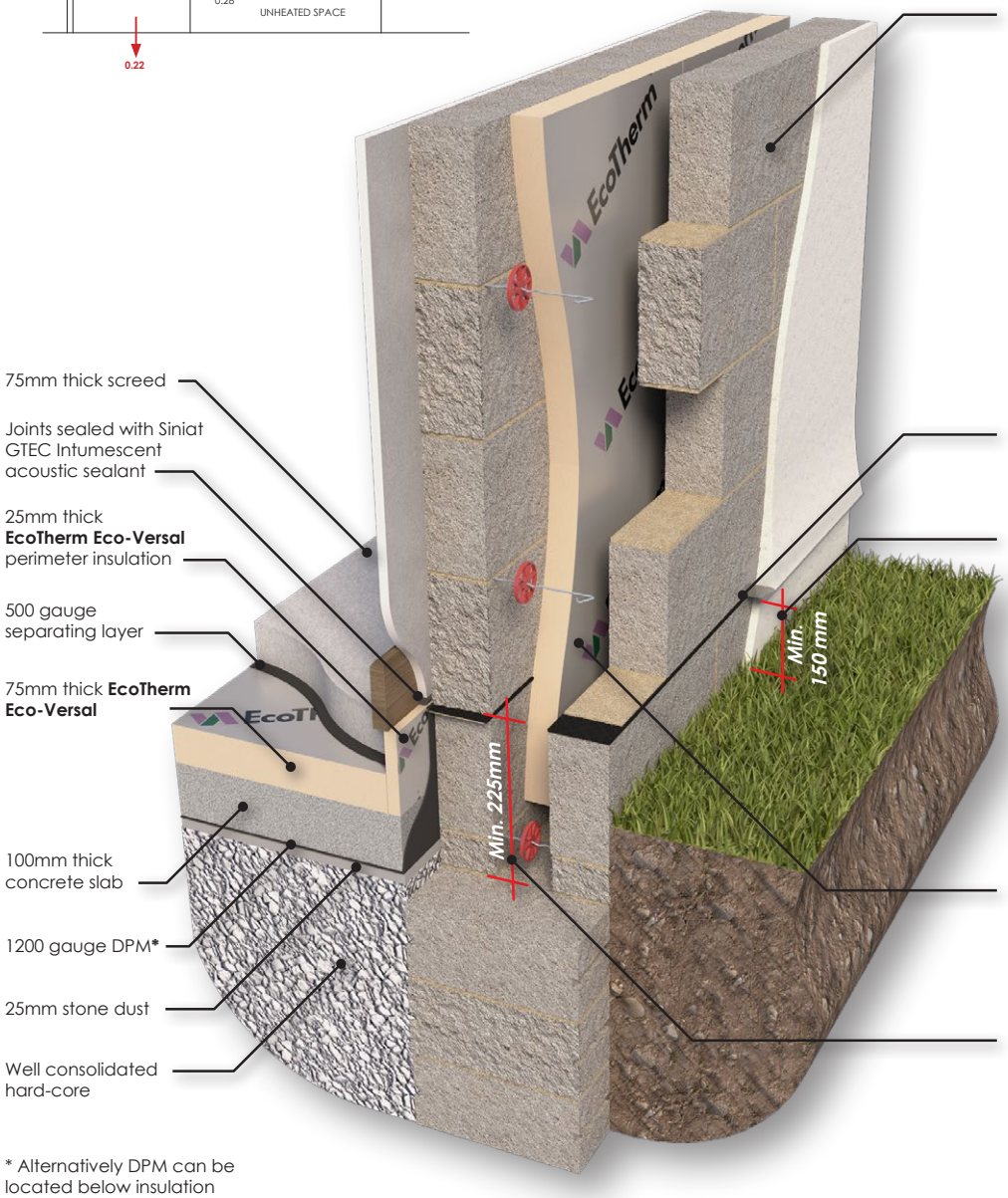
July 2020

FL/1

Target U-values using the Elemental Method

To comply with 'The Building (Guernsey) Regulations, 2012' (2012 edition including upto May 2020 amendment). Guernsey Technical Standard (GTS) L1: Conservation of fuel and power - Dwellings





300mm blockwork cavity wall construction, with 60mm **Ecotherm Eco-Cavity** insulation installed, achieving an overall U-value of **0.28 W/m²k**

Refer to; **Exterior Partial Fill Cavity Wall** detail: **WB/1**

75mm thick screed

Joints sealed with Siniat GTEC Intumescent acoustic sealant

25mm thick **EcoTherm Eco-Versal** perimeter insulation

500 gauge separating layer

75mm thick **EcoTherm Eco-Versal**

100mm thick concrete slab

1200 gauge DPM*

25mm stone dust

Well consolidated hard-core

Ruberoid Hyload DPC with stainless steel rendered belldrip

Ensure ground level is a minimum of 150mm below DPC level

Ensure insulation is continued a minimum of 150mm below top of perimeter insulation and support on row of wall ties

Minimum of 225mm deep void from DPC to accommodate mortar droppings during wall construction

* Alternatively DPM can be located below insulation over concrete slab

Foundation design and final depth to suit ground conditions and to Building Control approval.

NOTE
All products are to be installed inline with manufacturers written instructions.

Compliance
When used with 100mm thick concrete slab and 75mm deep sand & cement screed, 75mm **Ecotherm Eco-Versal** improves upon the minimum U-value of **0.22 W/m²k** at a P/A ratio of between 0.1 and 1.0.
To calculate the P/A (Perimeter area ratio), the calculation is *'Perimeter ÷ Area = P/A'*
A detailed U-value calculation and condensation risk analysis should be carried out for each individual project.

Concrete Ground Floor

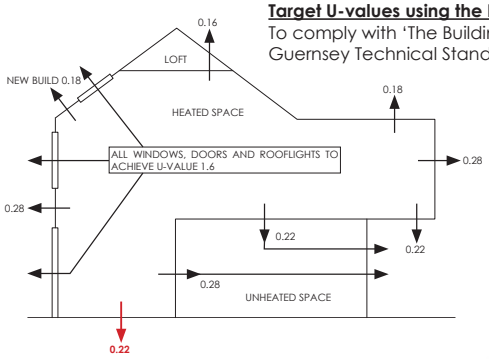
Insulation under Screed

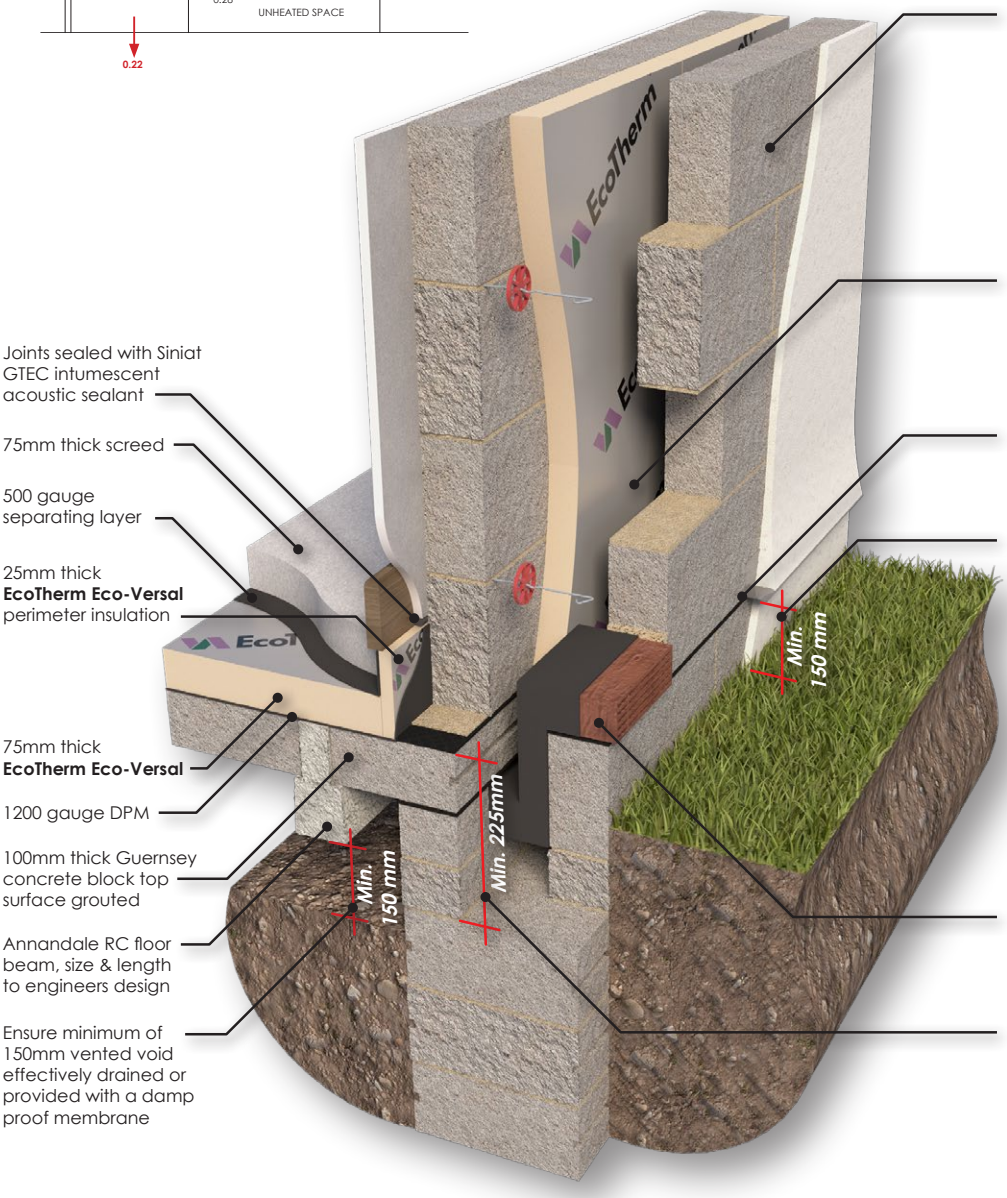
July 2020

FL/2

Target U-values using the Elemental Method

To comply with 'The Building (Guernsey) Regulations, 2012' (2012 edition including upto May 2020 amendment). Guernsey Technical Standard (GTS) L1: Conservation of fuel and power - Dwellings





300mm blockwork cavity wall construction, with 60mm **Ecotherm Eco-Cavity** insulation installed, achieving an overall U-value of **0.28 W/m²k**

Refer to; **Exterior Partial Fill Cavity Wall** detail: **WB/1**

Ensure cavity insulation is continued a minimum of 150mm below top of perimeter insulation and support on row of wall ties

Ruberoid Hyload DPC with stainless steel rendered belldrip

Ensure ground level is a minimum of 150mm below DPC level

Joints sealed with Siniat GTEC intumescent acoustic sealant

75mm thick screed

500 gauge separating layer

25mm thick **EcoTherm Eco-Versal** perimeter insulation

75mm thick **EcoTherm Eco-Versal**

1200 gauge DPM

100mm thick Guernsey concrete block top surface grouted

Annandale RC floor beam, size & length to engineers design

Ensure minimum of 150mm vented void effectively drained or provided with a damp proof membrane

Airbrick and underfloor ventilator to provide ventilation below Beam & Block Ground Floor

Minimum of 225mm deep void from DPC to accommodate mortar droppings during wall construction (Preferred 300mm drop shown)

Foundation design and final depth to suit ground conditions and to Building Control approval.

NOTE
All products are to be installed inline with manufacturers written instructions.

Compliance
When used with standard dense concrete blocks and 75mm deep sand & cement screed, 75mm **Ecotherm Eco-Versal** improves upon the minimum U-value of **0.22 W/m²k** at a P/A ratio of between 0.1 and 1.0.
To calculate the P/A (Perimeter area ratio), the calculation is *'Perimeter ÷ Area = P/A'*
A detailed U-value calculation and condensation risk analysis should be carried out for each individual project.

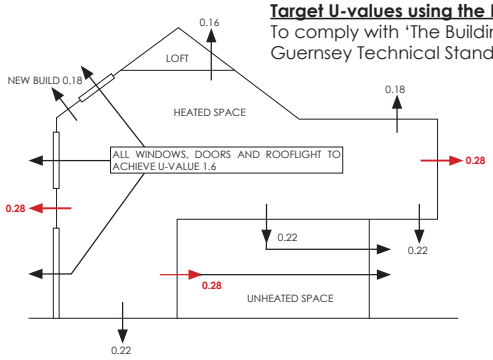
Beam & Block Ground Floor

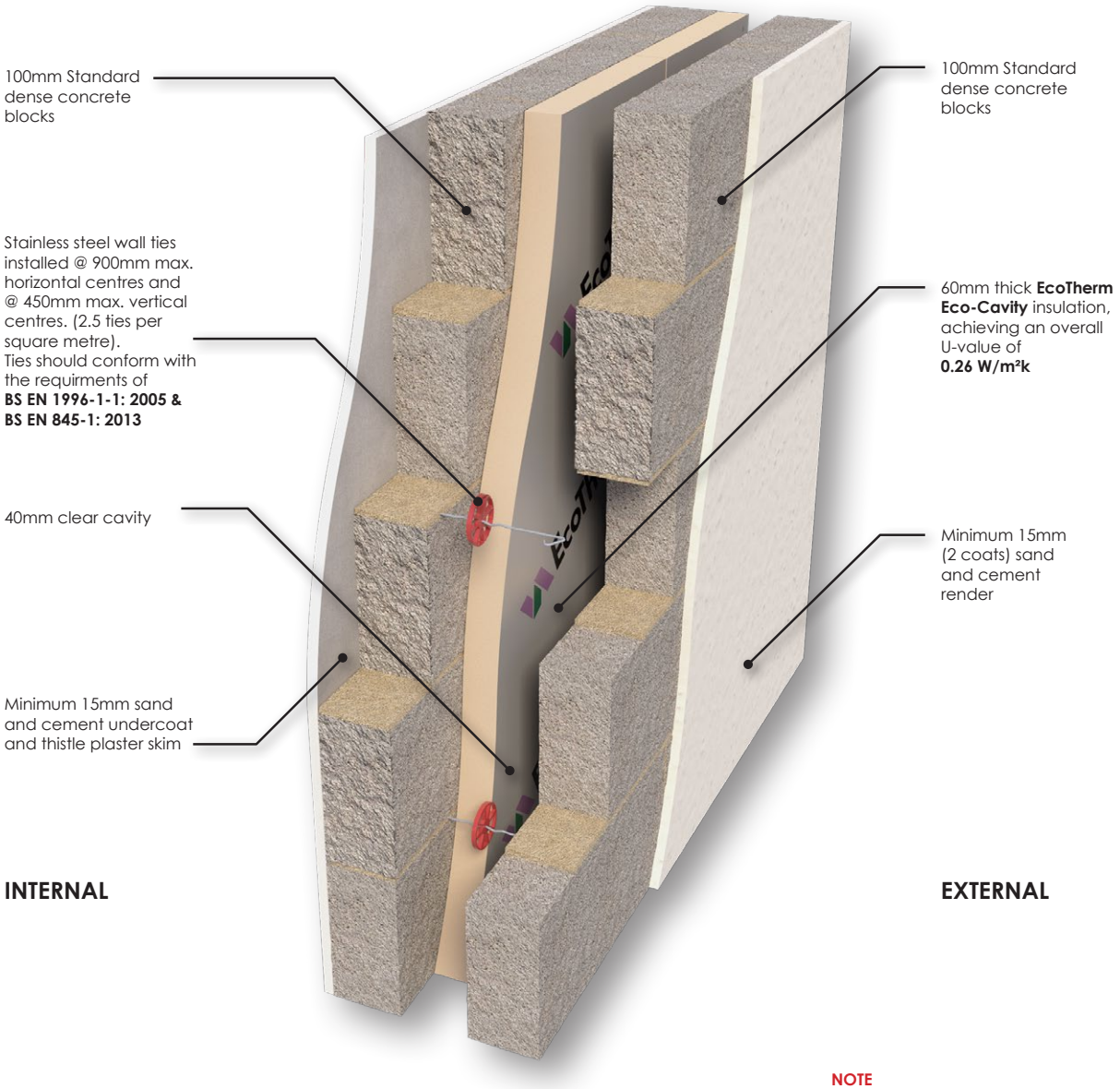
July 2020

FL/3

Target U-values using the Elemental Method

To comply with 'The Building (Guernsey) Regulations, 2012' (2012 edition including upto May 2020 amendment). Guernsey Technical Standard (GTS) L1: Conservation of fuel and power - Dwellings





NOTE
All products are to be installed inline with manufacturers written instructions.

Compliance
When used with 100mm thick standard dense concrete blocks, 60mm **Ecotherm Eco-Cavity** gives a U-value of **0.26 W/m²k** improving upon the minimum U-value of **0.28 W/m²k** as specified in the Guernsey Technical Standard L1: Conservation of fuel and power - Dwellings. The above stated U-value is for guidance purposes only, a detailed U-value calculation and condensation risk analysis should be carried out for each individual project.

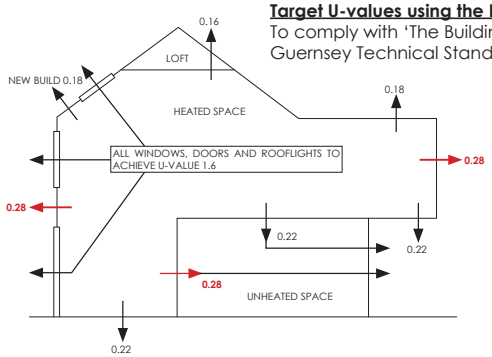
Exterior Partial Fill Cavity Wall

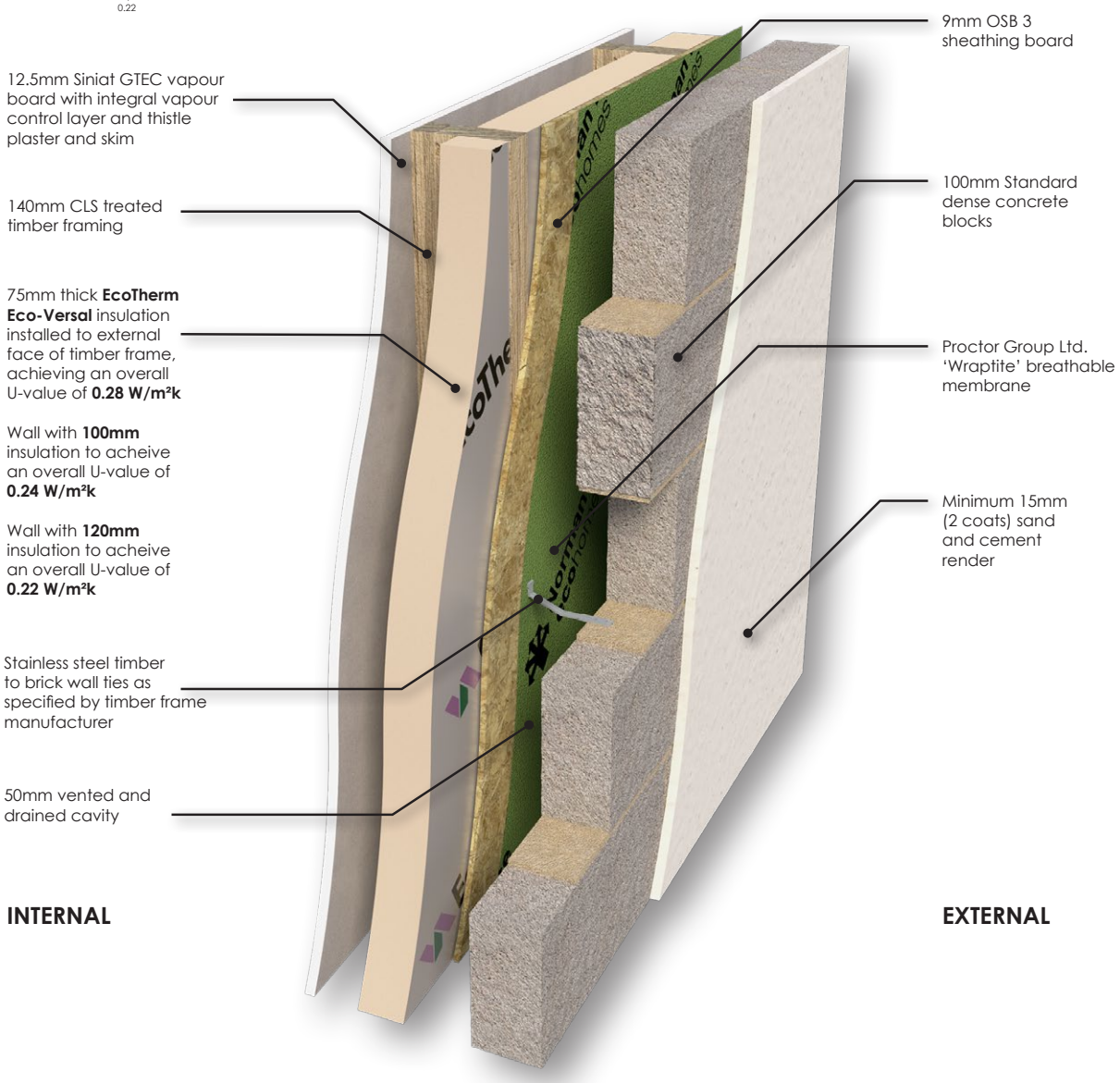
July 2020

WB/1

Target U-values using the Elemental Method

To comply with 'The Building (Guernsey) Regulations, 2012' (2012 edition including upto May 2020 amendment). Guernsey Technical Standard (GTS) L1: Conservation of fuel and power - Dwellings





NOTE
All products are to be installed inline with manufacturers written instructions.

Compliance
When used with 100mm thick standard dense concrete blocks, 75mm **Ecotherm Eco-Cavity** gives a U-value of **0.28 W/m²k** improving upon the minimum U-value of **0.28 W/m²k** as specified in the Guernsey Technical Standard L1: Conservation of fuel and power - Dwellings. The above stated U-value is for guidance purposes only, a detailed U-value calculation and condensation risk analysis should be carried out for each individual project.

Timber Frame

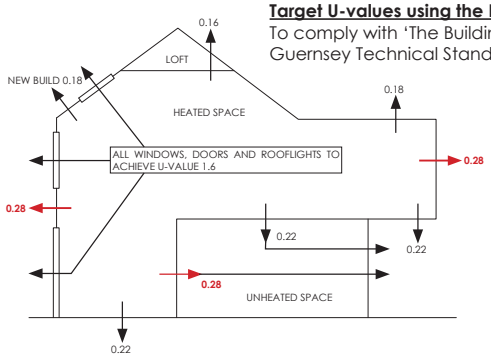
Standard Concrete Block Outer Leaf
140mm Timber Frame Inner Leaf

July 2020

WT/1

Target U-values using the Elemental Method

To comply with 'The Building (Guernsey) Regulations, 2012' (2012 edition including upto May 2020 amendment). Guernsey Technical Standard (GTS) L1: Conservation of fuel and power - Dwellings



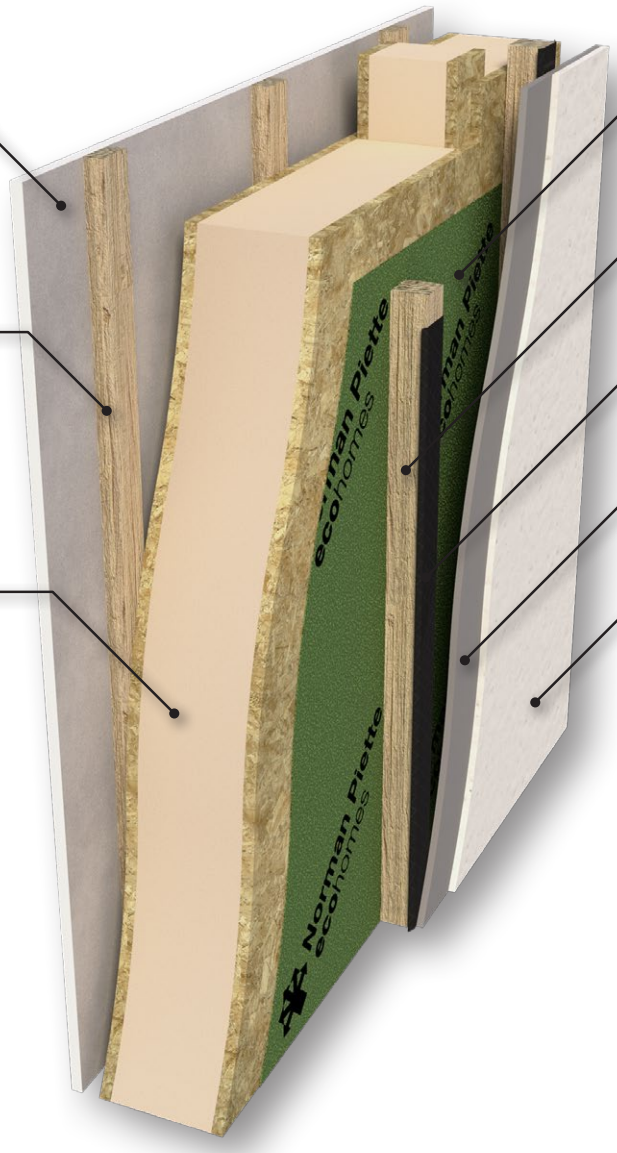
12.5mm Siniat GTEC vapour board with integral vapour control layer and thistle plaster and skim

25 x 50mm vertical softwood timber battens @400mm centres forming 25mm void for services

142mm or **172mm thick Kingspan TEK Structural Insulated Panel (SIP)**

Wall with **142mm** panel to acheive an overall U-value of **0.20 W/m²k**

Wall with **172mm** panel to acheive an overall U-value of **0.17 W/m²k**



Proctor Group Ltd. 'Wraptite' breathable membrane

Treated timber battens

DPC strips fixed to battens

Calcium silicate board

Silicone based render system

INTERNAL

EXTERNAL

Compliance
When used with the finishes shown;
Kingspan TEK Structural Insulated Panels;
- in 142mm thickness achieve an overall wall U-value of **0.20 W/m²k**
- in 172mm thickness achieve an overall wall U-value of **0.17 W/m²k**

improving upon the minimum U-value of **0.28 W/m²k** as specified in the Guernsey Technical Standard L1: Conservation of fuel and power - Dwellings.
The above stated U-values are for guidance purposes only, a detailed U-value calculation and condensation risk analysis should be carried out for each individual project, and SIPs wall systems will require full design by Norman Piette.

NOTE
All products are to be installed inline with manufacturers written instructions.

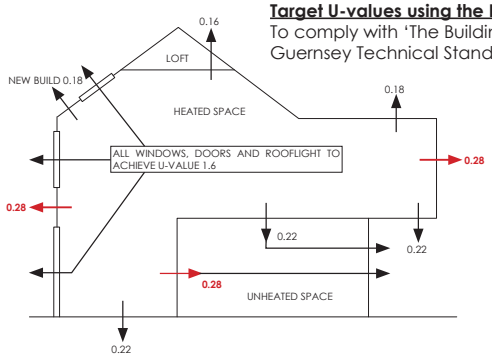
SIPs
External Render System

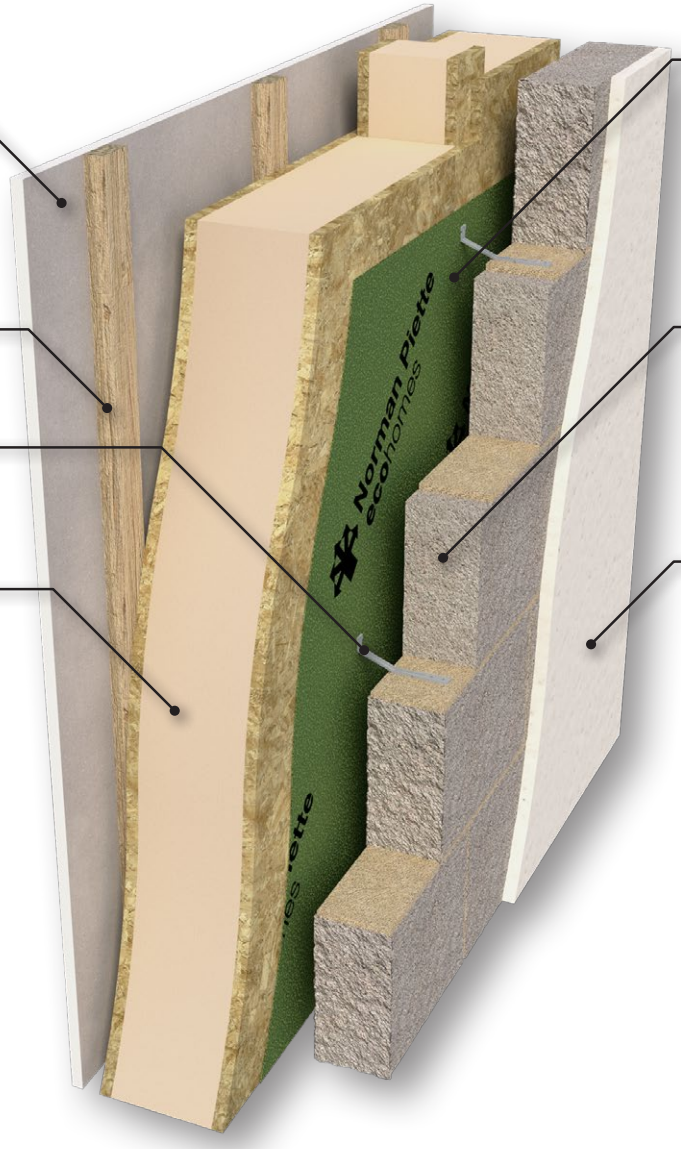
July 2020

SIP/1

Target U-values using the Elemental Method

To comply with 'The Building (Guernsey) Regulations, 2012' (2012 edition including upto May 2020 amendment). Guernsey Technical Standard (GTS) L1: Conservation of fuel and power - Dwellings





12.5mm Siniat GTEC vapour board with integral vapour control layer and thistle plaster and skim

25 x 50mm vertical softwood timber battens @400mm centres forming 25mm void for services

Stainless steel timber to brick wall ties as specified by SIP manufacturer

142mm or **172mm thick Kingspan TEK Structural Insulated Panel (SIP)**

Wall with **142mm** panel to acheive an overall U-value of **0.18 W/m²k**

Wall with **172mm** panel to acheive an overall U-value of **0.16 W/m²k**

Proctor Group Ltd. 'Wraptite' breathable membrane

100mm Standard Dense Concrete Block

Minimum 15mm (2 coats) sand and cement render

INTERNAL

EXTERNAL

Compliance

When used with 100mm thick standard dense concrete blocks, **Kingspan TEK Structural Insulated Panels**;

- in 142mm thickness achieve an overall wall U-value of **0.18 W/m²k**
- in 172mm thickness achieve an overall wall U-value of **0.16 W/m²k**

improving upon the minimum U-value of **0.28 W/m²k** as specified in the Guernsey Technical Standard L1: Conservation of fuel and power - Dwellings.

The above stated U-values are for guidance purposes only, a detailed U-value calculation and condensation risk analysis should be carried out for each individual project, and SIPs wall systems will require full design by Norman Piette.

NOTE

All products are to be installed inline with manufacturers written instructions.

SIPs

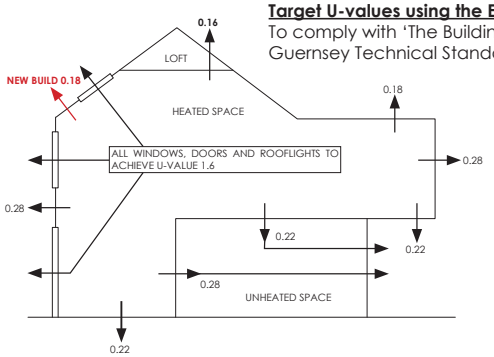
Standard Concrete Block Outer Leaf

July 2020

SIP/2

Target U-values using the Elemental Method

To comply with 'The Building (Guernsey) Regulations, 2012' (2012 edition including upto May 2020 amendment). Guernsey Technical Standard (GTS) L1: Conservation of fuel and power - Dwellings



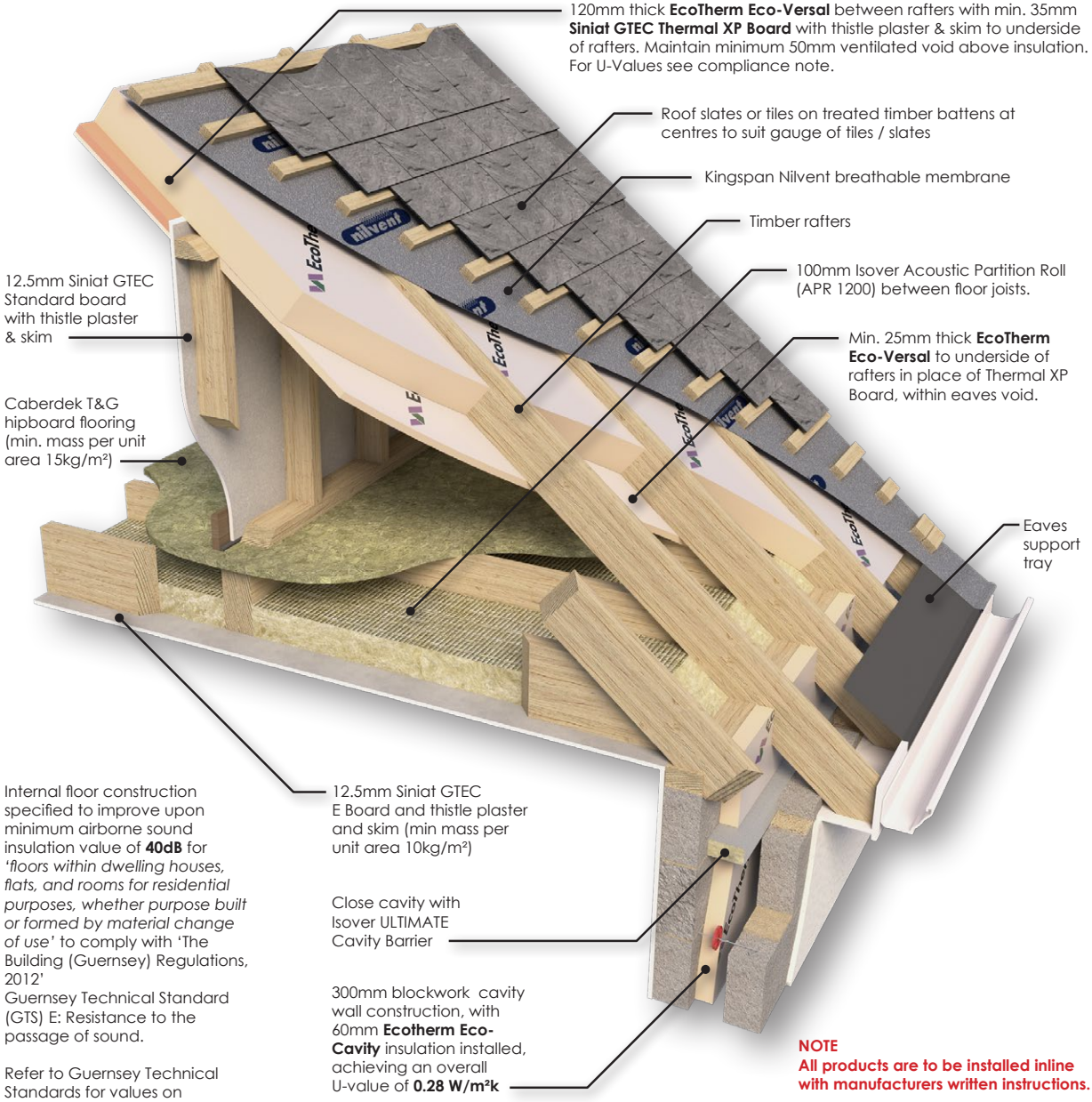
Compliance

Vaulted pitched roof construction as shown achieves U-values of;

- **0.18 W/m²k** with rafters @ 600mm centres,
- **0.18 W/m²k** with rafters @ 400mm centres,

compared to the minimum U-value of **0.18 W/m²k.**

The above stated U-values are for guidance purposes only, a detailed U-value calculation and condensation risk analysis should be carried out for each individual project.



Internal floor construction specified to improve upon minimum airborne sound insulation value of **40dB** for *'floors within dwelling houses, flats, and rooms for residential purposes, whether purpose built or formed by material change of use'* to comply with 'The Building (Guernsey) Regulations, 2012'
Guernsey Technical Standard (GTS) E: Resistance to the passage of sound.

Refer to Guernsey Technical Standards for values on separation between dwellings.

NOTE
All products are to be installed inline with manufacturers written instructions.

Pitched Roof

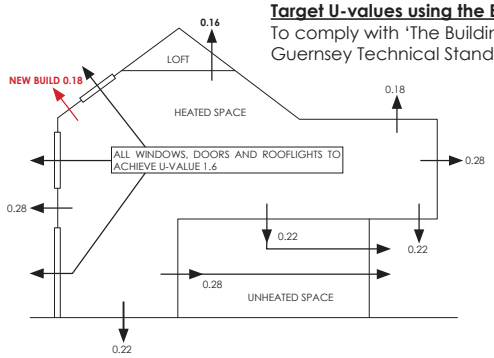
Habitable roof space

July 2020

RP/1

Target U-values using the Elemental Method

To comply with 'The Building (Guernsey) Regulations, 2012' (2012 edition including upto May 2020 amendment). Guernsey Technical Standard (GTS) L1: Conservation of fuel and power - Dwellings



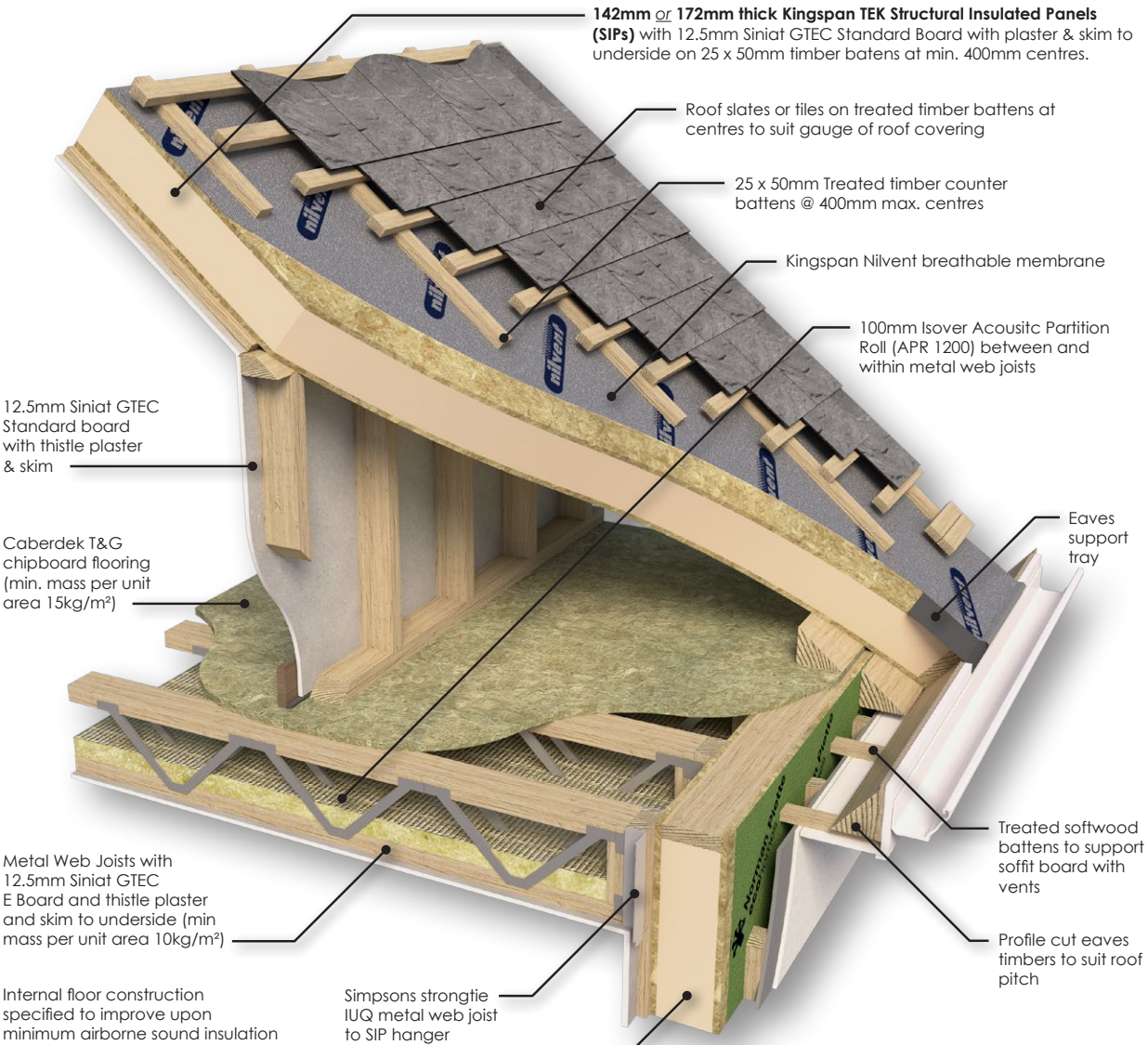
Compliance

When used with the finishes shown;

Kingspan TEK Structural Insulated Panels;

- in 142mm thickness achieve an overall roof U-value of **0.18 W/m²k**
- in 172mm thickness achieve an overall roof U-value of **0.17 W/m²k**

mproving upon the minimum U-value of **0.18 W/m²k** as specified in the Guernsey Technical Standard L1: Conservation of fuel and power - Dwellings. The above stated U-values are for guidance purposes only, a detailed U-value calculation and condensation risk analysis should be carried out for each individual project, and SIPs wall systems will require full design by Norman Piette.



Internal floor construction specified to improve upon minimum airborne sound insulation value of **40dB** for '*floors within dwelling houses, flats, and rooms for residential purposes, whether purpose built or formed by material change of use*' to comply with 'The Building (Guernsey) Regulations, 2012' Guernsey Technical Standard (GTS) E: Resistance to the passage of sound.

Refer to Guernsey Technical Standards for values on separation between dwellings.

Refer to; **SIPs External Render System** detail: **SIP/1**

NOTE
All products are to be installed inline with manufacturers written instructions.

Pitched Roof

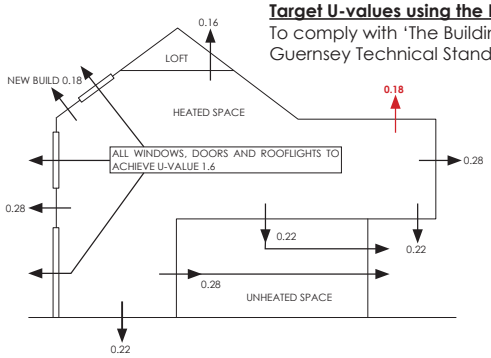
Structural Insulated Panels (SIPs)

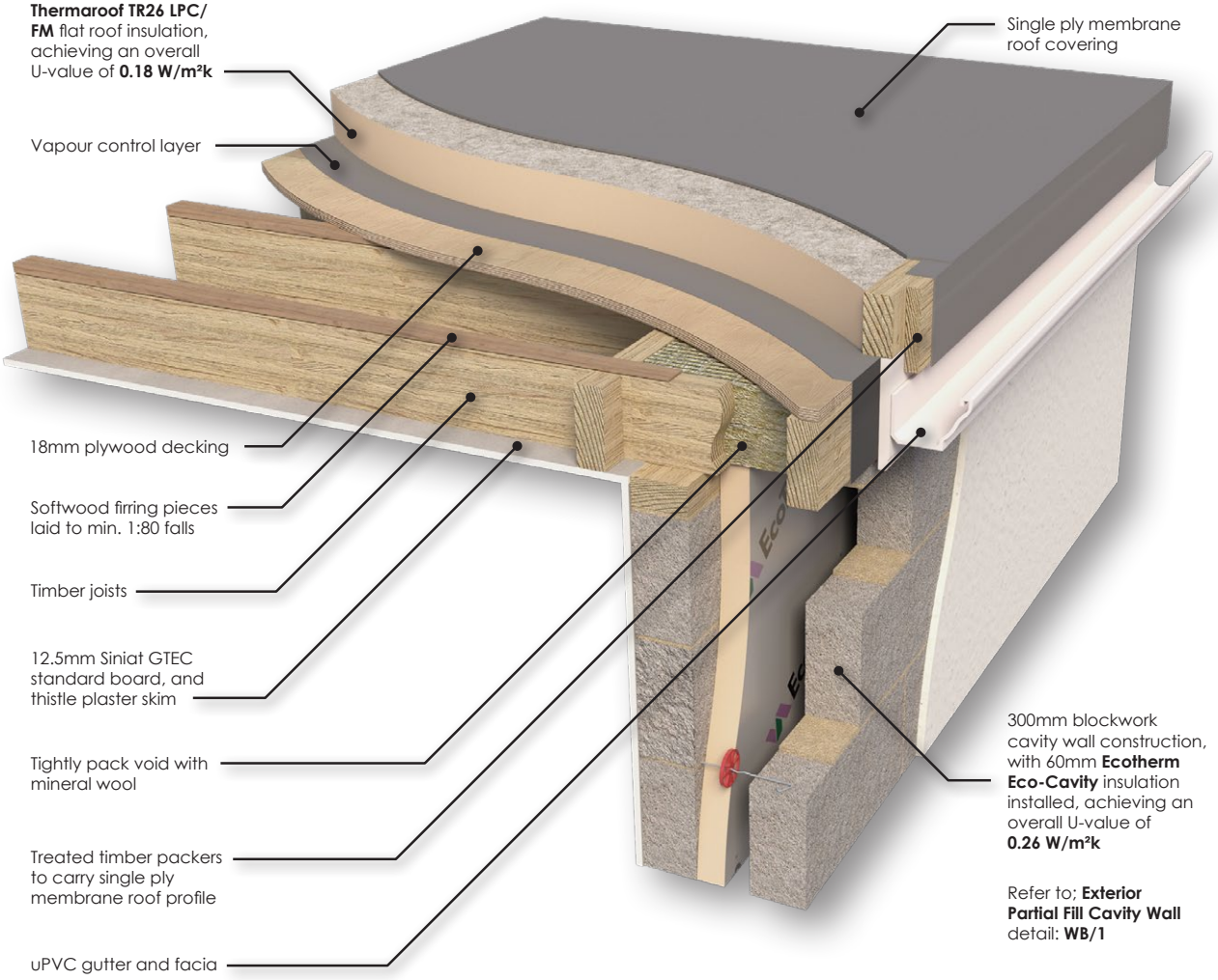
July 2020

RP/2

Target U-values using the Elemental Method

To comply with 'The Building (Guernsey) Regulations, 2012' (2012 edition including upto May 2020 amendment). Guernsey Technical Standard (GTS) L1: Conservation of fuel and power - Dwellings





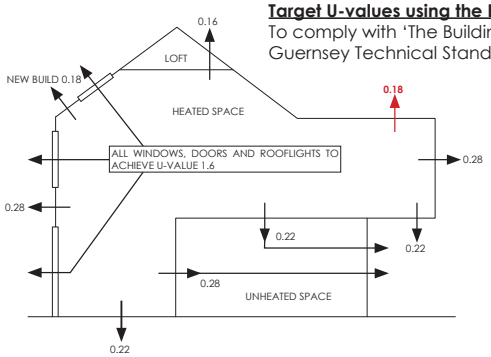
NOTE
All products are to be installed inline with manufacturers written instructions.

Compliance
When used, 120mm **Kingspan Thermaroof TR27 LPC/FM** gives a U-value of **0.18 W/m²k** improving upon the minimum U-value of **0.18 W/m²k** as specified in the Guernsey Technical Standard L1: Conservation of fuel and power - Dwellings.
The above stated U-value is for guidance purposes only, a detailed U-value calculation and condensation risk analysis should be carried out for each individual project.

Flat Roof Warm Deck
Single Ply Roof Covering

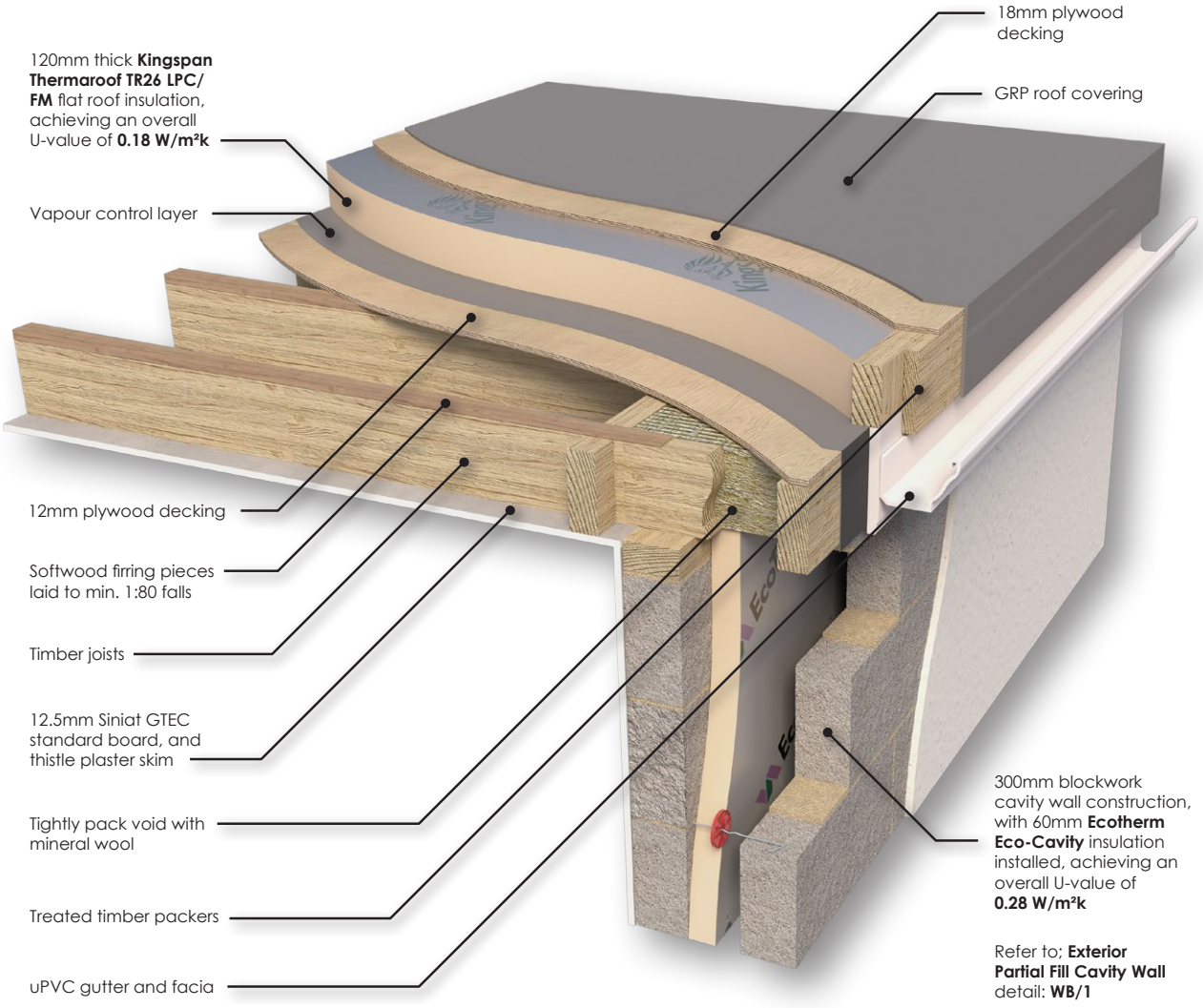
July 2020

RF/1



Target U-values using the Elemental Method

To comply with 'The Building (Guernsey) Regulations, 2012' (2012 edition including upto May 2020 amendment). Guernsey Technical Standard (GTS) L1: Conservation of fuel and power - Dwellings



NOTE
All products are to be installed inline with manufacturers written instructions.

Compliance
When used, 120mm **Kingspan Thermaroof TR26 LPC/FM** gives a U-value of **0.18 W/m²k** improving upon the minimum U-value of **0.18 W/m²k** as specified in the Guernsey Technical Standard L1: Conservation of fuel and power - Dwellings.
The above stated U-value is for guidance purposes only, a detailed U-value calculation and condensation risk analysis should be carried out for each individual project.

Flat Roof Warm Deck

GRP Roof Covering

July 2020

RF/2

Technical drawings produced by

Norman Piette Limited
PO Box 88, Bulwer Avenue, St Sampson, Guernsey GY1 3EE
Tel |**01481 245801**
Fax |01481 248542
Email |**sales@norman-piette.com**
Web |**www.norman-piette.com**

Norman Piette
Timber and Builders Merchant