



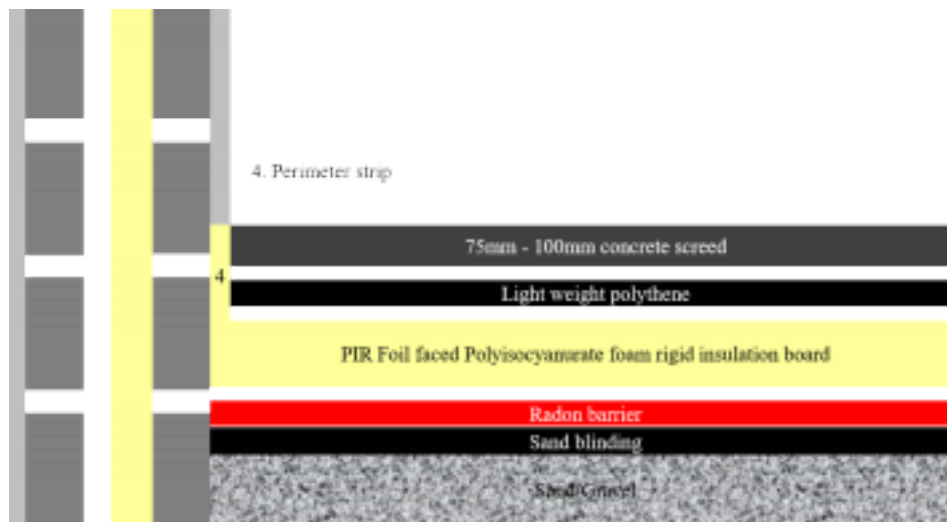
Your One Stop Shop Insulation Provider

Application: Ground Floor

100mm PIR Foil faced insulation board applied **below** concrete screed

U Value Results **0.18, 0.17 and 0.16 W/m²K**

Calculation Reference: Concrete Floor 1



Building Regulations ROI

The current back stop U Value for the roof rafters is **0.16 W/m²K**

The preliminary building energy rating BER certificate will determine the U Value required for all new homes and extensive renovations. In most cases the U Values required are typically lower than the backstops.

- The lower the U Value the slower the heat loss
- The slower the heat loss the greater the savings

The insulation layer is simply the most important building material to consider when looking to achieve the best energy efficiency rating for your home. If the insulation layer is not fitted correctly it will fail. If the insulation fails, there will be no energy efficiency. The BER result does not take into account badly fitted insulation materials.

U Value Insulation

Unit 505B, Northwest Business Park,

Ballycoolin Dublin 15.

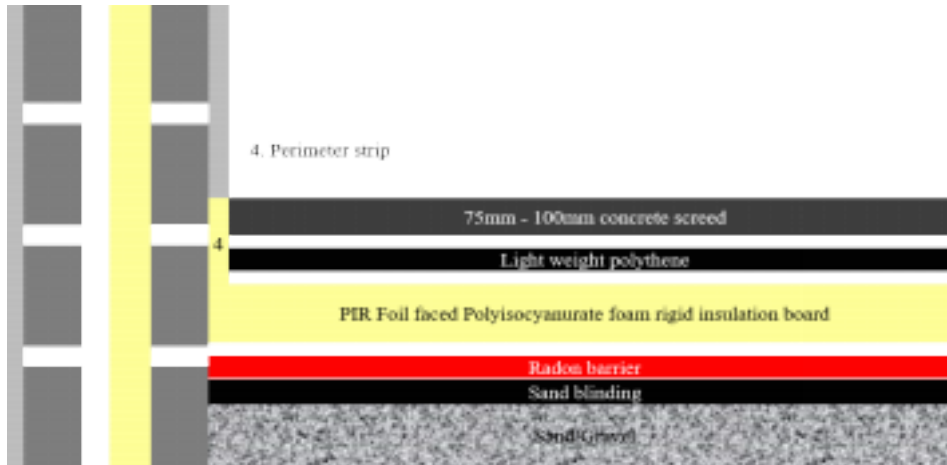
Phone (01) 861 2000

E Mail sales@uvalue.ie <http://www.uvalue.ie>



Application: Ground Floor

100mm PIR Foil faced insulation board applied **below** concrete screed U Value Result **0.18 W/m²K** Calculation Method: I.S. EN ISO 6946, I.S. EN ISO 13370



| Layer | layer | bridge | R | R | Description |
|--------|-----------|----------|-------|--------|-------------|
| d (mm) | λ | Fraction | layer | bridge | |

0.170 Rsi

1 75 1.150 0.065 Concrete Screed 2 Lightweight polythene

3 100 0.022 4.545 Polyiso foam PIR Insulation

4 Radon Barrier

175
mm

4.781

Total resistance: Upper limit: 4.781 Lower limit: 4.781 Ratio: 1.000 Average: 4.781

m²K/W **U-Value (rounded) 0.18 W/m²K**

Ground parameters:

Perimeter P: 20.00 m Wall thickness: 300mm Area A: 25.00 m² Ground type: Sand/gravel ($\lambda = 2.0 \text{ W/m}\cdot\text{K}$)

Contact Your Local Insulation Provider

P/A: 0.800 Rse: 0.04 m²K/W

U Value Insulation

Unit 505B, Northwest Business Park,

U-value 0.180 Ballycoolin Dublin 15.

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Insulation Suggestions

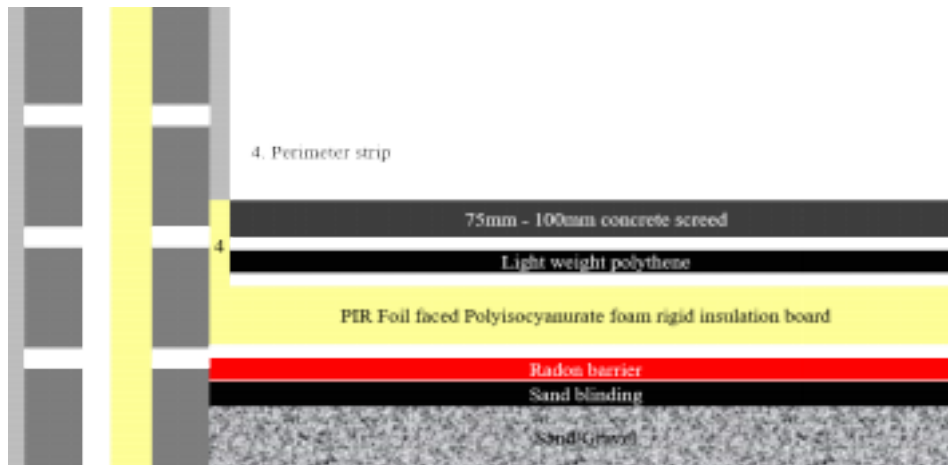
- **100mm** Quinnterm QF

- **100mm** Kingspan Therma Floor TF70
- **100mm** Ballytherm PIR Floor Boar



Application: Ground Floor

100mm PIR Foil faced insulation board applied **below** concrete screed U Value Result **0.17 W/m²K** Calculation Method: I.S. EN ISO 6946, I.S. EN ISO 13370



| <u>Layer</u> | <u>layer</u> | <u>bridge</u> | <u>R</u> | <u>R</u> | <u>Description</u> |
|---------------|--------------|------------------|--------------|---------------|--------------------|
| <u>d (mm)</u> | <u>λ</u> | <u>Fractio n</u> | <u>layer</u> | <u>bridge</u> | |

0.170 Rsi

1 75 1.150 0.065 Concrete Screed 2 Lightweight polythene

3 100 0.022 4.545 Polyiso foam PIR Insulation

4 Radon Barrier

4.781

175
mm

Total resistance: Upper limit: 4.781 Lower limit: 4.781 Ratio: 1.000 Average: 4.781

m²K/W **U-Value (rounded) 0.17 W/m²K**

Ground parameters:

Perimeter P: 30.00 m Wall thickness: 300mm Area A: 50.00 m² Ground type: Sand/gravel (λ = 2.0 W/m·K)

Contact Your Local Insulation Provider

P/A: 0.600 Rse: 0.04 m²K/W

U Value Insulation

Unit 505B, Northwest Business Park,

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Insulation Suggestions

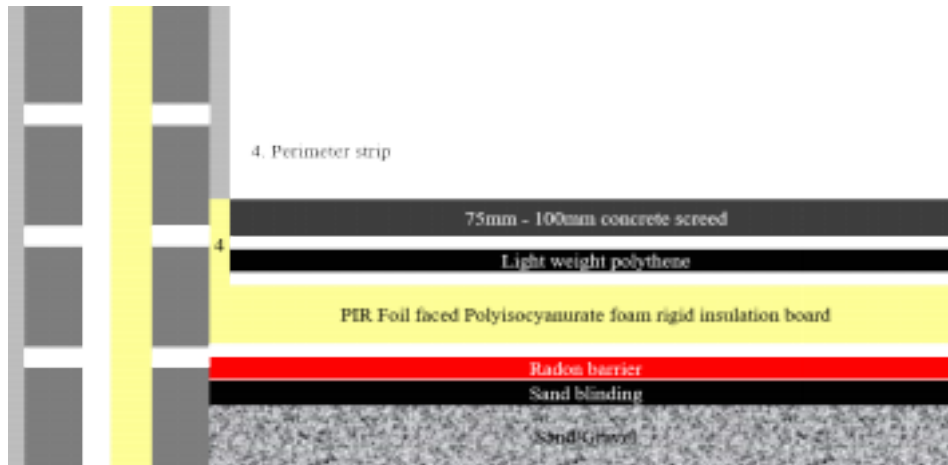
- **100mm** Quinnterm QF

- **100mm** Kingspan Therma Floor TF70
- **100mm** Ballytherm PIR Floor Board



Application: Ground Floor

100mm PIR Foil faced insulation board applied **below** concrete screed U Value Result **0.17 W/m²K** Calculation Method: I.S. EN ISO 6946, I.S. EN ISO 13370



| <u>Layer</u> | <u>layer</u> | <u>bridge</u> | <u>R</u> | <u>R</u> | <u>Description</u> |
|---------------|--------------|------------------|--------------|---------------|--------------------|
| <u>d (mm)</u> | <u>λ</u> | <u>Fractio n</u> | <u>layer</u> | <u>bridge</u> | |

0.170 Rsi

1 75 1.150 0.065 Concrete Screed 2 Lightweight polythene

3 100 0.022 4.545 Polyiso foam PIR Insulation

4 Radon Barrier

175
mm

4.781

Total resistance: Upper limit: 4.781 Lower limit: 4.781 Ratio: 1.000 Average: 4.781 m²K/W

Ground parameters:

Perimeter P: 35.00 m Wall thickness: 300mm Area A: 75.00 m² Ground type: Sand/gravel
(λ = 2.0 W/m·K) **Insulation Suggestions**

P/A: 0.467 Rse: 0.04 m²K/W

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Contact Your Local Insulation Provider
U Value Insulation

100mm Quinnterm QF

100mm Kingspan Therma Floor TF70

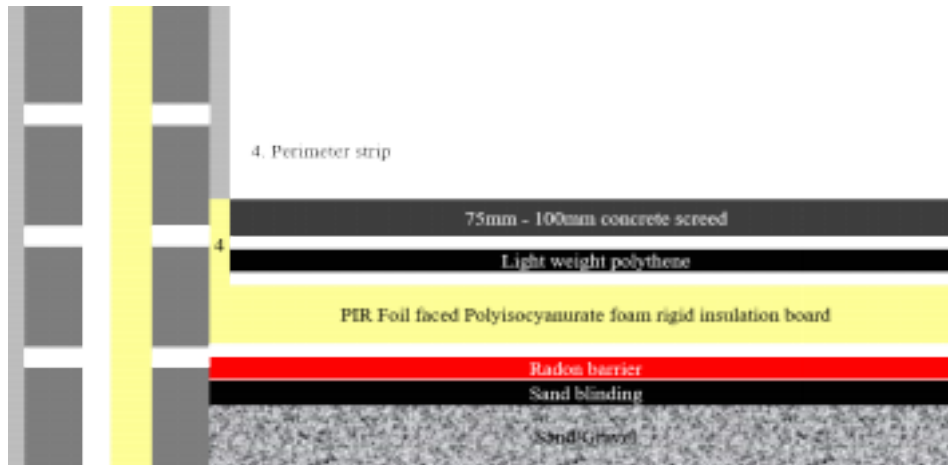
100mm Ballytherm PIR Floor Board

U-Value (rounded) 0.17 W/m²K E



Application: Ground Floor

100mm PIR Foil faced insulation board applied **below** concrete screed U Value Result **0.16 W/m²K** Calculation Method: I.S. EN ISO 6946, I.S. EN ISO 13370



| <u>Layer</u> | <u>layer</u> | <u>bridge</u> | <u>R</u> | <u>R</u> | <u>Description</u> |
|---------------|--------------|------------------|--------------|---------------|--------------------|
| <u>d (mm)</u> | <u>λ</u> | <u>Fractio n</u> | <u>layer</u> | <u>bridge</u> | |

0.170 Rsi

1 75 1.150 0.065 Concrete Screed 2 Lightweight polythene

3 100 0.022 4.545 Polyiso foam PIR Insulation

4 Radon Barrier

175
mm

4.781

Total resistance: Upper limit: 4.781 Lower limit: 4.781 Ratio: 1.000 Average: 4.781 m²K/W

Ground parameters:

Perimeter P: 40.00 m Wall thickness: 300mm Area A: 100.00 m² Ground type: Sand/gravel
(λ = 2.0 W/m·K) **Insulation Suggestions**

P/A: 0.400 Rse: 0.04 m²K/W

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U Value Insulation

100mm Quinnterm QF

100mm Kingspan Therma Floor TF70

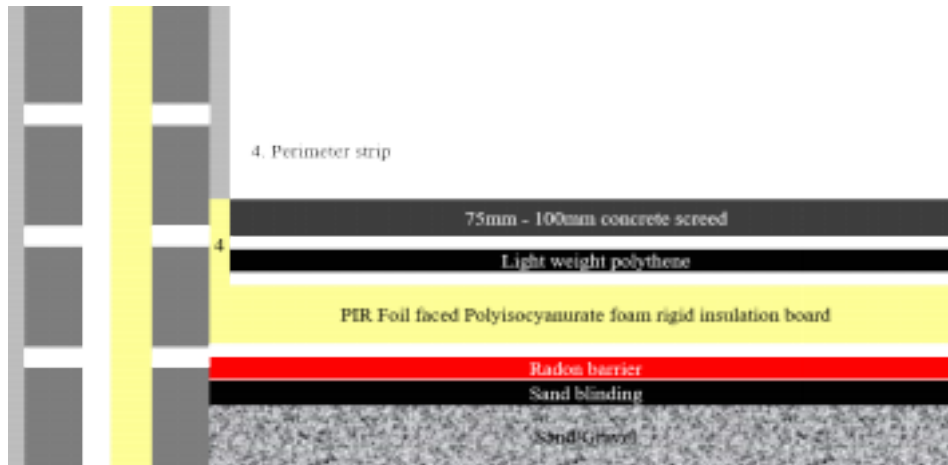
100mm Ballytherm PIR Floor Board

U-Value (rounded) 0.16 W/m²K E



Application: Ground Floor

100mm PIR Foil faced insulation board applied **below** concrete screed U Value Result **0.16 W/m²K** Calculation Method: I.S. EN ISO 6946, I.S. EN ISO 13370



| <u>Layer</u> | <u>layer</u> | <u>bridge</u> | <u>R</u> | <u>R</u> | <u>Description</u> |
|---------------|--------------|------------------|--------------|---------------|--------------------|
| <u>d (mm)</u> | <u>λ</u> | <u>Fractio n</u> | <u>layer</u> | <u>bridge</u> | |

0.170 Rsi

1 75 1.150 0.065 Concrete Screed 2 Lightweight polythene

3 100 0.022 4.545 Polyiso foam PIR Insulation

4 Radon Barrier

175
mm

4.781

Total resistance: Upper limit: 4.781 Lower limit: 4.781 Ratio: 1.000 Average: 4.781 m²K/W

Ground parameters:

Perimeter P: 45.00 m Wall thickness: 300mm Area A: 125.00 m² Ground type: Sand/gravel
(λ = 2.0 W/m·K) **Insulation Suggestions**

P/A: 0.360 Rse: 0.04 m²K/W

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100mm Quinnterm QF

100mm Kingspan Therma Floor TF70

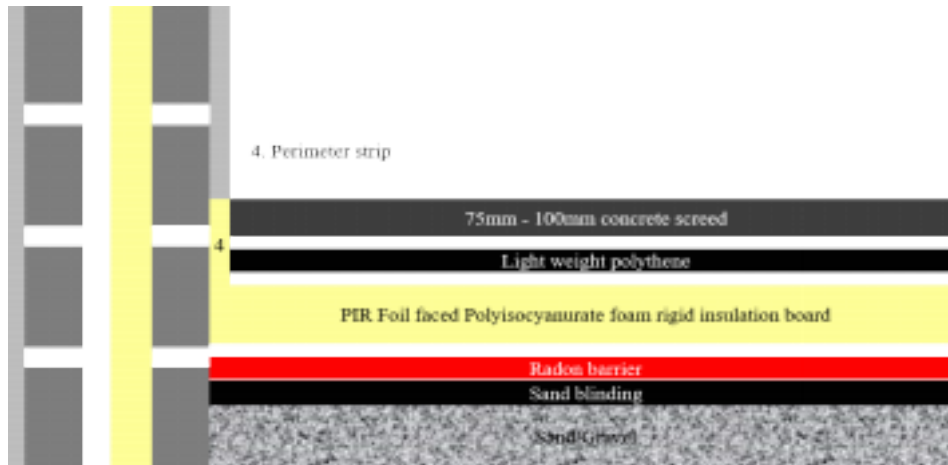
100mm Ballytherm PIR Floor Board

U-Value (rounded) 0.16 W/m²K E



Application: Ground Floor

100mm PIR Foil faced insulation board applied **below** concrete screed U Value Result **0.16 W/m²K** Calculation Method: I.S. EN ISO 6946, I.S. EN ISO 13370



| <u>Layer</u> | <u>layer</u> | <u>bridge</u> | <u>R</u> | <u>R</u> | <u>Description</u> |
|---------------|--------------|------------------|--------------|---------------|--------------------|
| <u>d (mm)</u> | <u>λ</u> | <u>Fractio n</u> | <u>layer</u> | <u>bridge</u> | |

0.170 Rsi

1 75 1.150 0.065 Concrete Screed 2 Lightweight polythene

3 100 0.022 4.545 Polyiso foam PIR Insulation

4 Radon Barrier

175
mm

4.781

Total resistance: Upper limit: 4.781 Lower limit: 4.781 Ratio: 1.000 Average: 4.781 m²K/W

Ground parameters:

Perimeter P: 50.00 m Wall thickness: 300mm Area A: 150.00 m² Ground type: Sand/gravel
(λ = 2.0 W/m·K) **Insulation Suggestions**

P/A: 0.333 Rse: 0.04 m²K/W

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Contact Your Local Insulation Provider
U Value Insulation

100mm Quinnterm QF

100mm Kingspan Therma Floor TF70

100mm Ballytherm PIR Floor Board

U-Value (rounded) 0.16 W/m²K E

Simple Insulation Solutions

Ground Floor Insulation

Polyisocyanurate PIR Foam foil faced insulation applied **Below** concrete screed.

Before we can provide a solution we need to know the following

Question 1

What is the total floor area in m²

Question 2

What is the total exposed perimeter wall area in lm

Question 3

What is the total floor build up?

Example

- Concrete screed
- Insulation
- Concrete floor slab
- Radon barrier
- Sand blinding

Question 4

Are you applying underfloor heating?

Question 5

What U Value do you want to achieve? 0.21 Good 0.18 Better 0.15 Best

Question 6

Do you require insulation with a high KPA? Compression strength

Insulation and Associated Building Materials Available from U Value Insulation

- ✓ **100mm** Quinnterm QF
- ✓ **100mm** Kingspan Therma Floor TF70
- ✓ **100mm** Ballytherm PIR Floor Board

- ✓ Lightweight polythene

- ✓ Radon barrier
- ✓ Radon sump
- ✓ Radon Top Hat
- ✓ Radon Butyl Tape
- ✓ Internal and external radon corners
- ✓ Radon cap and bends
- ✓ Radon primer

For more information and pricing please call 01-8612000

