

## Floors

# FLOORS

**15% of the heat lost comes from un-insulated floors. There are several options of floor insulation that can be used.**

## APPLICATIONS:

1

### GROUND FLOORS

Ground Floors fall predominantly into two categories, ground bearing and suspended. Ground bearing floors will normally be concrete but suspended floors can be suspended concrete and suspended timber. This has an influence on the type of insulation used.

#### (a) GROUND FLOORS - CONCRETE

Insulation used here needs to be able to take active and dead loads. The dead load is due to the weight of the materials laid on the insulant and the active load is the load associated with the use of the floor. The insulation needs to accommodate these loads with the minimum of compression so is usually a rigid foam slab or rigid Rock Mineral Wool Slab. This insulation slab can be located below the concrete slab or above the concrete slab and below the screed or timber flooring.

#### (b) GROUND FLOORS - SUSPENDED TIMBER

Insulation used here does not need to be load bearing as it sits between the floor joists and is friction fitted and supported underneath by netting. Insulation type here is normally lightweight which can be installed from above in a new build application or from above or below in a refurbishment project depending the available access.

2

### INTERNAL FLOORS

Internal floors can be separating floors between different dwellings, such as apartments, or internal floors in the same dwelling and are usually insulated for Acoustic insulation purposes. This is used to reduce the effect of Airborne sound and Impact sound.

**Airborne sound** is reduced by adding an insulation into the floor cavity.

**Impact sound** is reduced by providing a resilient layer to provide structural isolation.

## GLASS MINERAL WOOL

Glass mineral wool is made from sand and recycled glass, limestone and soda ash. These are the same ingredients that are used to make familiar glass objects such as window panes or glass bottles. The glass is spun to form millions of fine fibres. A resin is used to bind the fibres together to form a mat of material. The density of the product determines whether the insulation is a lightweight quilt supplied in rolls, a flexible slab or a rigid slab, and it's thermal insulation value. Non combustible and achieves the highest A+ Euroclass rating.

## ROCK MINERAL WOOL

Rock mineral wool is made mainly from volcanic rock, typically basalt and/or dolomite. An increasing proportion is now recycled material from slag, a waste product from blast furnaces. The materials are melted and then spun into fine fibres. A resin is used to bind the fibres together to form a mat of insulation. Non combustible and achieves the highest A+ Euroclass rating.

## PIR

PIR provides premium thermal performance and is more effective than most other traditional insulation types.

PIR is made by blending together materials to form a rigid foam insulation product. The heat generated during the reaction enables gases to evaporate and become trapped within cells delivering premium thermal performance characteristics.

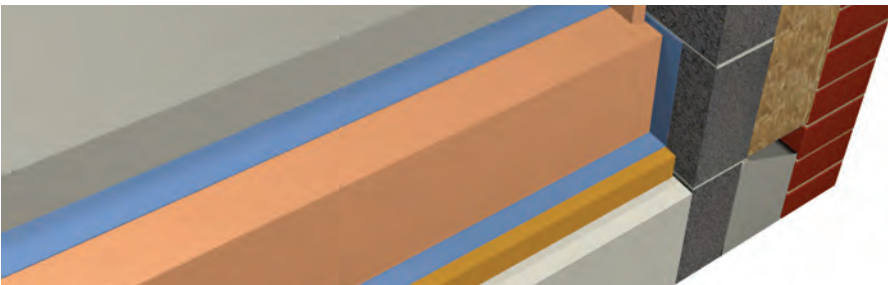
Offering superior thermal performance to most products commonly available, PIR is available in an extensive range of thicknesses suitable for a wide range of applications.

## EXTRUDED POLYSTYRENE (XPS)

Extruded polystyrene (XPS) is made by mixing polystyrene pellets with various ingredients to liquify them. A blowing agent is then injected into the mixture, to form gas bubbles. Next, the foaming liquid is forced through a shaping die. When cooled, it produces a closed-cell foam that is rigid and moisture resistant.

## EXPANDED POLYSTYRENE (EPS)

Expanded polystyrene (EPS) is manufactured from small spherical beads of styrene which are pre-expanded with Pentane. The beads then expand to over 40 times their original size when heated by steam. The expanded beads stick together under heat and pressure inside a mould and the finished product consists of approximately 98% fresh air.



## FLEXI

# ROCKWOOL®



### APPLICATION:

INTERNAL

GROUND

### MATERIAL:

ROCK MINERAL WOOL

A part of the Rockwool SoundPro range, Rockwool 'Flexi' is a unique insulation product with a patented flexible edge along one side. This unique Flexi edge is produced using patented technology to ensure a perfect fit is maintained between the product and its supporting framework. This ensures the insulation's integrity. Flexi is designed for a host of applications where perfect fitting insulation is essential; in walls, partitions, floors and roofs. The 'Flexi' edge allows the product to be tightly fitted between timber and metal frames, without the need for cutting or waste.

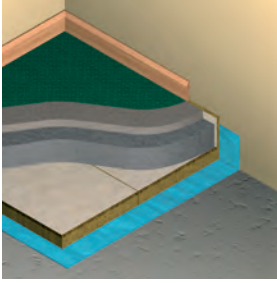
Cat.no	Description	Thickness mm	Width mm	Length mm	Qty per pack	R-Value	Thermal Conductivity W/mk	M <sup>2</sup> per pack
N33816	RW FLEXI	70	600	1200	8	1.84	Thermal Performance Rockwool Flexi™ has a thermal conductivity of 0.038 W/mK when tested to EN13162. At 140 mm thickness, Rockwool Flexi™ has a thermal conductivity of 0.035W/mK.	5.76
N34604	RW FLEXI	120	600	1200	5	3.16		4.32
N39770	RW FLEXI	140	400	1200	4	4.00		2.88
N39908	RW FLEXI	50	400	1200	12	1.32		5.76
N39909	RW FLEXI	100	400	1200	6	2.63		2.88
N08944	RW FLEXI	60	400	1200	10	1.58		4.80
N08945	RW FLEXI	60	600	1200	12	1.58		8.64
N08946	RW FLEXI	60	400	1200	12	1.58		5.76
H63988	RW FLEXI	140	600	1200	4	4.00		2.88
H64415	RW FLEXI	90	600	1200	6	2.37		4.32
H64594	RW FLEXI	100	600	1200	6	2.63		4.32
H64595	RW FLEXI	75	600	1200	8	1.97		5.76
H64597	RW FLEXI	50	600	1200	12	1.32		8.64



### The advantages of Flexi are:

- Patented 'Flexi' edge offers accurate fit to all widths
- Will not slump if studs shrink
- Multi-application, fits all typical metal and timber frame spacing
- No waste
- Excellent thermal, acoustic and fire properties
- Easy to handle and install without gaps

## ROCKFLOOR



### APPLICATION:

INTERNAL

GROUND

### MATERIAL:

ROCK MINERAL WOOL

# ROCKWOOL®

Rockwool Rockfloor is a tissue faced high compressive strength slab designed to meet both Part E (Acoustic) and new Part L (2006) thermal regulations. The Rockfloor range offers an unique economic dual density thermal insulation for ground floors and acoustic insulation for separating floors. The Rockfloor range offers both rebated and square edge options. Rockwool Rockfloor boards are supplied with a tissue face on the top surface. Note: The rebated Rockfloor boards allow non-anhydrite screeds to be laid directly onto the boards without the use of a separating layer. The surface also provides a useful medium for marking or scribing the boards for cutting, and facilitates the tight laying and jointing of tongue and groove chipboard.

Cat.no	Description	Thickness mm	Width mm	Length mm	Qty per pack	R-Value	Thermal Conductivity W/mk	M <sup>2</sup> per pack
N32542	RW ACOUSTIC ROCKFLOOR	25	600	1000	96	0.63	0.040	57.60
H46944	RW ACOUSTIC ROCKFLOOR	30	600	1000	80	0.75	0.040	48.00
H46946	RW ACOUSTIC ROCKFLOOR	40	600	1000	60	1.00	0.040	36.00
H46947	RW THERMAL ROCKFLOOR	50	600	1000	4	1.32	0.038	2.4
H46948	RW THERMAL ROCKFLOOR	60	600	1000	3	1.58	0.038	1.8
H46950	RW THERMAL ROCKFLOOR	70	600	1000	3	1.84	0.038	1.8
N32630	RW THERMAL ROCKFLOOR	100	600	1000	2	2.63	0.038	1.2

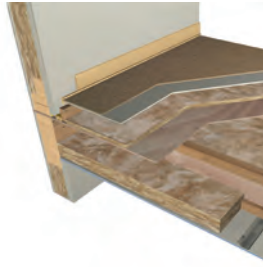
### The advantages of Rockfloor are:

- Excellent acoustic and thermal properties
- High compressive resistance
- Easy handling and fitting
- Minimises thermal and acoustic bridging

# ROCKWOOL

## EARTHWOOL ACOUSTIC JOIST ROLL

**KNAUF**INSULATION



### APPLICATION:

INTERNAL   
GROUND

### MATERIAL:

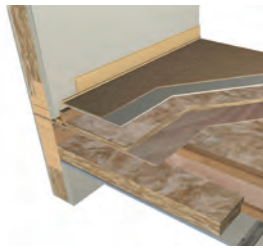
GLASS MINERAL WOOL

Earthwool Acoustic Joist Roll is a flexible, unfaced, glass mineral wool quilt which is lightweight, flexible, resilient and non-combustible. The rolls are 1200mm wide and partially perforated to produce 3 rolls 400mm wide or 2 rolls 600mm wide. Acoustic Joist Roll is specifically designed for friction fitting between joists at 400 or 600mm centres to improve the sound insulation of timber joist floors. Acoustic Joist Roll provides a high level of acoustic absorption, as well as improving the thermal and fire performance of the floor.

Cat.no	Description	Thickness mm	Width mm	Length mm	Qty per pack	R-Value	Thermal Conductivity W/mk	M <sup>2</sup> per pack
N32539	EARTHWOOL ACOUSTIC JOIST ROLL (3x400)	100	1200	9170	24	Thermal values are not applicable to acoustic products.		11.00
N36429	EARTHWOOL ACOUSTIC JOIST ROLL (2x600)	100	1200	9170	24			11.00

## EARTHWOOL ACOUSTIC FLOOR SLAB PLUS

**KNAUF**INSULATION



### APPLICATION:

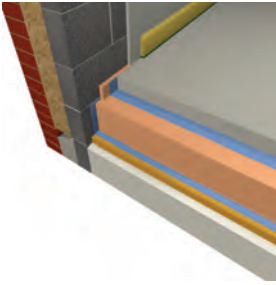
INTERNAL   
GROUND

### MATERIAL:

ROCK MINERAL WOOL

Earthwool Acoustic Floor Slab Plus is an extra high dense rock mineral wool slab for the acoustic insulation of separating floors to meet the requirements of a floating floor treatment in the Robust Details (England and Wales E-FC-1, E-FC-2, E-FS-1).

Cat.no	Description	Thickness mm	Width mm	Length mm	Qty per pack	R-Value	Thermal Conductivity W/mk	M <sup>2</sup> per pack
N08231	EARTHWOOL ACOUSTIC FLOOR SLAB PLUS	25	600	900	11	Thermal values are not applicable to acoustic products.		5.94
N08232	EARTHWOOL ACOUSTIC FLOOR SLAB PLUS	30	600	900	9			4.86



### APPLICATION:

INTERNAL

GROUND

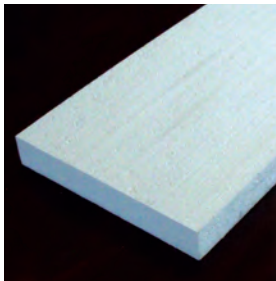
### MATERIAL:

XPS - EXTRUDED POLYSTYRENE

## EARTHWOOL POLYFOAM FLOORBOARD

Polyfoam Floorboard is a high performance, 100% ozone friendly, extruded polystyrene, rigid insulation board. It is lightweight, yet has excellent structural strength and compression resistance.

Cat.no	Description	Thickness mm	Width mm	Length mm	Qty per pack	R-Value	Thermal Conductivity W/mk	M <sup>2</sup> per pack
H19560	POLYFOAM FLOORBOARD STD	25	600	2500	18	2.55	0.029	27.00
H19561	POLYFOAM FLOORBOARD STD	35	600	2500	12	2.20	0.029	18.00
H19562	POLYFOAM FLOORBOARD STD	50	600	2500	9	1.70	0.029	13.50
N32629	POLYFOAM FLOORBOARD STD	65	600	2500	6	1.20	0.029	9.00
H19973	POLYFOAM FLOORBOARD STD	75	600	2500	6	0.85	0.029	9.00



### APPLICATION:

INTERNAL

GROUND

### MATERIAL:

EPS

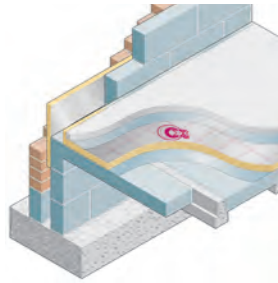
## KAY METZLER



Kay-Cel EPS 70 is a white CFC and HCFC free rigid Expanded Polystyrene board for use in Flooring application.

Cat.no	Description	Thickness mm	Width mm	Length mm	Qty per pack	R-Value	Thermal Conductivity W/mk	M <sup>2</sup> per pack
N36979	POLYSTYRENE SDN EPS 70	25	1200	2400	12		0.038	
N36980	POLYSTYRENE SDN EPS 70	30	1200	2400	10		0.038	
N36981	POLYSTYRENE SDN EPS 70	40	1200	2400	8		0.038	
N36982	POLYSTYRENE SDN EPS 70	50	1200	2400	6		0.038	
N36983	POLYSTYRENE SDN EPS 70	60	1200	2400	5		0.038	
N36984	POLYSTYRENE SDN EPS 70	75	1200	2400	4		0.038	
N36985	POLYSTYRENE SDN EPS 70	100	1200	2400	3		0.038	

## GA4000



### APPLICATION:

INTERNAL

GROUND

### MATERIAL:

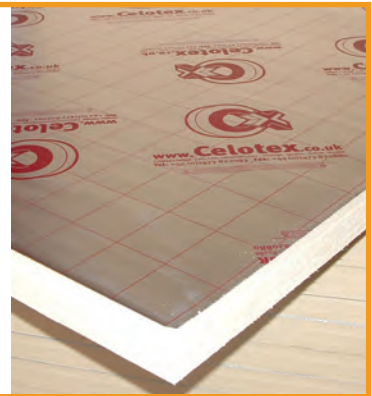
PIR

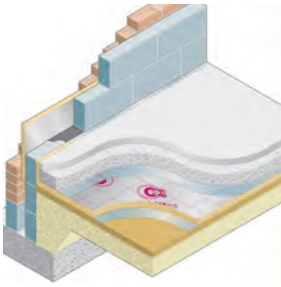
Celotex GA4000 has long been at the heart of the Celotex product range, providing a range of thermal insulation solutions to the builder. GA4000 is a general purpose insulation board suitable for floor, wall and roof applications.

Cat.no	Description	Thickness mm	Width mm	Length mm	Qty per pack	R-Value	Thermal Conductivity W/mk	M <sup>2</sup> per pack
N67989	CELOTEX GA4050	50	1200	2400	8	2.25	0.022	23.04
N67990	CELOTEX GA4055	55	1200	2400	7	2.50	0.022	20.16
N67991	CELOTEX GA4060	60	1200	2400	7	2.70	0.022	20.16
N67992	CELOTEX GA4065	65	1200	2400	6	2.95	0.022	17.28
N67993	CELOTEX GA4070	70	1200	2400	6	3.15	0.022	17.28
N67994	CELOTEX GA4075	75	1200	2400	6	3.40	0.022	17.28
N67995	CELOTEX GA4080	80	1200	2400	6	3.60	0.022	17.28
N68100	CELOTEX GA4085	85	1200	2400	5	3.85	0.022	14.40
N67996	CELOTEX GA4090	90	1200	2400	5	4.05	0.022	14.40
N68101	CELOTEX GA4095	95	1200	2400	5	4.30	0.022	14.40
N67997	CELOTEX GA4100	100	1200	2400	12	4.50	0.022	34.56

### The advantages of GA4000 are:

- Is suitable for use in a number of applications including roof, wall and floor systems
- Is easy to cut and shape
- Includes low emissivity foil facings giving improved thermal insulation with cavity air spaces
- Provides reliable long-term energy savings for buildings
- Improved thermal performance of 0.022W/mK helping achieve better U-values and thinner solutions
- Approved under BBA certificate 95/3197
- Helps meet the requirements of Part L 2010





## APPLICATION:

INTERNAL

GROUND

## MATERIAL:

PIR

## FR4000

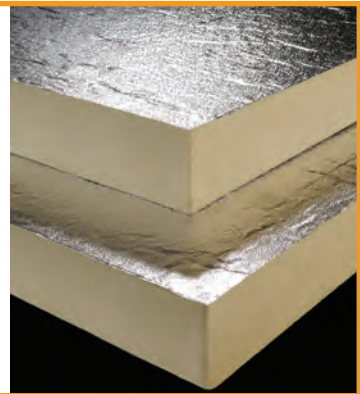


Celotex FR4000 is a premium performance PIR solution. Through ongoing product development and breakthrough design, FR4000 offers enhanced thermal performance compared to typical PIR as well as Class O fire performance throughout the entire product. FR4000 is specifically targeted at pitched roof, wall and floor applications.

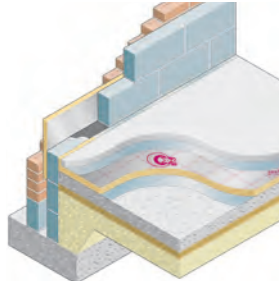
Cat.no	Description	Thickness mm	Width mm	Length mm	Qty per pack	R-Value	Thermal Conductivity W/mk	M <sup>2</sup> per pack
N41689	CELOTEX FR4025	25	1200	2400	16	1.10	0.022	46.08
N41694	CELOTEX FR4050	50	1200	2400	8	2.25	0.022	23.04
N41695	CELOTEX FR4060	60	1200	2400	7	2.70	0.022	20.16
N41696	CELOTEX FR4070	70	1200	2400	6	3.15	0.022	17.28
N41697	CELOTEX FR4075	75	1200	2400	6	3.40	0.022	17.28
N41698	CELOTEX FR4080	80	1200	2400	6	3.60	0.022	17.28
N41699	CELOTEX FR4090	90	1200	2400	5	4.05	0.022	14.40
N41700	CELOTEX FR4100	100	1200	2400	12	4.50	0.022	34.56
N41701	CELOTEX FR4110	110	1200	2400	11	5.00	0.022	31.68
N41702	CELOTEX FR4120	120	1200	2400	10	5.45	0.022	28.80
N41703	CELOTEX FR4130	130	1200	2400	9	5.90	0.022	25.92
N41704	CELOTEX FR4140	140	1200	2400	8	6.35	0.022	23.04
N41705	CELOTEX FR4150	150	1200	2400	8	6.80	0.022	23.04

### The advantages of FR4000 are:

- Has the best fire performance of any PIR insulation board, with Class O performance throughout the entire product
- Comes in a standard board size of 1200mm x 2400mm
- Features low emissivity textured aluminium foil facings for improved thermal performance within cavity air-spaces
- Improved thermal performance of 0.022W/mk helping achieve better U-values and thinner solutions
- Approved under BBA certificate 95/3197
- Helps meet the requirements of Part L 2010



## TB4000



### APPLICATION:

INTERNAL

GROUND

### MATERIAL:

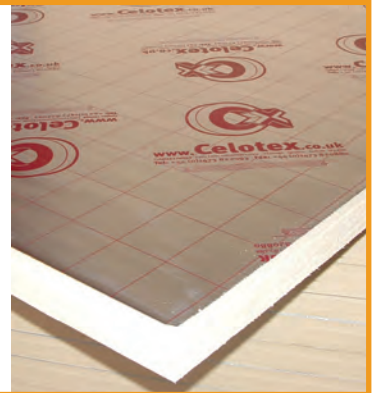
PIR

Celotex TB4000 is a thin foil-faced insulation board especially developed to provide simple solutions to overcome thermal bridging. It highlights our industry leading position as a manufacturer of thin boards enabling the maximisation of internal space. Celotex is unique in being able to offer boards as thin as 12mm to the market for this purpose. TB4000 can be used in floors, walls and roofs as well as a multi-purpose insulation board.

Cat.no	Description	Thickness mm	Width mm	Length mm	Qty per pack	R-Value	Thermal Conductivity W/mk	M <sup>2</sup> per pack
N68012	CELOTEX TB4012	12	1200	2400	28	0.50	0.022	80.64
N68013	CELOTEX TB4020	20	1200	2400	20	0.90	0.022	57.60
N68014	CELOTEX TB4025	25	1200	2400	16	1.10	0.022	46.08
N68015	CELOTEX TB4030	30	1200	2400	14	1.35	0.022	40.32
N68016	CELOTEX TB4035	35	1200	2400	12	1.55	0.022	34.56
N68017	CELOTEX TB4040	40	1200	2400	10	1.80	0.022	28.80
N68018	CELOTEX TB4045	45	1200	2400	9	2.00	0.022	25.92

### The advantages of TB4000 are:

- Is specifically designed to eliminate thermal bridges
- Is suitable for use in a number of applications including roof, wall and floor systems
- Is easy to cut and shape
- Includes low emissivity foil facings giving improved thermal insulation with cavity air spaces
- Provides reliable long-term energy savings for buildings
- Improved thermal performance of 0.022W/mK helping achieve better U-values and thinner solutions
- Approved under BBA certificate 95/3197
- Helps meet the requirements of Part L 2010





## APPLICATION:

INTERNAL

GROUND

## MATERIAL:

PIR

## SL4000



Celotex SL4000 is a high performance thermal insulation board combining premium performance PIR insulation bonded to 6mm calcium silicate. SL4000 is specifically targeted at semi-exposed and exposed applications such as concrete soffit floors.

Cat.no	Description	Thickness mm	Width mm	Length mm	Qty per pack	R-Value	Thermal Conductivity W/mk	M <sup>2</sup> per pack
N42056	CELOTEX SL4056	56	1200	2400	20	2.25	0.022	57.60
N42057	CELOTEX SL4066	66	1200	2400	17	2.70	0.022	48.96
N42058	CELOTEX SL4076	76	1200	2400	15	3.15	0.022	43.20
N42059	CELOTEX SL4086	86	1200	2400	13	3.65	0.022	37.44
N42060	CELOTEX SL4096	96	1200	2400	12	4.10	0.022	34.56
N42061	CELOTEX SL4106	106	1200	2400	11	4.55	0.022	31.68
N42062	CELOTEX SL4116	116	1200	2400	10	5.00	0.022	28.80
N42063	CELOTEX SL4126	126	1200	2400	9	5.45	0.022	25.92

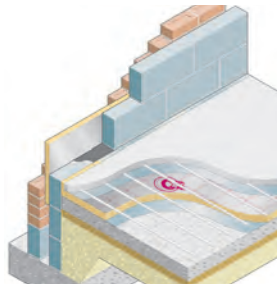
### The advantages of SL4000 are:

- Utilises the unrivalled insulation properties of premium Celotex FR4000 with calcium silicate providing additional fire performance
- Reduces installation times due to the insulation and calcium silicate being supplied as one product
- Delivers greater impact resistance compared to exposed insulation systems
- Provides a decorative finish with no need for on-site decorating
- Is a lighter weight solution than other insulation options
- Offers enhanced thermal performance and even lower U-values
- Provides long term energy savings for buildings
- Helps meet the requirements of Part L 2010



# FLOORS

## FF4000



### APPLICATION:

- INTERNAL
- GROUND

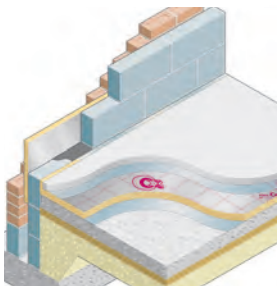
### MATERIAL:

PIR

Celotex FF4000 is aimed specifically at the underfloor heating market where the increased compressive strength of the product provides better dimensional stability and resistance to site traffic during installation whilst the foam structure ensures better pipe clip retention.

Cat.no	Description	Thickness mm	Width mm	Length mm	Qty per pack	R-Value	Thermal Conductivity W/mk	M <sup>2</sup> per pack
N68117	CELOTEX FF4050	50	1200	2400	24	2.25	0.022	69.12
N05316	CELOTEX FF4070	70	1200	2400	17	3.15	0.022	48.96
N68118	CELOTEX FF4075	75	1200	2400	16	3.40	0.022	46.08
N68119	CELOTEX FF4085	85	1200	2400	14	3.85	0.022	40.32
N05317	CELOTEX FF4090	90	1200	2400	13	4.05	0.022	37.44
N67985	CELOTEX FF4100	100	1200	2400	12	4.50	0.022	34.56
N68120	CELOTEX FF4125	125	1200	2400	9	5.65	0.022	25.92

## XR4000



### APPLICATION:

- INTERNAL
- GROUND

### MATERIAL:

PIR

Celotex XR4000 enables users to achieve lower U-values with a single layer of insulation than has previously been possible. This will help designers meet present and future legislation including the Building Regulations, BREEAM and the Code for Sustainable Homes. XR4000 is appropriate for use in floor, wall and roof applications.

Cat.no	Description	Thickness mm	Width mm	Length mm	Qty per pack	R-Value	Thermal Conductivity W/mk	M <sup>2</sup> per pack
N67998	CELOTEX XR4110	110	1200	2400	11	5.00	0.022	31.68
N67999	CELOTEX XR4120	120	1200	2400	10	5.45	0.022	28.80
N68000	CELOTEX XR4130	130	1200	2400	9	5.90	0.022	25.92
N68001	CELOTEX XR4140	140	1200	2400	8	6.35	0.022	23.04
N68002	CELOTEX XR4150	150	1200	2400	8	6.80	0.022	23.04
N68003	CELOTEX XR4165	165	1200	2400	7	7.50	0.022	20.16
N05315	CELOTEX XR4200	200	1200	2400	6	9.05	0.022	17.28