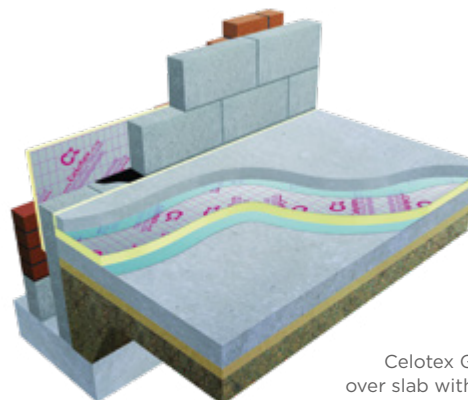


Use [Celotex GA4000](#) or [Celotex XR4000](#) high performance thermal insulation in concrete slab floor applications to minimise insulation thickness and give the following benefits:

- Easy to cut boards to fit in most spaces
- Provides reliable long term energy savings for buildings
- Excellent dimensional stability
- No thermal bridging at floor edges
- Tightly butted joints for insulation continuity



Celotex GA4000  
over slab with screed

## Celotex GA4000 Technical Data

Thickness (mm)	R-value (m <sup>2</sup> K/W)	Maximum Board Weight (kg/m <sup>2</sup> )
GA4050	2.25	1.92
GA4060	2.70	2.26
GA4070	3.15	2.61
GA4075	3.40	2.78
GA4080	3.60	2.96
GA4090	4.05	3.31
GA4100	4.50	4.15

## Celotex XR4000 Technical Data

Thickness (mm)	R-value (m <sup>2</sup> K/W)	Maximum Board Weight (kg/m <sup>2</sup> )
XR4110	5.00	4.54
XR4120	5.45	4.93
XR4130	5.90	5.32
XR4140	6.35	5.71
XR4150	6.80	6.10
XR4165	7.50	6.69
XR4200	9.05	8.06

For product information for your project, please contact either our [technical team](#) or our [specification team](#).

## Example U-value calculation: Ground Floor - Concrete Slab

Celotex Product	Thickness (mm)	Perimeter / Area Ratio									
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Celotex GA4000	50	0.13	0.18	0.22	0.24	0.25	-	-	-	-	-
Celotex GA4000	60	0.12	0.17	0.20	0.21	0.23	0.24	0.25	0.25	-	-
Celotex GA4000	70	0.11	0.16	0.18	0.19	0.21	0.21	0.22	0.23	0.23	0.24
Celotex GA4000	75	0.11	0.15	0.17	0.19	0.20	0.20	0.21	0.22	0.22	0.22
Celotex GA4000	80	0.11	0.14	0.16	0.18	0.19	0.20	0.20	0.21	0.21	0.21
Celotex GA4000	90	0.10	0.14	0.15	0.16	0.17	0.18	0.18	0.19	0.19	0.19
Celotex GA4000	100	0.10	0.13	0.14	0.15	0.16	0.17	0.17	0.17	0.18	0.18
Celotex XR4000	110	0.09	0.12	0.13	0.14	0.15	0.15	0.16	0.16	0.16	0.16
Celotex XR4000	120	0.09	0.11	0.13	0.13	0.14	0.14	0.15	0.15	0.15	0.15
Celotex XR4000	130	0.08	0.11	0.12	0.13	0.13	0.14	0.14	0.14	0.14	0.14
Celotex XR4000	140	0.08	0.10	0.11	0.12	0.12	0.13	0.13	0.13	0.13	0.13
Celotex XR4000	150	0.08	0.10	0.11	0.11	0.12	0.12	0.12	0.12	0.13	0.13
Celotex XR4000	165	0.07	0.09	0.10	0.11	0.11	0.11	0.11	0.11	0.12	0.12
Celotex XR4000	200	0.07	0.08	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.10

### U-value

For U-values see variable layer list, or for more options, refer to our online U-value calculator at [celotex.co.uk](http://celotex.co.uk)

Based on 65mm screed and 20mm insulation as perimeter upstand

## Installation Guidelines

Celotex insulation boards should not be installed when the temperature is at or below 4°C and falling.

### Over slab installation guidelines

- Install a damp proof membrane below the Celotex. This can either be over the top or below the slab. The damp proof membrane must provide continuity with the damp proof course in the surrounding walls.
- Level the surface of the slab; it should be smooth and free of projections.
- If required, use a thin layer of sand blinding on a rough, tamped slab to ensure that the insulation boards are continuously supported.
- Use the Celotex Insulation Saw to cut and fit insulation upstand to floor perimeter, to meet a minimum R-value of 0.75m<sup>2</sup>K/W, (i.e. Celotex TB4020). The upstand depth should be equal to the sum of the slab insulation and the screed thickness. The upstand thickness should not exceed the combined thickness of the wall linings.
- Lay the insulation boards directly onto the prepared slab with closely-butted, staggered cross-joints.
- Lay a polythene vapour control layer (VCL) over the insulation to minimise the risk of condensation forming at the insulation/slab interface and to prevent liquid screed migration. This separating layer will also prevent any reaction between the wet screed and foil facer. The VCL should be turned up at the edge of the floor to run up the surface of the upstand insulation to finish level with this and the top of screed. It is recommended good practice that all joints should be lapped 150mm and sealed.
- Apply a sand/cement or self levelling screed over the VCL and Celotex insulation boards to a minimum thickness of 65mm.

### Under slab installation guidelines

- Level hardcore and blind with sand
- Install damp proof membrane and lap into damp proof course
- Use the Celotex Insulation Saw to cut and fit insulation, thickness to achieve required U-value
- Use the Celotex Insulation Saw to cut and fit insulation upstand to floor perimeter, to meet a minimum R-value of 0.75m<sup>2</sup>K/W, (i.e. Celotex TB4020). Height of insulation to coincide with required finished floor level.
- Lay a polythene vapour control layer (VCL) over the insulation to minimise the risk of condensation forming at the insulation/slab interface and to prevent liquid screed migration. This separating layer will also prevent any reaction between the wet screed and foil facer. The VCL should be turned up at the edge of the floor to run up the surface of the upstand insulation to finish level with this and the top of screed. It is recommended good practice that all joints should be lapped 150mm and sealed.
- Lay concrete to required finished floor level and smooth over with float finish.

### Chipboard floor finish

- A VCL should be laid over the Celotex insulation boards and turned up 100mm at room perimeters, behind the skirting. It is recommended good practice that all joints should be lapped 150mm and sealed.
- The chipboard must be minimum 18mm tongued and grooved flooring grade type C4 to BS 5669. Lay the chipboard with staggered joints, glued with a woodworking adhesive.
- Provide a 10mm-12mm gap at all perimeters and abutments to allow for expansion. This can be achieved by the use of temporary wedges.
- Where chipboard is butted together without a tongued and grooved joint and at all external doorways (for the width of the threshold), a treated timber batten must be used in lieu of the insulation boards.

Use scaffold boards or other protection to prevent wheelbarrows and other traffic damaging the insulation.

These recommendations are suitable for normal domestic floor loadings. If higher loadings are required, it may be necessary to increase the screed thickness and provide reinforcement within the screed.

Consult a structural engineer or a specialist flooring contractor.

Where building regulation approval is required, you should take advice from your local building control authority and the building designer.



We have an experienced team of energy assessors who can carry out SAP calculations, water calculations, airtightness testing and much more. [Contact us.](#)



Celotex presents a comprehensive range of thermal bridging models featuring our PIR insulation products. This tool helps you identify the build-up required to reduce heat loss through a typical junction of elements or at openings. [Sign up now.](#)

### Certifications and accreditations

Celotex products GA4000 and XR4000 are covered by BBA Agrément Certificate No 17/5405. To download a copy of this certificate, visit the 'literature' pages on our website.

### Further information

If you wish to contact Celotex, please do so through the '[contact us](#)' page on our website. For information regarding storage, installation and handling of Celotex products, or for health & safety information, please refer to our online 'literature' pages.

Celotex has a policy of continuous product development and reserves the right to alter product designs or specifications without prior notice.

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