

URSA TERRA MINERAL WOOL
URSA WALLTEC BLACK 32, URSAPAN BLACK
& URSA WALLTEC REFLEX

Insulation for Soffits



The Company

URSA is a major UK and European manufacturer of glass mineral wool and extruded polystyrene with 11 production sites and a commercial presence in around 40 markets worldwide.

As a leading supplier of insulation and insulating systems, **URSA** has succeeded in fully addressing user requirements for thermal and acoustic insulation. Quality products for every application and excellent customer support are the cornerstones of the corporate culture.

Our mission at URSA is to be the preferred energy savings and acoustic comfort partner in the construction business for glass mineral wool and extruded polystyrene, driven by commercial excellence, the most efficient supply chain and the passion of our team.



URSA WALLTEC BLACK, URSAPAN BLACK & URSA WALLTEC REFLEX

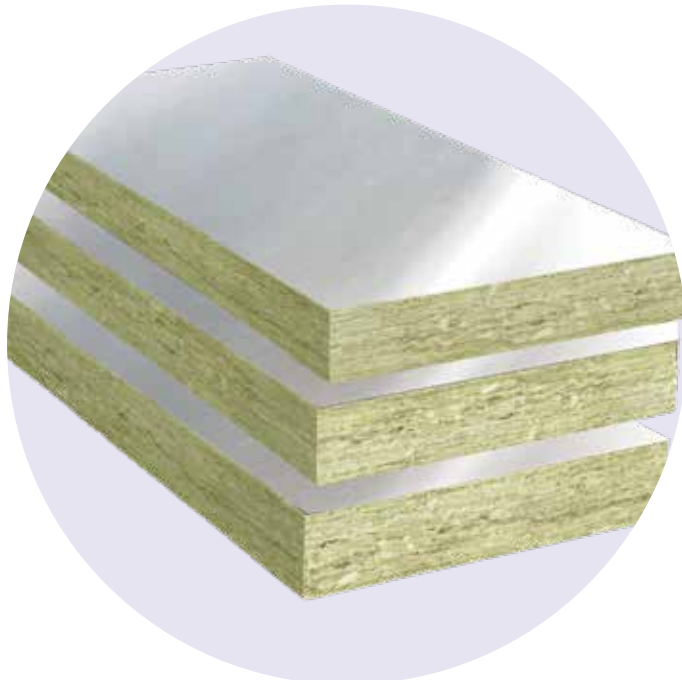
URSA WALLTEC BLACK and **URSAPAN BLACK** are lightweight, non-combustible, semi-rigid glass mineral wool slabs treated with silicon based water repellent. They are faced with a black glass fibre tissue on one side.

URSA WALLTEC REFLEX is a lightweight, non-combustible, semi-rigid glass mineral wool slab treated with silicon based water repellent. The slabs are faced with a micro-perforated aluminium foil on one side.

They are for use as soffit insulation in undercrofts, underground car parks and similar semi-exposed applications. They can be used under concrete, metal composite, metal and timber floors.

URSA WALLTEC BLACK and **URSA WALLTEC REFLEX** have a thermal conductivity of 0.032 W/mK.

URSAPAN BLACK has a thermal conductivity of 0.035 W/mK.



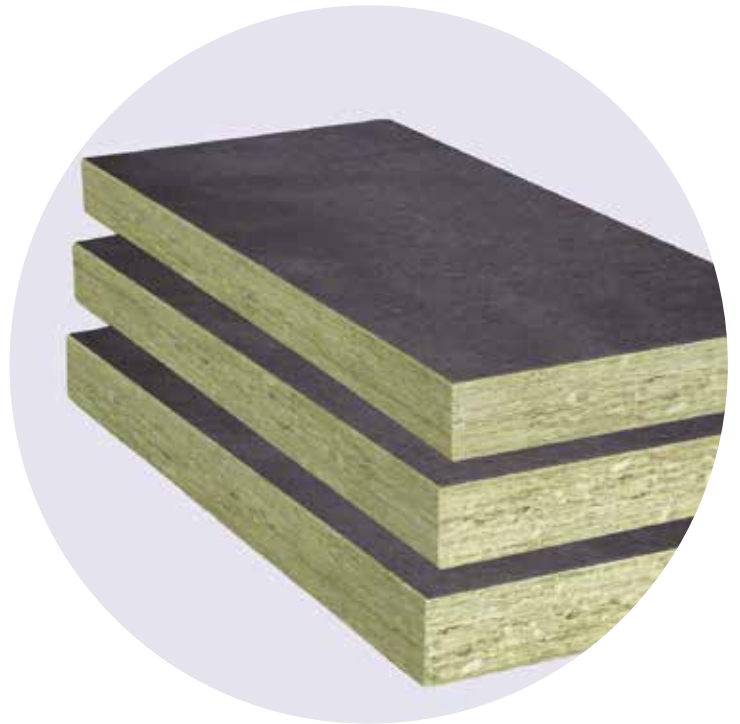
Benefits

Labour and cost saving

Larger slab size means 12.5% fewer boards to install and 12.5% fewer fixings required.

Quality

Outstanding product quality manufactured to ISO 9001 Quality Systems.



Fire performance

URSAPAN BLACK, **URSA WALLTEC BLACK** and **URSA WALLTEC REFLEX** have a reaction to fire rating of Euroclass A1 making them totally non-combustible and fire safe.

Environment

URSA mineral wool is manufactured from an abundant, sustainable resource and utilises up to 73% glass waste.

Global warming potential

URSAPAN BLACK, **URSA WALLTEC BLACK** and **URSA WALLTEC REFLEX** do not use chemical blowing agents so the Global Warming Potential (GWP) arising from them is zero.

User friendly

Our new generation URSA TERRA mineral wool has a 'soft touch' feel making it easier to handle and install whilst still maintaining its excellent mechanical properties.

Acoustic

URSAPAN BLACK, **URSA WALLTEC BLACK** and **URSA WALLTEC REFLEX** have excellent sound insulation characteristics and help to enhance the acoustic comfort of the building.

Reduced risk of condensation

Insulating the soffit creates evenly warm conditions so reducing the risk of condensation.

Handling

URSAPAN BLACK, **URSA WALLTEC BLACK** and **URSA WALLTEC REFLEX** slabs are lightweight yet tough, resilient and easy to install. They are easily cut using a sharp knife.

Durability

The slabs are rot-proof, durable and maintenance free. They are non-hygroscopic and will not slump in normal use.

All of our products carry both the UKCA and CE Mark to show compliance with BS EN 13162 and are quality assured to ISO 9001.

Design

An exposed soffit is a floor, normally concrete, that separates a heated environment (dwellings, apartments or commercial) from an unheated space below – as such the floor must be insulated to comply with the Building Regulations/Standards. Adding insulation to the underside of the slab means no disruption to the building occupants.

Thermal

The class leading performance **URSA WALLTEC BLACK** and **WALLTEC REFLEX**, thermal conductivity 0.032 W/mK, provides a continuous layer of insulation across the soffit. Alternatively, **URSAPAN BLACK**, thermal conductivity 0.035 W/mK, may be used. Typically expect 180mm-200mm of insulation in this application

Acoustic

The mass and rigidity of concrete floors will give a good acoustic performance. This can be improved using URSA soffit insulation as an acoustic absorber and a (decoupled) suspended ceiling. A typical 150mm concrete slab will give approximately 50 dB Rw; this can be improved to over 65 dB Rw with **URSAPAN BLACK**, **URSA WALLTEC BLACK** or **URSA WALLTEC REFLEX** slabs and 2 layers of plasterboard as the suspended ceiling finish.

Thermal Bridging

With increasing levels of insulation, it is vitally important to ensure continuity of the insulation at the junction of elements to both avoid excessive heat loss and potential localised condensation issues. Concrete or steel frame structures in particular need careful design.

The junction of the floor and the wall has the potential to be a major thermal bridge. Design for continuous insulation with the wall insulation joining with the soffit insulation.

Downstand beams should be fully encapsulated (see 'Installation' below) and columns may need additional insulation around them to extend the thermal bridge path.

Fire Performance

URSAPAN BLACK, **URSA WALLTEC BLACK** and **URSA WALLTEC REFLEX** slabs are non-combustible. They have a Euroclass A1 Reaction to Fire rating to BS EN 13501-1.

The floor structure itself will give the required resistance to fire, in the case of concrete and metal composite floors this can be up to 4 hrs; the non-combustible insulation will not prejudice the fire resistance properties of the floor or add to the fire load in the building.

Condensation

The floor structure is on the warm side of the insulation so the construction is inherently safe from condensation risk. Confirmation of the condensation risk can be provided by the URSA Technical Department.



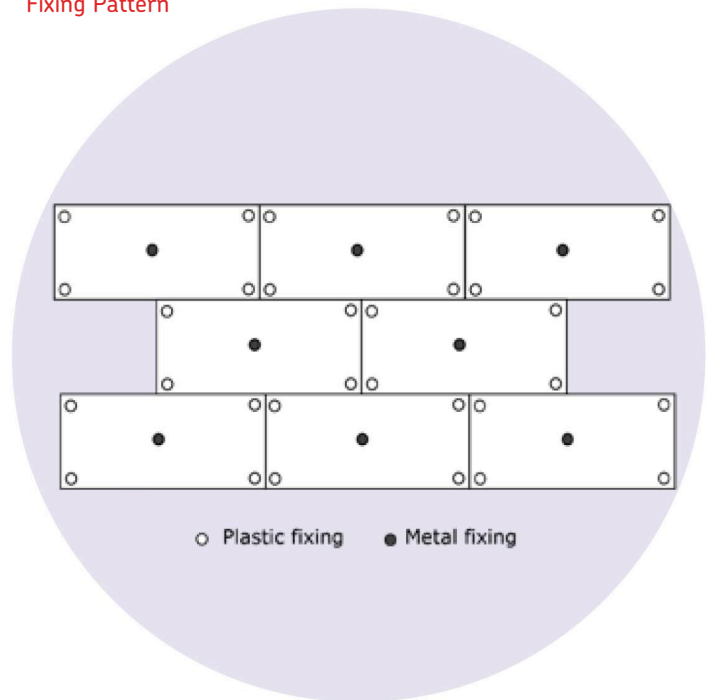
Installation

Insulation Below a Concrete/Metal Composite Floor Slab
URSAPAN BLACK, URSA WALLTEC BLACK and URSA WALLTEC REFLEX slabs are simply mechanically fixed to the underside of the floor slab.

The usual procedure for construction is;

1. Consider the layout pattern to avoid excessive cut pieces. In longer runs use a string guide or laser to ensure the first row of boards is straight – check on a regular basis.
2. Fit the slabs in a staggered, brick bond pattern.
3. Use screw or expansion fixings suitable for concrete (or other substrate) with 70mm minimum diameter washer. Use 5 fixings per board – see fixing pattern.
4. The central fixing to full and part boards must be metal. The corner fixings may be plastic and should be 100-150mm from the corner.
5. As an alternative all 5 fixings may be metal though this may impact the U-value slightly.
6. **URSAPAN BLACK, URSA WALLTEC BLACK and URSA WALLTEC REFLEX** slabs must be tightly butt jointed and with good contact onto the substrate – the resilient nature of the slabs helps in this respect.
7. Do not overdrive or overtighten the fixings.
8. Downstand beams and changes in level of the soffit should be fully encapsulated with a vertical section of insulation; mitre the slab edges to ensure the black or foil face is maintained. Alternatively cut a 90° V-shaped notch to almost the full thickness of the insulation to allow the slab to be bent whilst maintaining the black/foil facing.

Fixing Pattern



Heat Loss Calculations

The normal method of calculating U-values in floors, walls and roofs is the Combined Method (see BS EN ISO 6946) which as well as assessing the thermal bridge effect of mortar joints, timber studs etc., also accounts for air gaps in the insulation and mechanical fasteners penetrating the insulation.

Compliance with the Building Regulations is shown by limiting the overall CO₂ emissions from the building – this gives considerable design flexibility but there are no specific U-values, except the worst allowable, that must be achieved.

Typical Construction

150mm concrete slab

URSA WALLTEC BLACK/URSAPAN BLACK

1 stainless steel fixing, cross section area of 25mm², at the centre of each slab and plastic fixings at each corner.

In new build dwellings a U-value of 0.15 W/m²K or better will help ensure Building Regulation compliance. In non-dwellings aim for 0.18 W/m²K or better.

Thickness (mm)	U-Value (W/m ² K)	
	URSA WALLTEC BLACK	URSAPAN BLACK
100	0.29	0.32
120	0.25	0.27
140	0.22	0.23
150	0.20	0.22
160	0.19	0.21
180	0.17	0.18
200	0.15	0.17
220	0.14	0.15
240	0.13	0.14

Typical Construction

150mm concrete slab

URSA WALLTEC REFLEX

1 stainless steel fixing, cross section area of 25mm², at the centre of each slab and plastic fixings at each corner.

Thickness (mm)	U-Value (W/m ² K)
	URSA WALLTEC REFLEX
128	0.23
138	0.21
157	0.19

Technical Details

Specification Clause

The soffit insulation shall bemm thick **URSAPAN BLACK/URSA WALLTEC BLACK/URSA WALLTEC REFLEX** semi-rigid mineral wool slab. Insulation to be installed as work proceeds in accordance with URSA UK Ltd instructions and in accordance with accepted good building practice.

Thermal Conductivity

The declared thermal conductivity of **URSA WALLTEC BLACK** and **URSA WALLTEC REFLEX** is 0.032 W/mK when tested to BS EN 13162.

The declared thermal conductivity of **URSAPAN BLACK** is 0.035 W/mK when tested to BS EN 13162.

Density

The nominal density of **URSA WALLTEC BLACK** and **URSA WALLTEC REFLEX** is 32 kg/m³.

The nominal density of **URSAPAN BLACK** is 22 kg/m³.

Reaction to Fire

Euroclass A1 (non-combustible) to BS EN 13501-1.

Moisture Vapour Transmission

URSAPAN BLACK and **URSA WALLTEC BLACK** have a minimal resistance to the passage of water vapour thus allowing the construction to breathe. The practical value for the moisture vapour resistivity is 5 MNs/gm.

The bright, aluminium foil face of **URSA WALLTEC REFLEX** is micro-perforated to reduce its moisture vapour resistance. The practical value for the moisture vapour resistance is 0.65 MNs/g.

Foil Emissivity

The bright, aluminium foil face of **URSA WALLTEC REFLEX** has an emissivity of 0.10.

Specific Heat Capacity

The specific heat capacity is 1.03 kJ/kgK.

Durability

When correctly installed URSA mineral wool products are maintenance free and have an indefinite life at least equal to that of the building.

Environmental Information

BRE Green Guide

All URSA mineral wool products achieve the best possible 'A+' rating under the BRE Green Guide.

Manufactured to BS EN ISO 14001.



URSA WALLTEC BLACK

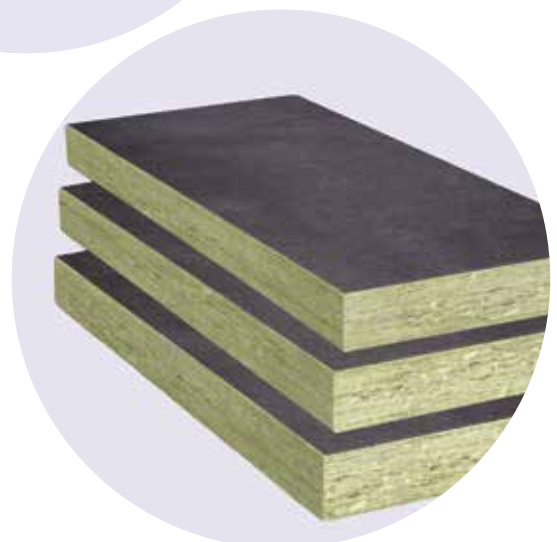
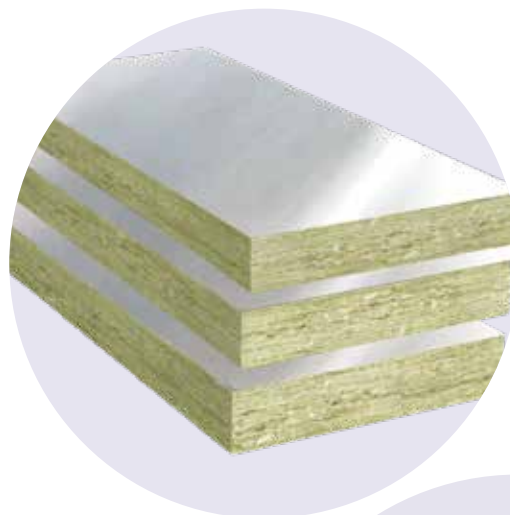
Dimensions		
Thickness (mm)	Length (mm)	Width (mm)
60, 80, 100, 120, 140, 150, 160, 180, 200, 220 & 240	1350	600

URSA WALLTEC REFLEX

Dimensions		
Thickness (mm)	Length (mm)	Width (mm)
128, 138 & 157	1350	600

URSAPAN BLACK

Dimensions		
Thickness (mm)	Length (mm)	Width (mm)
100, 120, 130, 140, 150, 160, 180, 200, 220 & 240	1350	600



Storage

URSA mineral wool products are supplied wrapped in polythene to provide short-term protection. On site the products should be stored clear of the ground, on a clean level, surface and preferably under cover to protect them from prolonged exposure to moisture or mechanical damage.

Chemical Compatibility

URSA mineral wool products are compatible with all common construction materials, alkalis, dilute acids, mineral oil and petrol. Products that have been in contact with harsh solvents, acids or saturated with water should not be used.

Health and Safety

URSA mineral wool products are inherently safe to handle. During cutting or handling any dust generated is of nuisance value only; the wearing of dust masks, gloves and long sleeved clothing is recommended. Large scale machining should be connected to a dust extraction system.

A comprehensive Health and Safety data sheet is available from URSA UK Ltd upon request.

Contact Details

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Availability

URSA WALLTEC BLACK, URSA WALLTEC REFLEX & URSAPAN BLACK are available nationally through insulation distributors and builders' merchants.

References

The Building Regulations and supporting documents.

CIBSE Guide A3 - Thermal Properties of Buildings and Components.

BS 5250 Management of Moisture in Buildings – Code of Practice.

BRE Digests, Information Papers and Good Building Guides.