




# XPS Insulation

## Car Park Decks - Technical Data Sheet

The exceptional high strength capability of Sundolitt XPS makes it the ideal insulation for Car Park Decks. With excellent thermal performance to reduce energy consumption for heating and cooling the building below.

Car park decks may be created as an inverted (protected membrane) or traditional warm roof. Sundolitt XPS is suitable for use within either construction as effective insulation against heat loss.

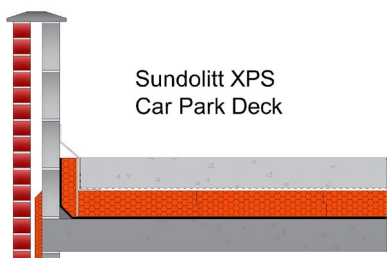
### XPS Benefits

-  High compressive strengths up to 700 kPa
-  Excellent thermal insulating properties
-  Resistant to freeze/thaw
-  Flame Retardant available
-  ODP = 0 GWP = <5
-  Rated A in BRE Green Guide
-  Fully Recyclable

### Design Considerations

A car park over a heated space is constructed similar to a warm flat roof with the main difference being the higher load imposed on the insulation. Vehicle weights will need to be taken into account within the design and Sundolitt XPS is capable of withstanding these high loads.

Sundolitt XPS Insulation has exceptionally high compressive strength up to 700kN/m<sup>2</sup> and can be incorporated even where LGV or, more importantly, access for Fire Engines is required.



### Installation

Sundolitt XPS is easy to install and safe to handle without additional PPE. The insulation boards may be cut with a fine toothed saw and are loose laid.

Our XPS Insulation is available with rebated edges ensuring a close fit between the boards and reducing the risk of cold bridging at the joints. The insulation may also be placed in multiple layers, cross laid to further reduce the risk.

### Inverted Roof

This is often the preferred option for a Car Park Deck as the waterproofing layer is protected against damage and wear from vehicle traffic. The XPS Insulation is placed over the waterproofing layer which is installed directly over the structural deck.

A separating layer and concrete screed is then placed over the insulation. A wearing surface may then be applied to the concrete suitable for vehicle traffic.

### Warm Flat Roof


This type of construction sees the XPS Insulation installed over a VCL above the structural deck. A separating layer and concrete screed are placed over the insulation and the waterproofing is laid over the screed.

The waterproofing preferred for this application is mastic asphalt, other liquid applied membranes suitable for vehicle traffic may also be used.

In both applications XPS upstands are installed around the perimeter to reduce the risk of thermal bridging.

## CONTACT US

 01786 471586

 [enquiriesuk@sundolitt.com](mailto:enquiriesuk@sundolitt.com)

 [www.sundolitt.com](http://www.sundolitt.com)

### Thermal Performance

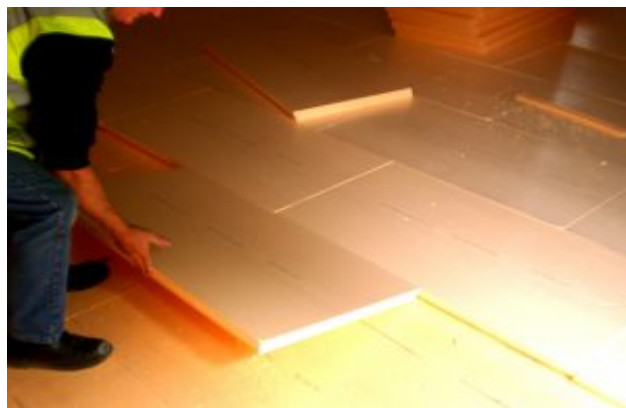
The excellent thermal properties of XPS provide insulation with minimum thickness to meet Building Regulation requirements.

Thermal Resistance Values (m <sup>2</sup> K/W)				
Thickness (mm)	XPS200	XPS300	XPS500	XPS700
30	0.909	0.909		
40	1.212	1.212		
50	1.515	1.515	1.471	1.471
60	1.765	1.765	1.765	1.765
75	2.206	2.206		
80	2.353	2.353	2.353	2.353
100	2.778	2.778	2.778	2.778
120	3.077	3.077	3.077	3.077
130	3.333	3.333	3.333	3.333
140	3.590	3.590	3.590	3.590
150	3.846	3.846	3.846	3.846
160	4.103	4.103	4.103	4.103

### Longevity

XPS is inert and will last the lifetime of the building into which it is installed.

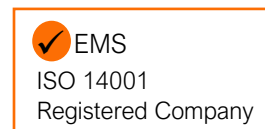
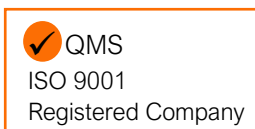
A protective layer such as Polyethylene sheet should be placed over the insulation to ensure it does not come into contact with hydrocarbons.



Standard Sizes Available		
Dimensions (mm)	Length	Width
Rebated Edge	2385	585
Square Edge	2400	600
Thickness	30, 40, 50, 60, 75, 80, 100, 120, 130, 140, 150 and 160mm	

### Accreditation

Sundolitt XPS is manufactured in accordance with BS EN ISO 13164.



EPD Certificate – nepd-396-274-EN – demonstrates the excellent environmental performance of Sundolitt XPS which has emissions of 0.0073 kg CO<sub>2</sub> calculated in accordance with ISO 14025.

### Sundolitt XPS - Physical Properties

	XPS200	XPS300	XPS500	XPS700
Design Load at 2% nominal Compression (kPa)	90	140	225	250
Compressive Strength at 10% nominal Compression (kPa)	200	300	500	700
Thermal Conductivity (W/mK) at 50mm thickness	0.033	0.033	0.034	0.034

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