

# Wilhams Soffit Liner

Thermal insulation of concrete soffits

Wilhams Soffit Liner is a high quality thermal insulation used for upgrading concrete soffits for operating theatres, drug dispensaries, pharmacies, clean rooms and other applications where air-conditioned rooms are situated next to non-air-conditioned spaces.

## Advantages

- Contributes to GBI requirements
- Aids MS 1525 compliance
- Non-combustible to EN 13501 Part 1
- Excellent thermal insulation
- Lightweight
- Enhanced fire safety
- Easy installation
- Reduction of condensation risk
- Accommodation of conduits and services
- Improved appearance

## Description

Wilhams Soffit Liner is a high quality resin bonded mineral wool slab that can be used for the upgrading of thermal performance of concrete soffits. The slabs are non-combustible and will not burn or give off toxic gases or smoke during a fire. The layer of Wilhams Soffit Liner will provide thermal insulation, whilst the foil layer acts as a vapour barrier.

### Standard sheet size

1200 x 1200mm (Other sizes are available upon request)

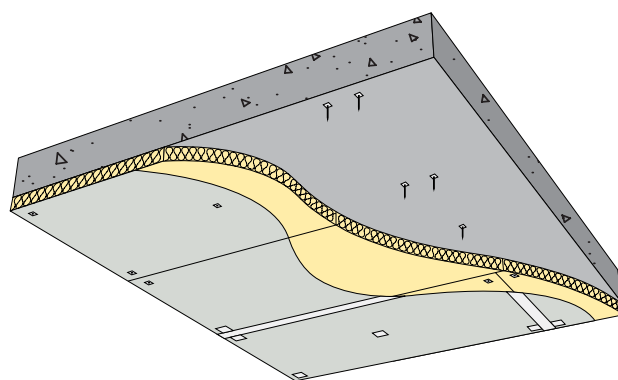
### Thickness

50mm, 75mm and 100mm (Other thicknesses are available upon request)

### Finishes

Wilhams Soffit Liner comes as standard a foil facing one side. It is also available with a number of facing options upon request, which are:-

- Non-woven mineral black tissue
- Non-woven mineral white tissue
- Additional aluminium foil



Wilhams Soffit Liner typical installation details.

## Performance and Properties

### Fire Test Performance

Wilhams Soffit Liner complies with all applicable life safety, building and fire ratings of Jabatan Bomba Malaysia's including surface spread of flame characteristics and achieved Euro Class A1 when tested to the EN 13501-1.

### Thermal Performance

When tested in accordance with ASTM C518:2021, Wilhams Soffit Liner achieved the following level of thermal conductivity:-

Mean Temperature °C	K-Values (W/mK)
20	0.033

### U-values

Wilhams Soffit Liner contributes to Green Building Index (GBI) requirements, significantly improving the energy efficiency of the concrete flat roof or concrete soffit.

This solution also aids compliance to MS 1525 Energy efficiency and use of renewable energy for non-residential buildings - Code of practice. Please contact our technical department regarding insulation thicknesses relating to typical ceiling constructions.

### Build-up

1.5mm waterproof membrane, 25mm (levelling screed, 50mm to fall), 150mm concrete slab and Wilhams Soffit Liner mechanically fastened with stainless steel fixing.

Thickness Range	U-values (W/m <sup>2</sup> K)
50	0.58
60	0.50
70	0.43
75	0.41
80	0.38
90	0.35
100	0.31
110	0.29
125	0.25
145	0.22
160	0.20
180	0.18
210	0.16

### Acoustic Performance

Wilhams Soffit Liner when tested plain to BS EN 20354: 1993 - The Laboratory Measurement of Random Incidence Sound Absorption achieved the following minimum performance levels:-

Frequency	125	250	500	1k	2k	4k
Absorption Co-efficient	0.22	0.68	1.10	1.01	0.99	0.93

\* The results above are based on Wilhams Soffit Liner plain.

Wilhams Soffit Liner have the weighted sound absorption coefficient calculated to EN ISO 11654:1997 of  $\alpha_w$  1.00.

### Water Absorption

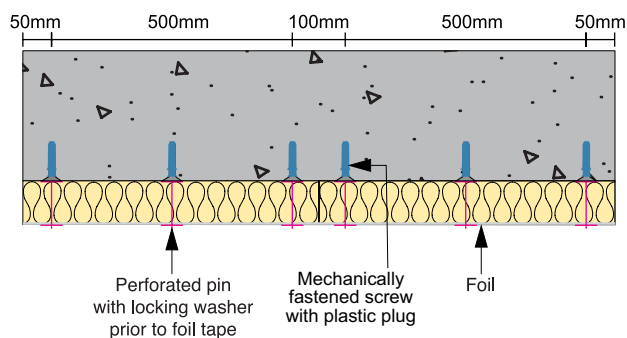
Wilhams Soffit Liner repels water due to the presence of water-repellent additives. Moisture condensing from the air within the mineral wool is less than 0.02% by volume at 95% relative humidity.

### Installation

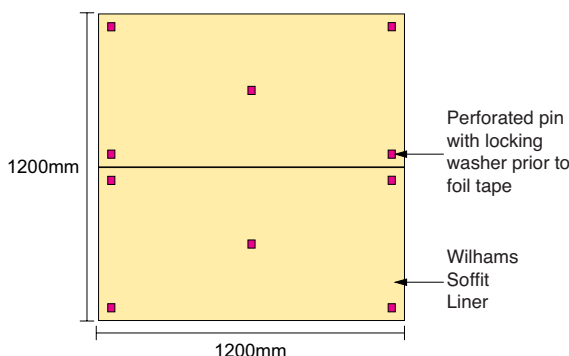
The Wilhams Soffit Liner slabs are laid lengthways to the longest wall with the foil face downwards.

The Wilhams Soffit Liner is installed using mechanically fastened pins attached to the concrete soffit or wall using 5 pins per 1200 x 600mm sheet as per the following drawing. All joints and penetrations through the vapour barrier are sealed with foil tape or silicone sealant with foil tape finish for drop rods.

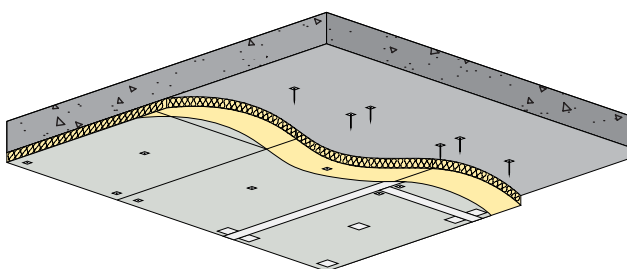
A 600mm downstand is required as a thermal offset on each side of internal walls, columns and the internal face of external walls. Beams have to be fully wrapped.



600mm wide Wilhams Soffit Liner slab fixing detail direct to concrete soffit - elevation view



600mm wide Wilhams Soffit Liner slab fixing detail direct to concrete soffit - plan view



Foil tape applied to all Wilhams Soffit Liner slab to slab joints and pins c/w locking washers to create a vapour tight seal.

### Health and Safety

A Material Safety Data Sheet is available from our Technical Services Department.

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