

# SoffitLine

Thermal lining system for semi-exposed soffits



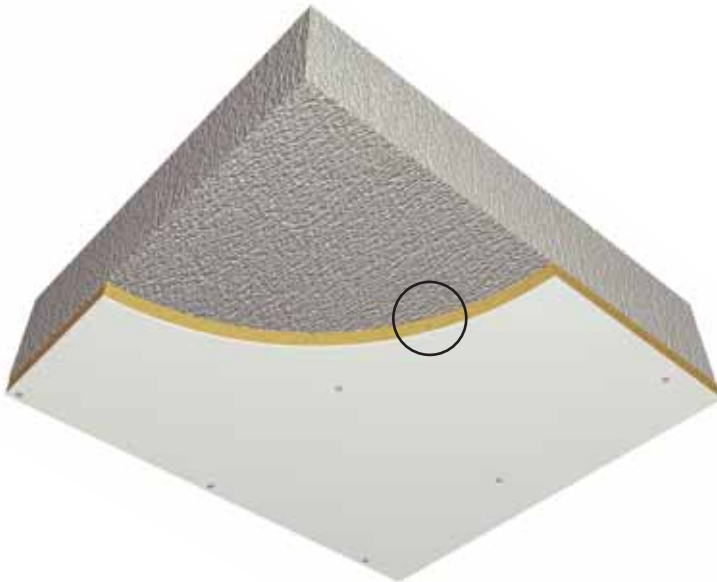
This section includes updated information, added since it was first published in July 2009. Please see the WHITE BOOK update document for details.  
**Last updated 05/07/2010**



Selfridges, Bullring,  
Birmingham

## SoffitLine

SoffitLine combines the benefits of Glasroc F MULTIBOARD with thermally efficient phenolic foam insulation. It can be directly fixed to the underside of semi-exposed soffits. Alternatively SoffitLine can be fixed utilising the GyPLYNER UNIVERSAL or CasoLine MF systems. The smooth, off-white surface finish of Glasroc F SOFFITLINE makes it ideal for car parks and basements where the panels can be left undecorated.



Glasroc  
F SOFFITLINE

## Key facts

- Ideal for semi-exposed situations
- Smooth, durable surface
- High thermal efficiency
- Can be left undecorated
- Low smoke obscuration in the event of fire

## Applications

Fixed to the underside of semi-exposed soffits, i.e. car parks below occupied space.

## Sector

- ✓ Office / commercial
- ✓ Retail
- ✓ Sport and leisure
- ✓ Apartment buildings
- ✓ High-rise multi-occupancy

## System components

### Board products



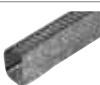
<b>Glasroc F SOFFITLINE</b>	
Thickness	26, 36, 46, 56, 76, 86mm
Width	1200mm
Length	2400mm

### Fixing options

#### Option 1 - fixing to Gypliner UNIVERSAL



<b>Gypframe GL1 Lining Channel</b>	<b>Length</b>
	2400, 2700, 3000, 3600mm



<b>Gypframe GL8 Track</b>	<b>Length</b>
	3600mm



<b>Gypframe GL2 Brackets</b>	<b>Length</b>
	195mm

or



<b>Gypframe GL9 Brackets</b>	<b>Length</b>
	295mm

or



<b>Gypframe GL12 Brackets</b>	<b>Length</b>
	395mm



<b>Gyproc Drywall Screws<sup>1</sup></b>
For fixing Glasroc F SOFFITLINE to metal framing.

#### Option 2 - fixing to CasoLine MF



<b>Gypframe MF5 Ceiling Section</b>	<b>Length</b>
	3600mm



<b>Gypframe MF6 Perimeter Channel</b>	<b>Length</b>
	3600mm



<b>Gypframe MF7 Primary Support Channel</b>	<b>Length</b>
	3600mm
Primary support section.	



<b>Gyproc Drywall Screws<sup>1</sup></b>
For fixing Glasroc F SOFFITLINE to metal framing.

#### Option 3 - fixing direct to soffit

Proprietary concrete fixings (by others)

#### Option 4 - fixing via timber battens



<b>Gyproc Drywall Timber Screws<sup>1</sup></b>
For fixing to timber sub-structure.

### Finishing products

#### Screw caps (by others)

<sup>1</sup> 86mm thick Glasroc F SOFFITLINE should be fixed using a proprietary fixing, by others, providing a minimum 10mm penetration into metal sections and 25mm penetration into timber. 66mm and 76mm thick Glasroc F SOFFITLINE should be fixed using proprietary fixings by others, providing minimum 25mm penetration into timber.

## Installation overview



### Fixing Glasroc F SOFFITLINE to metal framing

If using **CasoLine MF** then Gypframe MF5 Ceiling Section is twice fixed directly to the concrete soffit at 600mm centres using suitable proprietary fixings. See **Construction details – 2**.

**CasoLine MF** can be used to create deeper plenum depths where required.

▶ Refer to section 8 – **CasoLine MF**.

If using **Gyplyner UNIVERSAL** then Gypframe GL1 Lining Channels are positioned at 600mm centres via Gypframe GL2, GL9 or GL12 Brackets. The Gypframe GL9 and GL12 Brackets provide a greater stand-off than the Gypframe GL2 Bracket, to allow for deeper service routings. Glasroc F SOFFITLINE is installed transverse to channel sections using Gyproc Drywall Screws inserted at 600mm centres. See **Construction details – 3**.

Normal 600mm framing centres will achieve deflection criteria of L/360. Deflection performance can be improved further by reducing the fixing centres to 400mm.

### Fixing Glasroc F SOFFITLINE to timber battens

Timber battens are fixed to the soffit at 600mm centres using suitable proprietary fixings. Glasroc F SOFFITLINE is fixed to the timber using Gyproc Drywall Timber Screws at 600mm centres.

Normal 600mm framing centres will achieve deflection criteria of L/360. Deflection performance can be improved further by reducing the fixing centres to 400mm.

### Fixing directly to the concrete soffit

Glasroc F SOFFITLINE can be fixed using suitable proprietary anchors at 600mm centres around the perimeter of each board (edges and ends) and in the field of the boards. Depending on environmental conditions, the deflection between fixings at 600mm centres may exceed 2mm (L/300). If a more stringent deflection criteria is required, reducing the centres of the fixings may be necessary.

**NB** There is a risk of pattern staining where temperature, humidity, and airborne pollutants are extreme.

For full installation details, refer to the British Gypsum **SITE BOOK**, available to download from [www.british-gypsum.com](http://www.british-gypsum.com)

## Performance

### Reaction to fire

Both Glasroc F MULTIBOARD and the phenolic foam surfaces achieve Class 0 ratings when tested to *BS 476: Part 6* and *Part 7*. The product is also designated Euroclass B for the purposes of Building Regulations.

Phenolic foam has an obscuration of less than 5% when tested to *BS 5111: Part 1 Methods of testing for determination of smoke generation characteristics of cellular plastics and cellular rubber materials*.

### Moisture resistance

The Glasroc F MULTIBOARD element absorbs less than 5% of water, by weight, after 120 minutes total immersion to *BS EN 15283-1*. When immersed in water for 120 minutes and re-dried, the board strength is the same as before wetting.

### Thermal conductivity

Glasroc F MULTIBOARD - 0.30W/mK

Phenolic foam - ranging from 0.021W/mK to 0.024W/mK

► Refer to section 14 – Products, Boards.

### Light reflectance

Glasroc F MULTIBOARD surface finish has a high light reflectance (>70%), making it the recommended solution for use in areas such as car parks, where ambient lighting is used.

**Table 1 – Resistance of a low emissivity cavity<sup>1</sup>**

#### Cavity of minimum depth 25mm

Heat flow down = 0.5 m<sup>2</sup>K/W

Heat flow up = 0.34 m<sup>2</sup>K/W

Heat flow horizontal = 0.44 m<sup>2</sup>K/W

<sup>1</sup> Created by foil facing on Glasroc F SOFFITLINE.

**Table 2 – SoffitLine thermal resistance (R) values**

Board thickness mm	Width mm	Length mm	Weight Kg/m <sup>2</sup>	Thermal resistance m <sup>2</sup> K/W
26	1200	2400	7.0	0.85
36	1200	2400	7.5	1.32
46	1200	2400	8.0	1.76
56	1200	2400	8.5	2.40
66	1200	2400	9.0	2.88
76	1200	2400	9.5	3.35
86	1200	2400	10.0	3.83

► Refer to section 14 – Products, Boards.

## Design

### Services

The cavity between Glasroc F SOFFITLINE and the background can be used to incorporate services. Services should not be chased into the phenolic insulation.

Give consideration to the depth of framing to suitably accommodate service requirements.

### Electrical

The installation of electrical services should be carried out in accordance with *BS 7671*.

### Fixtures

The fixing device selected should be long enough to give adequate penetration into the soffit. For further information contact the proprietary fixing manufacturer.

### Surface uniformity

Whilst every effort is made during manufacture to maintain uniformity of colour and texture of the surface of Glasroc F SOFFITLINE, there may be slight variations. British Gypsum is therefore unable to guarantee exact matching.

### Cavity fire barriers

Where necessary, provision should be made for cavity barriers at regular 20m intervals in areas of undivided concealed space.

► Refer to section 10 – Cavity fire barriers.

### Exposure

Glasroc F SOFFITLINE is suitable for semi-exposed applications, such as soffits and car parks. During construction, it is acceptable for Glasroc F SOFFITLINE to be temporarily exposed to direct rainfall, or other sources of water, so long as drying out has occurred prior to decoration. The phenolic foam insulation has a closed cell structure providing it with good resistance to moisture.

### Condensation control

Glasroc F SOFFITLINE can offer significant resistance to water vapour transmission. The phenolic foam insulation is faced with foil that acts as a vapour control membrane. Board joints are taped and filled in accordance with British Gypsum's standard recommendations.

The boards achieve a water vapour resistance of 100MNs/g.

Surface condensation can occur at cold bridges, such as around openings. The use of Glasroc F SOFFITLINE minimises the risk of surface condensation occurring.

### Board finishing

There is no requirement to finish Glasroc F SOFFITLINE.

Screw caps (by others) can be considered for an improved surface appearance.

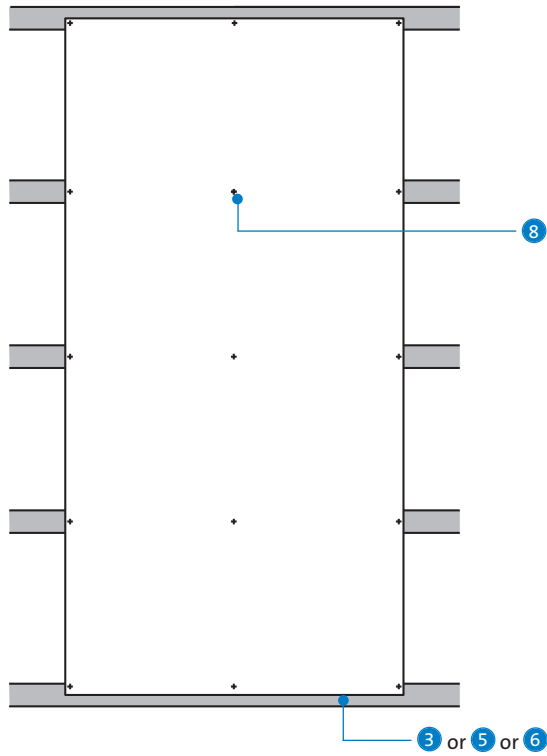
► Refer to section 13 – Finishing systems and decorative effects.

► Please refer to **section 3 - Basic principles of system design** for general guidance

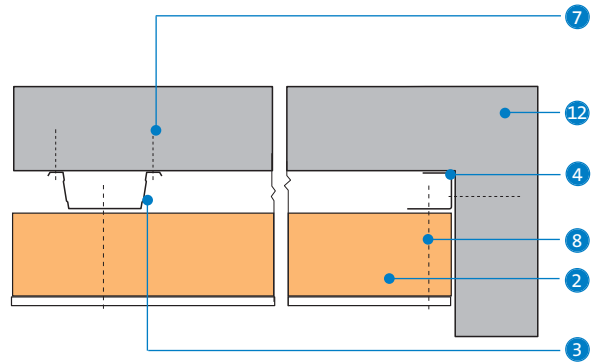
NBS work section K10 - Plasterboard drylinings / partitions / ceilings

## Construction details

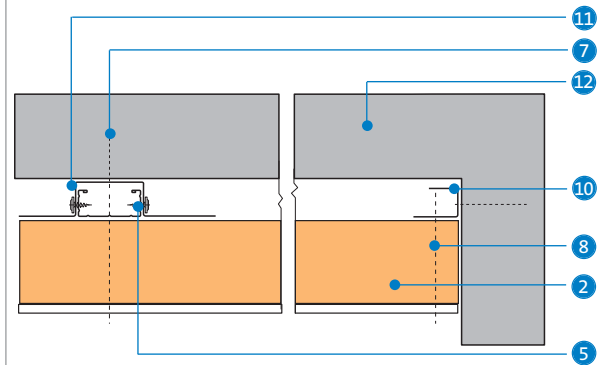
### 1 Fixing to metal or timber framing



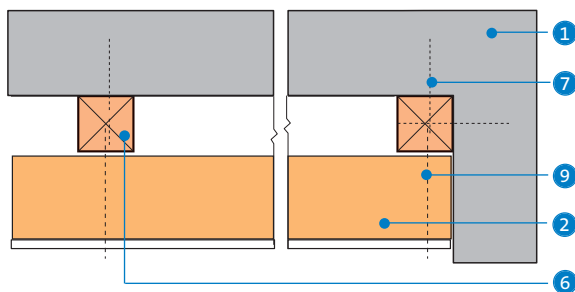
### 2 Fixing to CasoLine MF components



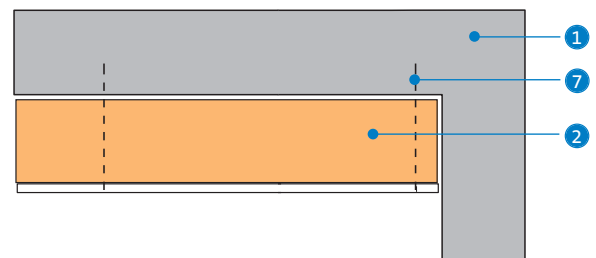
### 3 Fixing Gyplyner UNIVERSAL perpendicular to profiled metal deck



### 4 Fixing to timber battens



### 5 Direct fix



- 1 Concrete soffit
- 2 Glasroc F SOFFITLINE
- 3 Gypframe MF5 Ceiling Section
- 4 Gypframe MF6 Perimeter Channel
- 5 Gypframe GL1 Lining Channel
- 6 Timber battens
- 7 Concrete fixing

- 8 Gyproc Drywall Screws
- 9 Gyproc Drywall Timber Screws
- 10 Gypframe GL8 Track
- 11 Gypframe GL2 / GL9 Brackets
- 12 Profiled metal deck