



SIDERISE FLX flexible acoustic barriers for suspended ceilings

A flexible composite quilt designed for free-hanging in ceiling voids that reduces sound transmission between rooms, suitable for use in both new build and refurbishment projects.

Application

SIDERISE FLX flexible acoustic barriers for suspended ceilings are flexible composite sheets designed for free hanging in ceiling voids above partition lines.

They provide a simple solution to the common problem of improving 'room to room' sound separation via a common ceiling void.

All grades offer excellent sound reduction properties in comparison to commonly employed 'ad-hoc' solutions based on standard flexible/resilient materials.

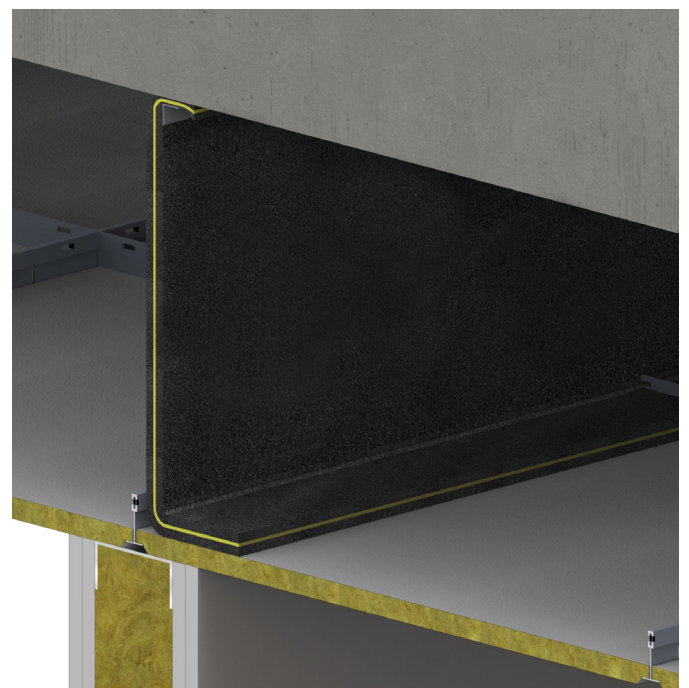
The barrier is extremely quick and easy to install and its flexibility allows it to be easily deformed around localised obstructions within the ceiling void.

The product is suitable for both new build and refurbishment projects.

SIDERISE FLX OR SIDERISE CBX

Whilst **SIDERISE CBX flexible acoustic barriers for suspended ceilings** offer a number of technical and practical advantages, **SIDERISE FLX** may prove beneficial for some special situations. For example, in conditions where the barrier is partially visible, the product's standard matt black finish may be preferred, or where a mineral fibre free product is required.

For product advice please contact our Interiors technical team.



Benefits

- Acoustic performance (R_w): 23 - 27dB
- D_{nCw} up to 50dB
- Improves 'room to room' sound separation
- Flexible allowing for ease of installation
- Suitable for new build and refurbishment projects

Product description

SIDERISE FLX flexible acoustic barriers for suspended ceilings are multi-layered composite materials.

The central layer is a thin, flexible, heavy septum membrane. Two types of membrane are available; lead foil or a heavy salt loaded polymeric barrier. On each side of the membrane there is a Class 'O' open cell acoustic foam insulation layer.

Both types of central membranes provide matching acoustic performance for each of the two standard surface weight options. The primary difference between the types is their mechanical characteristics when bent or deformed. The lead foil membrane has a tendency to memorise deformation. In consequence the final selection of membrane is normally at the contractor's preference.

SIDERISE FLX is available as standard with two optional features:

- Reinforced aluminium foil finish to one side. This facing simplifies the sealing of service penetrations as it permits the application of self-adhesive foil tapes. The finish also acts as an integral anti-creep layer.
- Internal glass fabric anti-creep layer. This minimises the risk of possible long-term elongation in high void conditions. This option is not required if the aluminium foil finish described above is selected.

Table 1 - Barrier grades

Product Code	Description
FL5P	5kg/m ² - polymeric barrier central membrane
FL10P	10kg/m ² - polymeric barrier central membrane
FL5L	5kg/m ² - lead foil central membrane
FL10L	10kg/m ² - lead foil central membrane

Acoustic performance

Frequently the sound separation achieved between adjoining rooms or offices is severely limited by 'cross talk' via a common ceiling void. This occurs when the transmission loss associated with this sound path is less than that provided by the partition.

This situation can be remedied by either the installation of vertical barriers above the partition lines or by upgrading the existing suspended ceiling by the application of overlay materials. The former option is generally preferred as a greater and more reliable improvement in sound separation is achievable. The application of continuous overlays to the suspended ceiling may also not be possible due to the presence of light units or diffusers requiring venting to the void.

The Sound Reduction Index (SRI) of the new ceiling barrier is not normally required to match that of the partition below. The individual performance of the barrier need only be sufficient to correct the shortfall between the partition value and that of the existing cross talk path.

Final 'room to room' sound transmission performance is specific to the type of suspended ceiling employed. The performance offered by the ceiling itself (normally stated as a Dncw value) can vary substantially. Typical values are in the range 15 - 40dB. With knowledge of the suspended ceiling employed, its installation arrangement and potential sound degrading penetrations, an acoustic engineer can make an assessment for the target SRI value for the vertical barriers. Alternatively, our Interiors technical team can assist in this process.

Where the ceiling void is also a return air plenum, cross talk attenuators should be installed in the void across partition lines. For less onerous conditions SIDERISE can advise on aperture layouts with sound attenuation characteristics.

The performance values in Graph 1 apply solely to **SIDERISE FLX barriers** tested individually and using the recommended jointing and fixing methods.

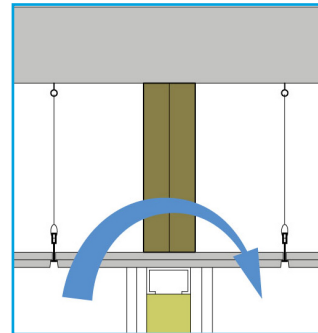
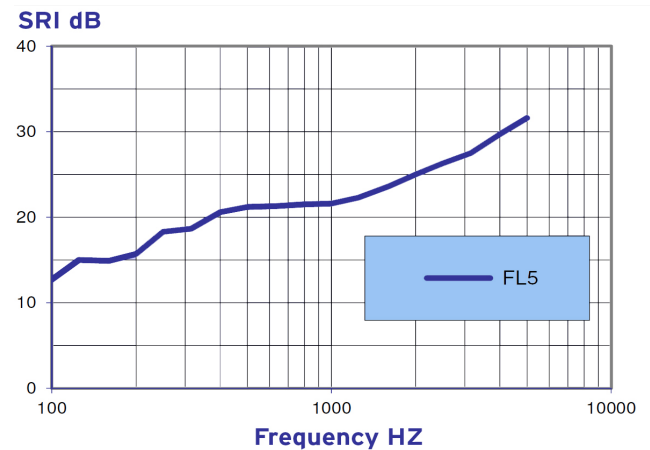


Fig 1. Sound Transmission Path

Graph 1 - SRI performance values



- FL5P & FL5L: 23dB (R_w)
- FL10P & FL10L: 27dB (R_w)*

[Mean Sound Reduction Index. 100-3150hz]
To BS EN ISO 140-3:1995, BS 2750: Part 3; 1995

* Estimated value

Twin barrier arrangements can achieve exceptionally high sound transmission losses. We can offer configurations providing tested SRI's of up to 44dB (R_w) for the vertical barriers alone.

Installation

SIDERISE FLX sheets are fitted in a manner broadly similar to that used for mineral fibre fire barrier quilts. The product is normally attached to the soffit and allowed to hang as a curtain. Surplus material at the base is returned along the rear of the suspended ceiling.

Head fixing: The sheet is continuously secured and supported by clamping the product between the soffit and a mild steel angle section. Mechanical fixings should be selected with reference to the background material. See Fig 2.

Fixing at side walls: Fixed in the same manner as for the head fixing described above. A flat metal strap may be used in preference to an angle section.

Base fixing: It is preferable for the product to be fixed by continuous clamping as previously described to ensure optimum acoustic performance. If this is not possible SIDERISE recommends that the sheet is returned a minimum 150mm along the rear of the ceiling. The return should always be carefully deformed around any raised elements of the ceiling suspension grid.

With some ceiling systems it is easier to create a near flat region above the partition line. This can often be achieved by overlaying the tiles or formed trays with cut strips of board (such as plasterboard or MDF). Multiple layers of board may be employed, which should be built up until level with the top of the ceiling grid. Any minor gaps should be caulked with an acoustic flexible sealant. This technique can often create a fixing background for clamping without the need to penetrate the tiles or partition head.

Vertical joints: There should be overlap joints with a minimum 75mm lap. The product should not be butt jointed. The overlap should be mechanically fixed using a pre-punched metal strap to both sides with suitable through fixings placed at regular intervals (e.g. threaded bolt with locking nut). The lap should be substantially compressed by the straps to ensure an effective acoustic seal is achieved.

Service penetrations: Star or 'X' cuts should be made in the product and the resulting flaps returned along the service. A strip of the material typically 150 - 300mm wide is then wrapped around the service duct or pipe, covering the returns. If the foil faced version is employed, joints and exposed edges can be dressed with self-adhesive aluminium foil tape.

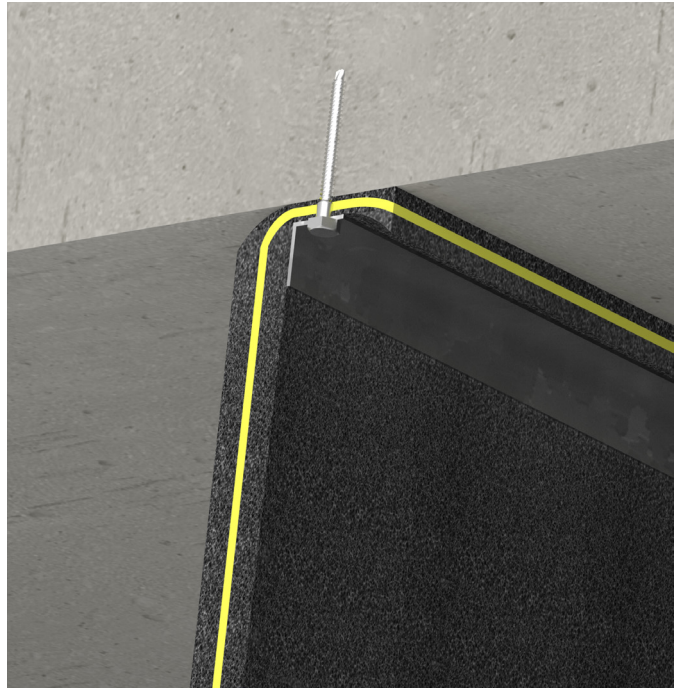


Fig 2. Head Fixing

Ceiling void air plenums: SIDERISE FLX barriers contain no mineral fibre based components and are effectively dust free even in the plain unfaced form. In consequence the product is suitable for conditions where the ceiling void is used as a return air plenum.

Special conditions: Please contact our Interiors technical team for advice on recommended detailing for the following conditions:

- coffered soffits
- hollow rib or profiled decking
- services parallel to the partition line
- off-set barriers
- high density service penetrations
- large void heights
- continuous lighting trays or diffusers
- open-cell ceilings
- twin barrier constructions.

Technical specification

SIDERISE FLX flexible acoustic barriers for suspended ceilings

Form supplied	Sheet: 2000mm x 1200mm
Colour	Black
Finish	Matt black open cell foam both sides or optional bright reinforced aluminium foil to one side
Thickness	Nominal 13mm
Surface weight	Nominal 6kg/m ² (FL5P & FL5L) Nominal 11kg/m ² (FL10P & FL10L)
Central mass membrane	Lead foil (FL5L & FL10L) Polymeric barrier (FL5P & FL10P)
Fire performance (plain or foil finished)	BS 476, Part 7: Class 1 BS 476, Part 6: I ₁₂ , I ₀ <6 (Class 'O' to Building Regulations)



Further information

PRODUCTS AVAILABLE

The following SIDERISE products for use in suspended ceiling voids are available and can also be specified using NBSPlus:

- SIDERISE FLX flexible acoustic barriers
- SIDERISE CBX flexible acoustic barriers
- SIDERISE CVB (CVB/LAM, CVB/P) acoustic void barriers
- SIDERISE SC cavity barriers and fire stops
- SIDERISE AVC acoustic void closures for tops of walls
- SIDERISE TW fire stops for profiled decks
- SIDERISE foil tape: FT 120/45

Contact us for a copy of our SIDERISE ceiling void barrier range brochure.

AVAILABLE CPDS

Contact SIDERISE for further information on our CPDs:

- SIDERISE CVB range: Use and Specification for the Suspended Ceilings Industry
- SIDERISE Acoustic Products & Performance - Information for Noise Consultants

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