

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 in both new build and refurbishment projects.

Siderise FLX flexible acoustic barriers for suspended ceilings are flexible composite quilts designed for free-hanging in ceiling voids above partition lines. They have been specifically developed to provide a simple solution to improving 'room to room' sound separation via a common ceiling void.

All grades of this product offer excellent sound reduction properties in comparison to commonly employed 'ad-hoc' solutions based on standard flexible/resilient materials. The product is extremely quick and easy to instal and its flexibility allows it to be easily deformed around localised obstructions within the ceiling void.

Being flexible and thin the quilts are ideal for remedial treatment requiring only limited disruption to an existing suspended ceiling during installation. layers.

Application

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 SSPL Technical Team

Description / Grades

Siderise FLX are multi-layered composite materials. The central layer is a thin flexible heavy septum membrane.

The membrane is a polymeric heavy salt loaded barrier with an 'anti-creep' layer to prevent possible long-term elongation of the product in its normal free hanging condition. It additionally provides reinforcement to through penetrations at fixing points. On each side of the membrane.

To each side of the membrane there is an open cell acoustic foam insulation layer.

Siderise FLX is available as standard or with the optional feature of 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.



Benefits

- Acoustic performance (R_w) 23-44dB
- $D_{nf,w}$ up to 50dB
- Improves 'room to room' sound separation
- Flexible allowing for ease of installation
- Suitable for new build and refurbishment projects

Acoustic performance

The sound separation achieved between adjoining rooms or offices is often 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 preferred because a greater and more reliable improvement in sound separation is achievable.

Also the application of continuous overlays to the suspended ceiling may not be possible due to the presence of light units or diffusers requiring venting to the void and these can adversely affect the sound absorption characteristics of the suspended ceiling system.

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 $D_{nC,w}$ or $D_{nf,w}$ 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. Siderise can also provide technical assistance.

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 we would be pleased to advise on aperture layouts with sound attenuation characteristics.

The following performance values are solely for the Siderise product tested individually (using the recommended jointing and fixing methods).

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.

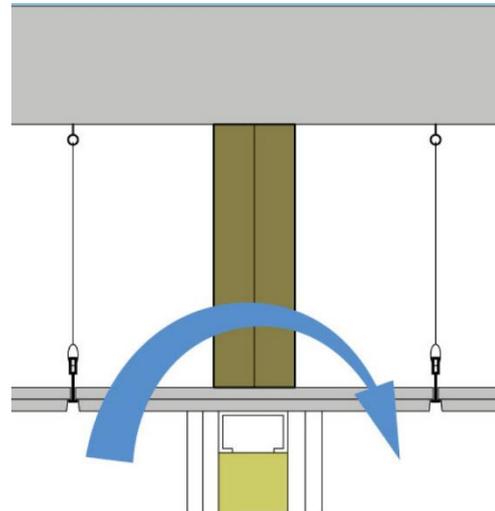


Fig 1. Sound Transmission Path

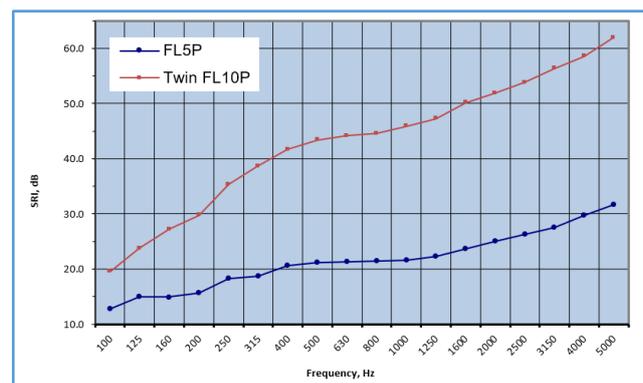
Table 1 – Acoustic performance

Weighted Sound Reduction Index			
Product Code	Description	Weight (Kg/m ²)	R_w (dB)
FL5P*	Polymeric	6	23dB (R_w)
FL10P	Polymeric	11	27dB (R_w)**
Twin FL10P	Polymeric	22	44dB (R_w)

* non-standard grade, available subject to MOQ

**assessed value

Graph 1 - 1/3rd Octave Data for FL5P & Twin FL10P



Installation

Siderise FLX sheets are fitted in a manner broadly similar to that used for mineral fibre fire barrier quilts. The product is 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: The sheet is fixed in the same way as the head fixing described above. A flat metal strap may be used in preference to an angle section.

Base fixing: The product should be fixed by continuous clamping as previously described to ensure optimum acoustic performance. If this is not possible, we recommend 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: Vertical joints 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 on 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 seal.

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

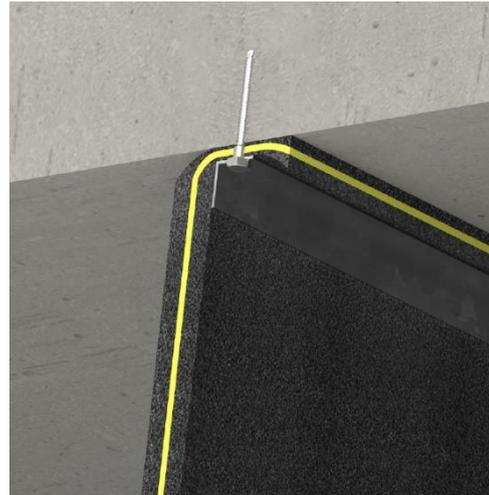


Fig 2. Head Fixing

For some types of service penetrations (such as wide profile ventilation ducts), shallow gaps above or below the service may be present. Such small apertures may prove difficult to close. The use of **Siderise CVB acoustic ceiling void barrier** in these local conditions will alleviate this problem.

Ceiling void air plenums: As **Siderise FLX** 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 SSPL 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

Form Supplied	Sheets 2000mm x 1200mm
Colour	Black
Finish	Matt black open cell foam both sides (or optional Foil Face to one side)
Thickness	Nominal 13mm
Surface weight	Nominal 11Kg/m ² (FL10P)
Central mass membrane	Polymeric
Fire resistance performance	None – Acoustic only barrier
Reaction to Fire (EN13501 classification)	Foam: B-s2, d0 Barrier: B-s2, d0

Handling

Siderise FLX are fairly heavy barriers but very flexible and care should be taken when handling to protect the product from damage and the handler from personal injury.

Weight per sheet (2000mm x 1200mm std)

CB10 = 26kg per sheet

The sheets are packed directly onto pallets or packing crates, fully flat. Before removing / lifting from the pallet or crate, each sheet should be rolled or folded down the length of the sheet to create a package approximately 1200mm long x 300 - 500mm width/diameter. The product can then be removed / lifted. All standard health and safety lifting / handling techniques should be observed.

Further information

Technical support

For further information please contact our technical team at the address below.

Available CPD's

Contact Siderise for further information on our CPDs:

- Siderise Acoustic Products for Commercial Interiors - Architect Edition
- Siderise Acoustic Products and Performance with 1/3rd Octave Data – Acoustic Consultants Edition

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