

Siderise CLS acoustic lining system

A cost effective and practical sound absorbing treatment for use in Cinemas, Auditoria, Soffits, Plant Rooms etc.

Siderise CLS Acoustic Lining System comprise of a range of products specifically developed to provide cost effective and practical sound absorbing treatments for most commonly encountered conditions within these acoustically demanding applications.

The range comprises of 5 standard systems, Systems 1 and 2 are based on a resin bonded rockfibre sound absorbing base material, faced on the exposed surface with a black (or white available) non-woven glass fabric. The facing is applied by a special open structured bonding technique to ensure optimum and consistent sound absorbing properties.

Systems 3 and 4 are based on flexible open cell acoustic foams offering the choice of non-fibrous options, systems 3 and 4 are particularly suited for application to non-planar surfaces or for treatments requiring thinner absorbent layers.

System 5 is used as an acoustic lining where high compressive strength is required without compromise on absorptive performance, it is a 'Lamella Rockfibre' based material, the product is faced on both exposed surfaces with a black (or white available) non-woven glass fabric.

All systems exhibit excellent sound absorption properties. The figures quoted below are random incidence sound absorption coefficients for Octave Band Centres (1/1 Octave approximately) for common thicknesses.

Test method BS EN 20354, please contact our Technical Department for full details or information on other thicknesses.

Description / Grades

CLS1

(The original Siderise Cinema Lining Slab) comprises a black faced resin bonded rockfibre slab. The facing is applied to leave overlaps on two adjacent edges to obscure butt joints following installation. This is no longer a standard option.



CLS1

CLS2

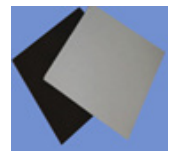
Is as CLS1 except the product is supplied without overlaps (the product is post trimmed following lamination to ensure that the facing and base slab are perfectly aligned).



CLS2

CLS3

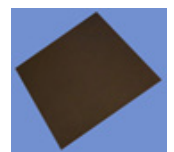
Comprises a flexible melamine foam, which has a natural light grey colour. System 3 is also available faced with a black woven glass fabric (CLS3BPF). This applied facing additionally enhances the sound absorption characteristics of the system.



CLS3

CLS4

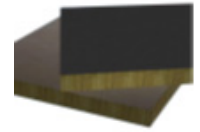
Is a flexible open cell impregnated PU foam having a natural matt black colour. Unlike the other systems, the black colour is throughout its structure. When cut to size or shaped, all edges exhibit a matching matt black colour.



CLS4

CLS5 (previously SR/MF80LAM/BTF/WTF or WPM Core)

Comprises a ‘Lamella Rockfibre’ base faced both sides with a black (or white available) non-woven glass fabric. In addition to acoustic performance, product development has centred on providing a rigid system capable of spanning greater distances than standard rockfibre slabs in soffit/ceiling applications. The product also provides high compressive / impact strength when used as a wall lining system retained behind perforated sheet material. The core is typically used within the Siderise WPM wall lining systems. CLS5 was previously known as Lamaphon or Siderise SR/MF80LAM/BTF/WTF or WPM Core.



CLS5

Applications

Table 1

Example applications

Description	System Used
Rear of screen areas in Cinemas (Wall / Ceiling surfaces) No further covering normally employed when in non-visual areas	2
Wall panels or in-situ linings, post covered with stretched fabric or loose fabric (e.g., pleated or hanging frapes)	All
Wall panels or in-situ linings, post covered with spaced slats, slotted or perforated timber, or perforated metal sheet	All
Soffit linings with semi open suspended ceilings below	2
Plant room linings or anywhere where high impact resistance is required, retained behind perforated metal sheet (25% or 33% open area)	5

Additional information for CLS5

Siderise CLS5 (previously SR/MF80LAM/BTF/WTF) comprises a patented Lamella orientation resin bonded rockfibre sound absorbing base material.

The product can additionally be supplied enclosed in either PVC membrane (PVC) or Melinex (MX).

The system exhibits excellent sound absorption properties. The figures quoted in Table 2 include the use of a perforated galvanised MS facing with either 25% or 33% open area, they are random incidence sound absorption coefficients for Octave Band Centres (1/1 Octave approximately) for common thicknesses. Test method BS EN 20354, please contact our Interiors technical team for advice or for further information.

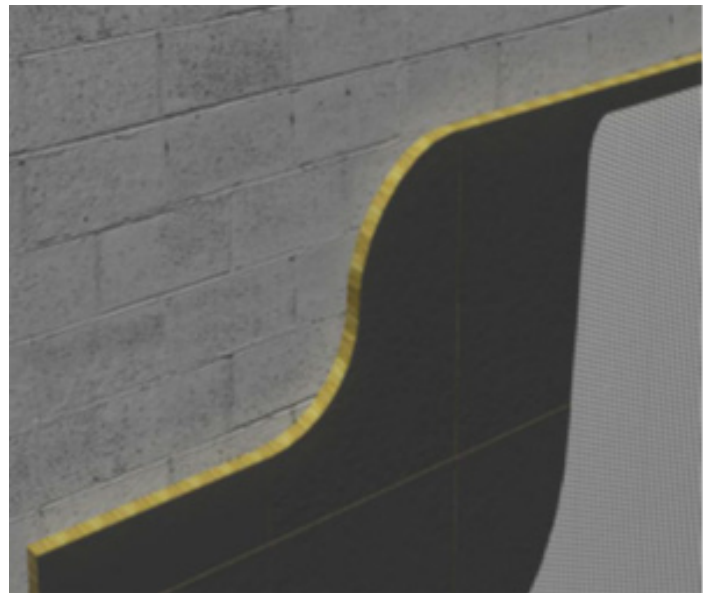


Fig 1. CLS5 Installed product showing optional perforated steel sheet

Acoustic Performance

Table 2

Acoustic absorption performance

Product	Thickness (mm)	Open area	Sound Absorption Coefficients					
			125Hz	250Hz	500Hz	1kHz	2kHz	4kHz
CLS2	50mm	100%	0.20	0.60	1.04	1.09	1.05	1.02
CLS2	100mm	100%	0.62	1.13	1.19	1.10	1.07	1.02
CLS3	25mm	100%	0.11	0.21	0.51	0.80	0.87	0.93
CLS3	50mm	100%	0.15	0.52	0.90	1.05	1.08	1.05
CLS3BPF	50mm	100%	0.20	0.68	1.05	1.08	1.05	1.08
CLS4	25mm	100%	0.11	0.21	0.46	0.61	0.67	0.75
CLS4	50mm	100%	0.23	0.44	0.70	0.83	0.84	0.98
CLS5	25mm*	25%	0.10	0.35	0.70	0.90	0.95	0.95
CLS5	25mm	100%	0.05	0.20	0.55	0.90	0.95	1.00
CLS5	50mm	25%	0.20	0.70	1.15	1.10	1.05	0.95
CLS5	50mm	100%	0.20	0.70	1.00	1.00	1.00	1.00
CLS5 (PVC)	50mm	25%	0.35	0.70	1.00	0.95	0.75	0.45
CLS5 (MX)	50mm	25%	0.35	0.65	1.05	1.00	0.85	0.60
CLS5	50mm	33%	0.20	0.70	1.15	1.10	1.00	1.00
CLS5	100mm	25%	0.65	1.10	1.15	1.10	1.05	1.00

*Extrapolated results

Installation

In general, all lining systems should be attached to the background surface using through mechanical fasteners. The recommended types are:

- PP1 (Siderise supply).
- IH3 (Siderise supply).

PP1 and IH3, available from Siderise are spot adhered to the background surface only, through mechanical fixing in the base can also be employed if required.

In a number of applications for the system, it is desirable that the exposed component of the fastener is also black in colour. Fasteners PP1 are produced as standard in a black polymer material. Fastener IH3 requires that the non-return washer is painted black (normally this is carried out as a post fitting operation).

Fasteners PP1 are particularly suitable for low-level treatment (up to 2m) as being produced in a polymer material they are unlikely to inflict any significant injury (e.g. skin puncture) in the event of accidental body impact against the treatment area.

In the case of Systems 3 & 4, as these materials are flexible, depending on the thickness selected and orientation of the background surface, the fastenings may need to be supplemented with direct adhesion techniques (under these conditions it is also acceptable to reduce the frequency of the mechanical fasteners). Alternatively, in marginal conditions it may be acceptable to simply increase the frequency of fastenings from the guide figures indicated in table 3.

Fixing PP1 (Fig 2.)

PP1 comprises two black polymer components a perforated base plate with projecting pin and a non-return washer.

Fixing IH3 (Fig 3.)

IH3 is broadly similar to PP1 excepting that the components are produced from galvanised mild steel. The fixing sequence is as for PP1.

Fixing Sequence for PP1 (Fig 4.)

The base plate is adhered to the background with our ‘High Tack’ cartridge adhesive (suitable for use with most common building materials). Following curing of the adhesive the SIDERISE material is impaled onto the projecting pins. The non-return washer is applied to the visible remaining section of the pin and any surplus projecting pin then removed leaving the washer flush to the material face.



Fig 2 Fixing PP1

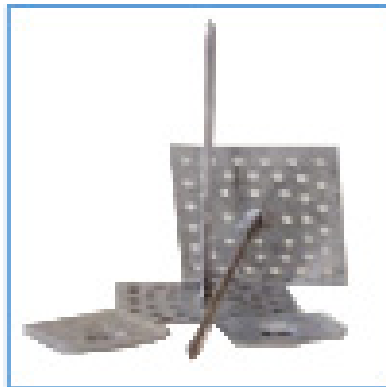


Fig 3 Fixing IH3

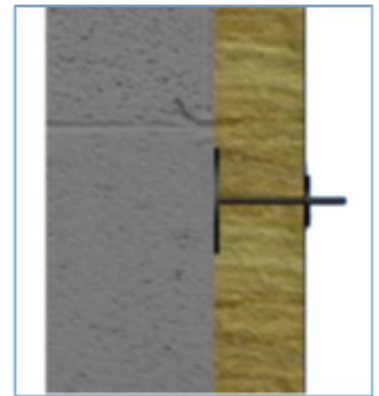


Fig 4 - PP1 Fixing

Sizes and fixing requirements

Dependant on the size and thickness of Siderise Acoustic lining system used, and the orientation, the number of fixings required will alter. The information in Table 3 is offered as guidance only.

Table 3

Sizes and Fixing requirements

Product	Thickness	Orientation	1000 x 600mm	1200 x 600mm	1200 x 900mm	1200 x 1000mm	1200 x 1200mm	2000mm x 1200	2500mm x 1200
CLS2	25-75mm	Vertical (Wall)	-	6	9*	9	-	-	-
CLS2	100mm	Vertical (Wall)	-	8	12*	12	-	-	-
CLS3 & CLS4	12-100mm	Vertical (Wall)	-	8*	-	-	-	24	32
CLS3 & CLS4 (SA Backed)	12-100mm	Vertical (Wall)	-	6*	-	-	-	18	24
CLS5	25-100mm	Vertical (Wall)	6	-	-	-	-	-	-
CLS1 & CLS2	25-100mm	Horizontal (Ceilings)	-	8	12*	12	-	-	-
CLS3 & CLS4	12-100mm	Horizontal (Ceilings)	-	8*	-	-	-	24	32
CLS3 & CLS4 (SA Backed)	12-100mm	Horizontal (Ceilings)	-	8*	-	-	-	24	32
CLS5	25-100mm	Horizontal (Ceilings)	6	-	-	-	-	-	-

(*special size available subject to MOQ).

Reaction to Fire requirements

Requirement B2 of the 2019 edition of The Building Regulations Approved Document B - Fire Safety, covers the internal fire spread of linings.

The requirement is to inhibit the spread of flame within the building. To achieve this internal linings shall; resist the spread of flame over their surfaces and if ignited have a rate of heat release or rate of fire growth which is reasonable in the circumstances.

Internal linings are materials or products used to line any partitions, walls, ceilings, or other internal structure. Acoustic wall and ceiling treatments come under this definition of internal linings.

Table 4.1 of Volume 1: Dwellings and Table 6.1 of Volume 2: Buildings other than dwellings give the classifications that wall and ceiling linings should meet. These are summarised below:

Location	Classifications
Small rooms of maximum internal floor area: a. 4m ² in residential accommodation b. 30m ² in non-residential accommodation c. 40m ² in Garages (as part of a dwelling house)	D-s3, d2
Other rooms (including garages) Circulation spaces within a dwelling	C-s3, d2
Other circulation spaces (including the common areas of blocks of flats)	B-s3, d2

The classifications are described in BS EN 13501-1:2018 and supersede the 'National' classification (BS476 Part6 & Part7) for reaction to fire used in previous editions of Approved Document B of The Building Regulations.

The Siderise CLS range is currently undergoing a rigorous testing program to determine the reaction to fire classifications to BS EN 13501-1:2018. Table 4 below shows the reaction to fire classifications for the CLS range to assist the client for suitability for their particular project requirements. Where applicable it contains both 'National' classifications and BS EN 13501-1:2018 classifications. This will be regularly updated during our current testing program.

Table 4

Reaction to Fire performance

Product Grade	Thickness Range	Building Regs (Approved Document B) National Class (to BS 476 Pt 6 & 7)	Building Regs (Approved Document B) European Class (to EN 13501-1)
CLS2	20mm-100mm	-	A2-s1, d0
CLS3	25mm	Class 0	-
CLS3	50mm	Class 1	-
CLS3	5mm-20mm	-	B-s2, d0
CLS3	21mm-200mm	-	C-s2, d0
CLS3BPF	12-50mm	Not currently tested	Not currently tested
CLS4	25mm	Class 0	-
CLS4	50mm	Class 0	-
CLS4	6mm	-	B-s1, d0
CLS4	25mm	-	B-s2, d0
CLS4	50mm	-	B-s1, d0
CLS5	20-100mm	-	A2-s1, d0

Products available

The following Siderise products are available:

- Siderise CLS System.
- Siderise PP1 insulation hangers and washers.
- Siderise IH3 insulation hangers and washers.

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

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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