Siderise Marine Solutions

High performance engineered acoustic and thermal materials designed for use in Marine applications

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SIDERISE®
integrity in all we do

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Marine noise control

Modern performance motoryachts are creations of beauty and power. That power comes with a price, as engine performance increases so do sound levels. Once that sound energy is transmitted into the hull and other internal structures onboard it can become all pervasive, especially once the engine is at full throttle.

Sound power levels of 120dB are not uncommon in the engine room and the dominant frequencies can be found as low as 125Hz or even 63Hz. Low frequencies such as these are incredibly difficult to treat due to the huge amount of energy contained in their massive wavelengths (2.74m & 5.44m respectively).

SIDERISE has over 50 years experience in acoustics and noise control which when combined with extensive research and development, means that we can deliver engineered solutions to the unique challenges of the marine environment.

> “We understand that yacht builders want to maximise space, minimise weight and deliver maximum performance to their clients. Our marine insulation solutions provide them with exactly what they are looking for.”

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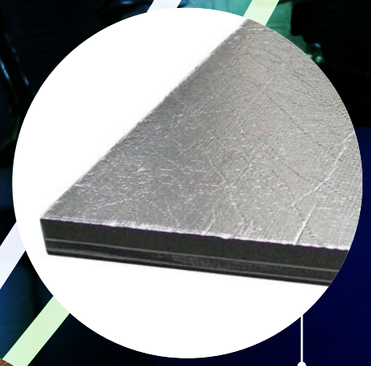
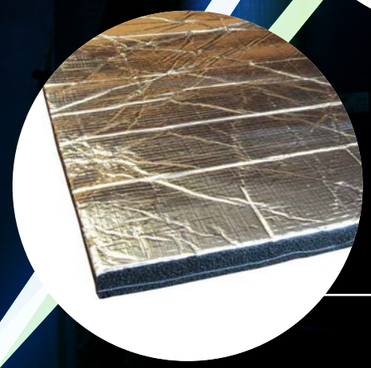
Acoustic composites

Siderise Marine Acoustic Composites (MAC) are a flexible acoustic barrier suited to many varied applications. They are particularly suited for use as engine room bulkhead linings but can also be used for external lining for ducts, pipes and tanks. Depending upon the specification they either have 1 or 2 flexible acoustic membranes sandwiched between layers of acoustic foam.

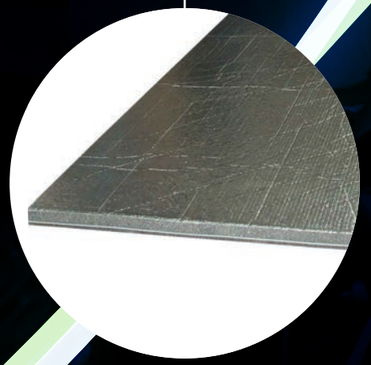


MAC45V An enhanced flame retardant foam/barrier/foam/ barrier/foam composite



MAC32V An enhanced flame retardant foam / barrier / foam composite

MAC32A A flame retardant foam/barrier/ foam composite



Facings

All come with an outer reflective foil faced acoustic membrane, to prevent fume and oil ingress into the composite. Alternative aluminiumised glass cloth and white PU coated glass cloth facings are also available.

Benefits

ISO9094 & Recreational Craft Directive 2013/52/EU compliant for engine compartment insulation

High acoustic performance

Good dampening characteristics

Flexible and easy to install

Acoustic Composite Further Details

Contact our sales team to discover more about Marine noise control.

Noise control - a key factor

The controlling frequencies found within the engine room are not likely to be the dominating frequencies experienced within the occupied spaces. Use of predictive analysis and our extensive knowledge of the materials and the construction involved, allows us to determine which frequencies would become dominant in these spaces. Once this has been determined, it can be controlled at source by utilising tuned absorption.

Engines, props, compressors, gensets, and even structural elements can be isolated and de-coupled to prevent all elements creating a cacophony of sound, driven to the beat of two or more diesel engines.

Performance

	Properties		Acoustic Performance**	Fire Performance	
	Thickness	Surface Mass	Laboratory measured SRI Rating according to BS EN ISO 717-1:2013 (on plywood bulkhead)	National Class (to BS 476 Parts 6 and 7)	ISO 4589-3:2017 Elevated oxygen index at an elevated temperature of 60°C
Siderise Aquafon 5GF	27mm nominal	6kg/m nominal	31dB Rw*	Class 0	>80
Siderise Aquafon 10GF	30mm nominal	11kg/m nominal	34dB Rw*	Class 0	>80

Siderise Aquafon

Product Description

Aquafon is a range of soft, flexible acoustic barrier quilts designed and tested to offer a moisture-resistant solution for reducing engine noise transmission into the main cabin and living spaces, helping to ensure a relaxing ambience, and protecting all on board from the effects of noise.

The two products in the range are made from a multilayered composite sheet which has been engineered to offer an excellent weight-to-performance ratio at reduced thickness — all whilst offering excellent fire performance. Thanks to this, Aquafon is easy to install without compromising internal space. Meanwhile, its attractive Class '0' reinforced aluminium foil outer layer, provides an effective vapour barrier and a professional finish resistant to oil/fuel ingress.

Applications

Recreational craft up to 24m and carrying up to 12 people

Engine room bulkhead lining

External lining sheet for ducts, pipes and tanks

Benefits

Recreational Craft Directive 2013/52/EU and ISO 9094:2015 compliant for engine compartment insulation

Insulation shall present non fuel absorbent surface towards the engine

Insulation shall not support combustion

Insulation shall have an oxygen index (OI) of at least 21 according to ISO 4589-3

Class '0' fire rated (BS476 Part 6 and Part 7)

High acoustic performance

Good noise dampening characteristics

Flexible and easy to install

Aquafon Further Details

For more information on Aquafon, please visit our website.

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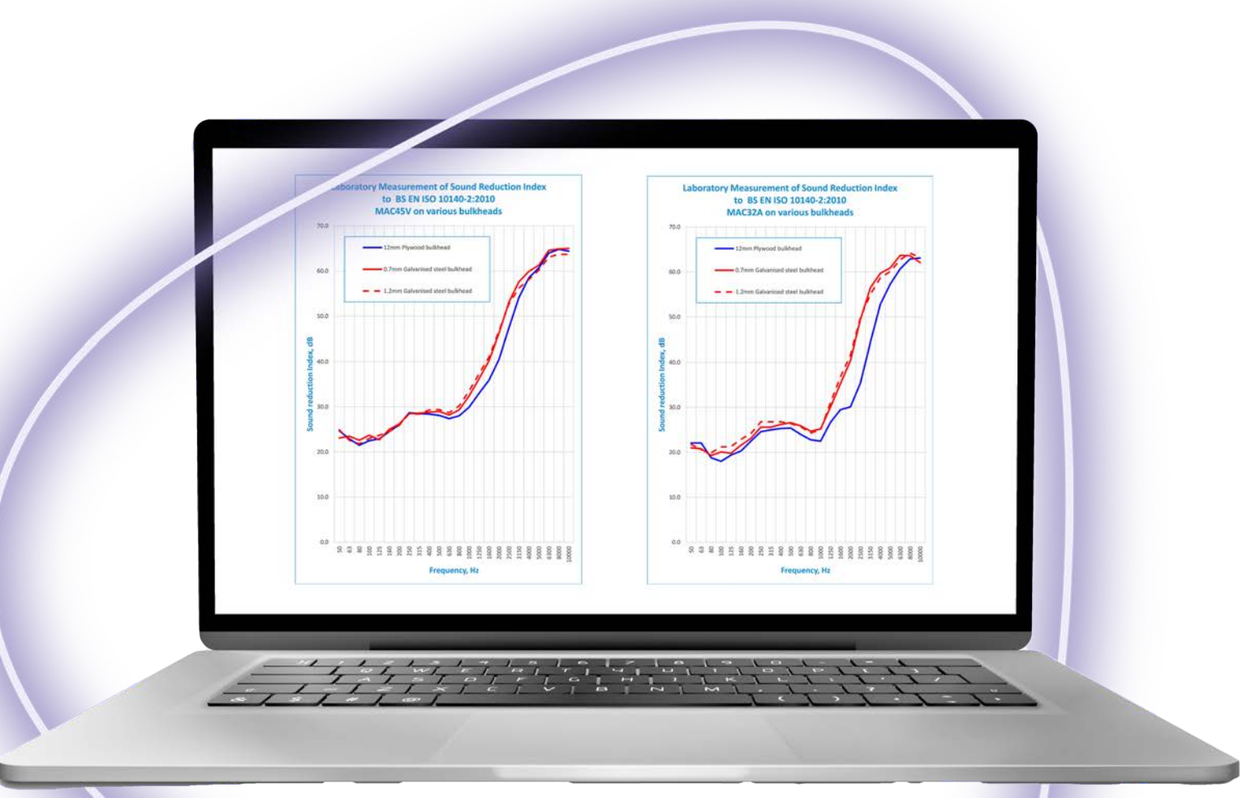
Technical Data

	MAC 32A	MAC 32V	MAC45V	Aquafon 5	Aquafon 10
Thickness (mm)	32	32	45	27	30
Surface mass, kg/m²	6.7	8.4	13.4	6	11
Sound Insulation on 12mm plywood (dB, RW)	27	31	32	31	34
Sound Insulation on 0.7mm galvanised steel (dB, RW)	30	34	34		
Sound Insulation on 1.2mm galvanised steel (dB, RW)	30	34	34		
Improvement in sound insulation compared to 12mm plywood (dB, RW)	4	7	10		18
Improvement in sound insulation compared to 0.7mm galvanised steel (dB, RW)	8	10	12		
Improvement in sound insulation compared to 1.2mm galvanised steel (dB, RW)	9	10	12		
National Class (to BS 476 Parts 6 & 7)	N/A	N/A	N/A	Class 0	Class 0
ISO 4589-3-2017 Elevated oxygen index at an elevated temperature of 60DegC	>80	>80	>80	>80	>80

Technical Graphs

For more information on our technical data, please contact our technical team.

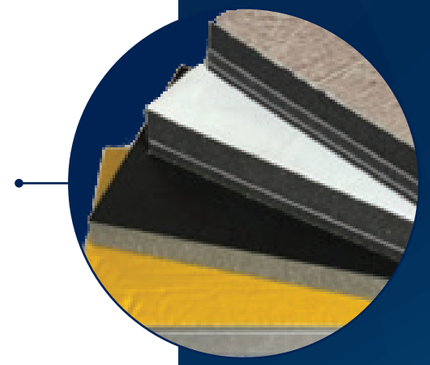
Email: technical.sspl@siderise.com



Composite Materials

Our standard range of foams are available with a pressure-sensitive adhesive backing film to simplify installation. Optionally, the product can be supplied with an extensive range of facing materials.

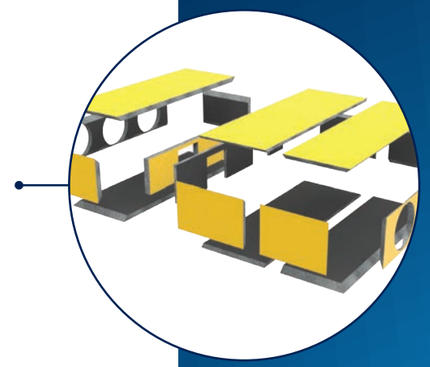
In addition to our standard range of foams, Siderise can also manufacturer bespoke composites made up of acoustically absorbent foams and mass barriers to improve sound insulation further.



Other Services

Our products are normally supplied in sheet or roll form. Where required an in-house cutting service is available for supply to final sizes/shapes using a variety of processing techniques, including die-cutting and CNC cutting.

A full ‘kitting’ and packing service is available for OEM Supply.



Technical support

Siderise provides the following technical support services:

Explanation of acoustic and noise control principles for marine craft, including optimal materials.

Engage with your engineering, design and procurement teams to provide support at any stage of the project.

Noise control engineering - we can assist with both calculations based on our test library, or technical advice based on our extensive experience with industrial and environmental noise control.

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WITH SIDERISE

Global experts in engineered acoustic solutions

Siderise Special Products Ltd
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sales.sspl@siderise.com

Accreditations:

ISO 9001 **ISO 14001** **ISO 45001**

Ecovadis assessment available online.

Institute of Acoustics sponsoring organisation

www.siderise.com

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