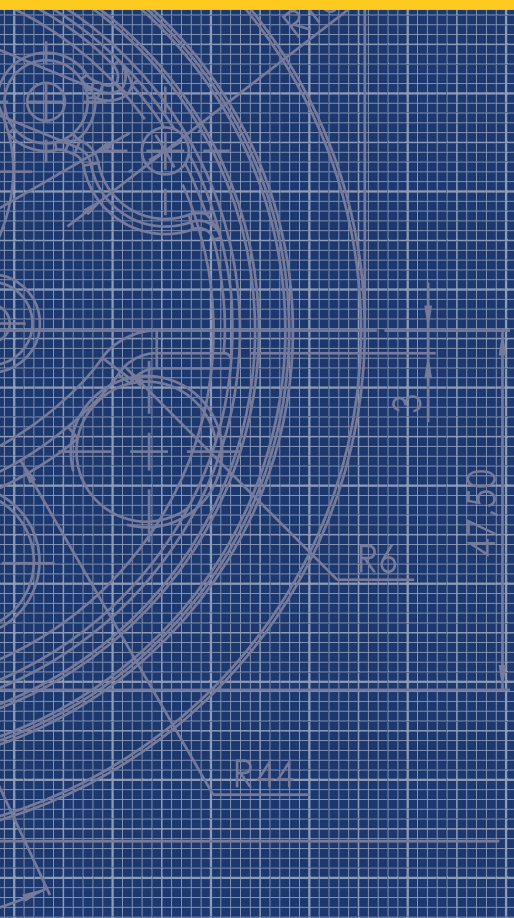
WWW.VETUS.COM

Specifications and selection guide

VETUS sound insulation

The widest range of sound insulation sheets for marine applications.



CREATORS OF
BOAT SYSTEMS
ENGINES AND AROUND THE ENGINE

A vetus B.V. publication

VSI12057-02



Comfort

VETUS recognizes the importance of comfort on board. Constant research and development has led us to a unique collection of acoustic materials. In search of the very best sound reduction possible, VETUS has developed these into a range of engine insulation products, for both professional and amateur use.

VETUS sound insulation

VETUS sound insulation is a versatile range of materials especially developed for marine applications.
From the entry-level 'Sonitech light' up to the high performance 'Prometech double' line, these products are designed to meet our customer's requirements as well as the VETUS quality standards. All products in this range are liquid tight, fire resistant and use the highest quality insulation foams on the market today.

Base materials

The range is built around a number of base materials. Various compositions of these base materials form the four main product lines, which are available in various sheet thicknesses.
In the selection table on page 5 the possible combinations are presented, to help you select the correct product for your application. The technical differences between various materials are also discussed in this brochure.



1. INSULATION FOAMS

The first choice is the type of foam you would like to use for your specific application. The VETUS sound insulation range offers two types of foam:

Sonitech

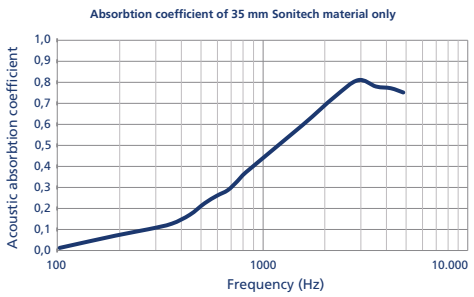


Sonitech is an open cell polyether foam with excellent sound absorption properties. The material had good mechanical strength, is very flexible, durable and flame retardant.

Specifications:

Density:	30 kg/m³
Thermal conductivity:	0,036 W/m.k
Temperature Range:	-30° C to 110° C
Fire resistance:	BS4735 self extinguishing
	UL94-HF1& VO
	FMVSS 302 self extinguishing
	ASTM D1692 max extent burnt 60mm

Sound Absorption coefficient:



ISO 10534

Prometech

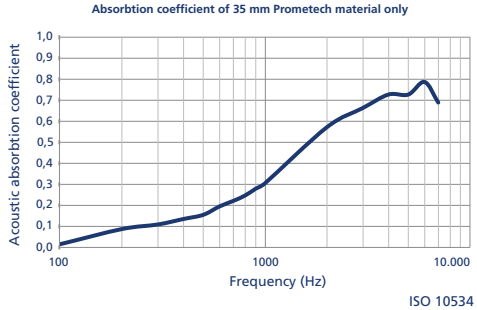


Prometech is a high performance acoustic polyurethane foam. It is specially treated to offer flame retardancy to BS:476, parts 6 and 7, Class "0", the highest rating on the market today.

Specifications:

Density:	94,7kg/m³
Thermal conductivity:	0.036 W/m.k
Temperature Range:	-30° C to 110° C
Fire resistance:	BS4735 self extinguishing
	FMVSS 302 self extinguishing
	ASTM D1692 max extent burnt 60mm
	UL94-HF1& VO
	BS476 Part 7 Class 1 & Part 6 & 7 Class 0

Sound Absorption coefficient:



ISO 10534

2. DAMPING LAYERS



The damping layer used in VETUS sound insulation is designed to prevent heavy, low frequency vibrations from reaching the engine room walls or the hull of the boat.

thing the VETUS souns insulation range thare are sheets available without, with a single, or with double damping layers. With a single damping layer, huge sound reductions can be achieved. Our top of the range products have 2 damping layers, which will block virtually all vibrations.

The damping layers are made of vinyl, loaded with naturally occurring minerals. This material is free of lead, unrefined aromatic oils and bitumen.

Specifications:

Thickness of damping layer:	2 mm
Density:	5 Kg/m^2
Fire resistance:	FMVSS 302 Self-extinguishing

3. SHEET THICKNESS

Thickness from 35 to 45 mm

The insulation capabilities of Sonitech or Prometech foams increase with the thickness of the sheets used. A sheet of 35 to 45 mm thickness gives excellent results at a reasonable price.

Thickness from 12 to 20 mm

A thinner sheet of 20 mm Sonitech can be applied where space or cost is more crucial. This also applies to the 12mm thick single Prometech sheets, which are specially developed for applications where space is limited but noise reduction and safety are still important, such as generator sets or small engine boxes.

Prometech double; 25, 45 and 60 mm

The Prometech double range is designed for the most demanding customers, to absorb as much sound as possible.

The 25 mm double Prometech sheets offer maximum acoustic efficiency for the thickness and are especially suitable in locations where space is limited.

The 45 mm double Prometech sheets offer higher sound attenuation than single layer sheets of the same thicknesses.
For customers who demand the quietest environment possible, we also offer a double damped sheet of 60 mm thickness.

4. FACINGS

The facing of the product has both an aesthetic and a functional role:



Reinforced aluminum facing

Fibre reinforced aluminum facing, for durability and radiant heat reflection. This facing is class 0 heat and fire resistant, fully liquid tight and easy to keep clean.



Glass cloth facing

Flexible glass cloth facing, for extreme strength, durability and a high tech appearance to your engine room. Class 0 heat and fire resistant. Fully liquid tight. Available in silver or white.

GUARANTEES

Guaranteed sound insulation

The sound absorption coefficients of both base foam materials are tested according to ISO 10534.

Guaranteed fire resistance; Class 0

The 'BS476 Class 0' fire resistance rating is the most demanding rating on the market today. To achieve class 0 the product must achieve:

- BS476 part 7, Surface spread of flame, Class 1
- BS476 part 6, Fire propagation, Index I <12 and i1 < 6

This means that the material does not spread flames *and* limits the amount of heat released from the surface during a fire.

SELECTION TABLE

Range:		Sonitech light		Sonitech single				Prometech single						Prometech double					
Product code (All sheets are 600 x 1000 cm)		ST020A	ST040A	ST135A	ST145A	ST135W	ST145W	PT112A	PT135A	PT145A	PT112W	PT135W	PT145W	PT225S	PT245S	PT260S	PT225W	PT245W	PT260W
Material	Sonitech	•	•	•	•	•	•												
	Prometech							•	•	•	•	•	•	•	•	•	•	•	•
	Number of damping layers	-	-	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
	Total thickness	20	40	35	45	35	45	12	35	45	12	35	45	25	45	60	25	45	60
Facing	Aluminium	•	•	•	•			•	•	•									
	Glass cloth Silver													•	•	•			
	Glass cloth White					•	•				•	•	•				•	•	•
Back	Self adhesive	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Weight	(kg)	0,4	0,7	3,6	3,8	3,6	3,8	3,6	4,9	5,4	3,6	4,9	5,4	7,2	7,8	9,2	7,2	7,8	9,2

SUMMARY









VETUS offers four product lines, based on two insulation foams; Sonitech and Prometech. Both foams have excellent sound reducing capabilities and are fire resistant. Prometech is rated to BS476 Class 0 fire resistance.

All sheets measure 100 x 60 cm and are supplied with a self-adhesive backing for quick and easy installation. The modified acrylic adhesive has high initial tag and adhesion of 1000 N/m to steel (ATM.1-PSTC.1).

Sonitech light
A flexible fire retardant sheet with a reinforced aluminium foil facing. Available in 20 or 40 mm thick sheets.
Use when cost or space is the prime concern.

Sonitech single
A step up from the light version, which includes a single damping layer resulting in better sound insulation capabilities. Available in 35 or 45 mm thick sheets and with reinforced aluminium foil or white glass cloth facing.

Prometech single
Made of Prometech foam, these sheets are rated BS476 Class 0 fire resistant. Combined with a single damping layer, they ensure good sound reducing capabilities and the highest level of safety. Available in 12, 35, or 45 mm thick sheets with reinforced aluminium foil or white glass cloth facing.

Prometech double
The top of the range product line. Rated Class 0 fire resistant and including double damping layers, this product is the choice for the most demanding customers. Available in 25, 45, or 60 mm thick sheets with white or silver glass cloth facing.

A sample card is available at your VETUS dealer.

GOING FOR THE BEST RESULTS

Fitting guide

Selecting the right product is just part of the process of insulating your engine space. Close fitting of the sheets is crucial; unless every gap is closed, sound will find its way out of the engine room.

A detailed fitting guide is available at your VETUS dealer and on our website - www.vetus.com



Accessories

When fitting the sheets, the self-adhesive back surface saves time and effort. However, for uneven or curved surfaces we recommend the use of screws and our FIXP rosettes or a good contact adhesive.

To close and finish the joints between sheets, we recommend TAPE, available in matching facings.

BEGINNERS GUIDE

Preparing the engine room

Sound is like water and until the last gap is closed, it will find a way out of the engine room. Therefore it is important to cover as much of the surface in the engine room as possible and to close all possible leaks. Any small gaps or holes in, between or under the bulkheads should be filled with flexible sealant, foam or other material. When the 'engine room' is in direct contact with the bilge or other spaces that run through the boat, it is recommended to build bulkheads or a box around the engine.

Fitting the sheets

While fitting the sheets, work around obstacles by cutting the sheet into the right shape and try to fit the puzzle as neatly as possible before actually sticking the sheets in place. Note that tanks tend to amplify noise. When a tank is in the same space as the engine, cover the tank in insulation sheets or build a bulkhead between them.

Hatches and air intakes

Hatches and air intakes may leak noise. Hatches can be sound proofed by using an insulation tape between the touching surfaces. Air intakes however are more difficult to insulate, as the engine needs air for combustion and cooling. Creating a labyrinth or installing a special damper will generally solve the noise leak without choking the engine.

About VETUS
Developing innovative systems for your boat is truly, what VETUS is about. VETUS develops boat systems consisting of a wide range of products to keep your boat in optimal technical condition.
For 50 years, VETUS has been one of the world's leading companies when it comes to innovative products for pleasure craft and small commercial vessels. Not for nothing is our catalogue regularly consulted by the engineers and designers from leading yacht builders and used as educational material in marine training establishments.

Warranty
VETUS offers a 3-year warranty on all VETUS Equipment. Based on our extensive experience, product knowledge, careful material choices and sound technology, we have the confidence to give a 3-year warranty on all our boat equipment. In addition to these outstanding, unique warranties, VETUS has a worldwide network of qualified dealers, who can offer advice, sales, installation and service of all our products.

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