

# BaryVam®

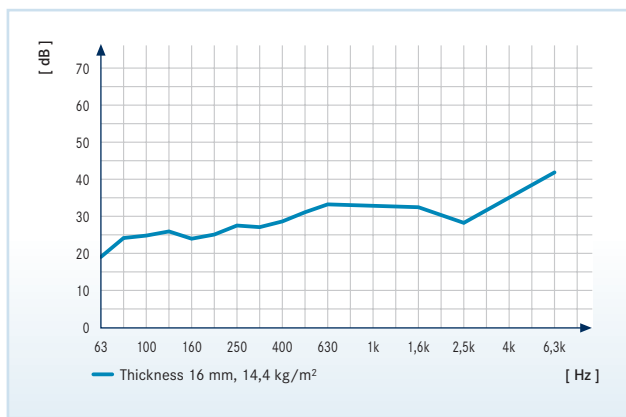
## Product

BaryVam is a three-layer wooden composite material with high sound insulation. Two outer layers made of Finnish birch plywood encompass an acoustically efficient thermoplastic layer from Bary-X.

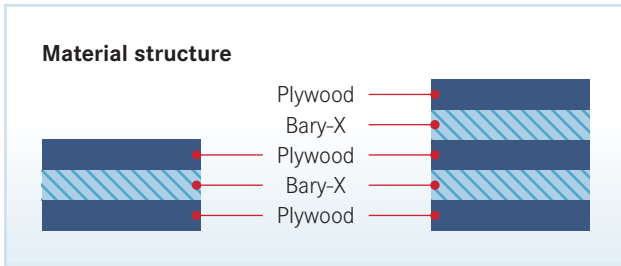
## Application

- According to the customer's specification, the product can be supplied ready for mounting.
- The following coating materials can be applied: special lacquer, fire-resistant paint, aluminium sheet, HPL/CPL, water-repellent kraft-paper, automotive carpets.
- Standard format 1,200/1,220/1,500 mm x 2,400/2,440/3,000/3,600 mm. Other formats and customizing are available on request.

## Sound insulation



Sound damping in accordance with EN ISO BaryVam "light"



The sound transmission loss level R is determined according to the German DIN standard 52 210. Insulation characteristics have to be measured depending on the sound frequency. To correctly interpret the people's noise sensibility, defined test noises are measured within a frequency range of 100 – 4,000 Hz. To determine the "weighted transmission-loss" value  $R_w$  as separate index, values up to 3,150 Hz inclusive are taken into consideration by DIN 52 210.

$R_w$ for	BaryVam 11 / 21 mm = 32 dB
$R_w$ for	BaryVam 16 mm = 33 dB

In comparison with a plywood board of 21 mm thickness, 7 dB are gained,

3 dB are due to the weight ratio.

BaryVam not only reduces the transfer of airborne sound, but, due to its sandwich construction, dampens vibrations, too. Bary-X absorbs vibration energy and, consequently, prevents airborne sound emission of the panel.

## Bending flexibility

BaryVam meets the requirements of the German DIN standard 68 705, Part 3, BFU 100 – determined according to DIN 52 371. The bending flexibility in comparison with pure birch plywood of the same thickness is similar.

## Standard thicknesses and weights

Net thickness approximately	11 mm	16 mm	21 mm
Birch plywood structure	2 x 4 mm	2 x 6,5 mm	2 x 9 mm
Bary-X-layer	3.5 mm	3.5 mm	3.5 mm
Weight/m <sup>2</sup> approximately	13.6 kg	17.1 kg	20.6 kg
Weight/m <sup>2</sup> approximately	1,180 kg	1,040 kg	960 kg
<b>Tolerance:</b>	Thickness	max. ± 1 mm	
	Weight	max. ± 7 %	

Other thicknesses on request.

For passenger carriages, 16 and 21 mm are mainly applied.

In most cases the panels were mounted floating.

## Behaviour in Fire

According to the attached test certificate, BaryVam has been tested in compliance with the German DIN standard 55 10, Part 2:

- Inflammability class S 3;
- Smoke development class SR 2;
- Drop-forming class ST 2

By application of a fire-proof paint authorised by the DB AG, fire protection class S4 is achieved and class M2 is met according to the French standard NF 16-101.

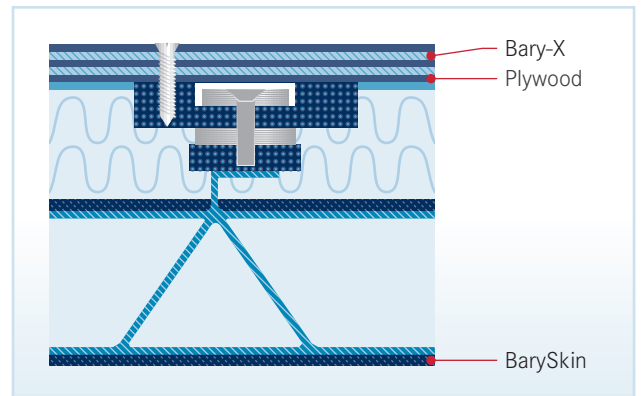
## Glueing

Both BaryVam and plywood are glued in consideration of the German DIN standard 86 705 according to BFU.

## Range of application

Floor panels for insulation and construction as well as partition walls and dividers for:

- rail vehicles
- overland buses
- ships
- sound chambers
- loudspeaker boxes



Profile of a floor with pressed aluminium profile

In rail rolling stock building, light construction elements are required with maximum acoustic efficiency, to achieve, in spite of high speed, a comfortable noise level. The floor construction with BaryVam as ready-made floor panel is best suitable for this purpose.

Together with the lower corrugated plate or aluminium pressed profile, BaryVam forms an acoustic double-wall system, of which the value of the sound transmission loss may be influenced by geometrical configuration of the cross-section and material.

With BaryVam light as a construction element, the weight can be considerably reduced: the mass area of a panel of 16 mm thickness is reduced from 17.5 to 14.4 kg/m<sup>2</sup>. In such a way it is possible to retrench 155 kg on an area of 50 m<sup>2</sup>.  
R<sub>w</sub> = 31 dB.

## BaryVam® and Bary Vam® light are combined products from:

- Rudolf Rost Sperrholz GmbH, Rellingen
- Stankiewicz GmbH, Adelheidsdorf
- Koskisen oy Järvelä, Finland