

Comfort on Board Ships and Yachts

Vibration Suppression and Reduction of Airborne Noise in Shipbuilding



Serenity and Comfort on Board Ships and Yachts



Professional vibration isolation increases comfort levels on board

Elastically decoupled ship bottoms protect against vibrations and secondary airborne noise

Getzner vibration solutions increase comfort levels on board ships and yachts: they provide effective protection against unwanted vibration and noise by eliminating structure-borne noise and hence secondary airborne noise on board. The senses focus more on the design, innovation and superb interior fittings.

The challenge

Mechanical and hydrodynamic processes cause vibrations and secondary airborne noise, which significantly reduce comfort levels on board ships and yachts. Outstanding design, innovative technical details and luxurious interior fittings tend to get pushed into the background by the irritating vibrations and noise. If the highest expectations in terms of comfort are to be met, then a professional solution to suppress vibrations and noise is essential.

Limit values for vibration and noise

The shipping classification bodies (DNV, RINA, Lloyds, ABS, etc.) lay down the various requirements for acoustics on board a ship. The limit values for passenger ships and yachts are much lower than for commercial vessels. In the commercial shipping sector, a noise level of 60 to 85 dB(A) is required depending on the location on board and the operating phase. For passenger ships and yachts, a maximum noise level of 35 dB(A) is specified. At the same time, the vibration level (in mm/s) in the 5 to 100 Hz frequency spectrum should meet the requirements. In yachts, the most stringent requirements are at 0.5 mm/s.

Solutions for the shipbuilding industry

Box-in-Box system

The decoupling of the inner and outer hulls is a major topic in boatbuilding circles. The Getzner Box-in-Box system significantly reduces vibrations, and consequently secondary airborne noise, in ships and yachts: the floor and sides of the hull are lined with strips of Sylomer®, which isolate the inner hull from the outer hull - a simple but effective solution.

Isolating sources of noise

Getzner also uses its elastic high-tech Sylomer® and Sylodyn® materials to isolate mechanical sources of noise, such as engines, pumps and drive systems. This effectively dampens all vibrations. Panels lined with Sylomer® strips also provide additional isolation.

Strips of Sylomer® decouple the inner hull from the outer hull





Superyacht Big Fish

Material properties guaranteed for decades

High-tech materials from Getzner can be found everywhere where ships and yachts are built. Shipyards around the world benefit from the extraordinarily high degree of efficiency of the Sylomer® and Sylodyn® materials. Material properties such as the static and dynamic creep behaviour and the low compression set are exactly what is required in the construction of ships and yachts. The consistent material properties ensure a minimum noise level over the entire service life of the ship or yacht.

Simple handling

Another big plus for the boatbuilder is the very simple and straightforward handling of the material: Sylomer® and Sylodyn® can be cut with a knife and bonded to a range of materials, such as steel, aluminium and wood.

Material benefits

- The material has proved itself over decades in several sectors
- Stable temperature behaviour
- Excellent residue behaviour and very little deflection
- Resistant to sea water
- Easy to handle in the shipyard
- Bonds well to steel, aluminium and wood
- Available in all thickness (from 3 mm to 25 mm) and widths

Advantages of a Getzner shipbuilding solution

- Vibration decoupling results in significantly higher levels of comfort
- No more secondary airborne noise
- Lower, stable noise level in the long term
- Protection for all interior fittings
- Tolerances can be adjusted during installation
- International dealer network

Floor structure

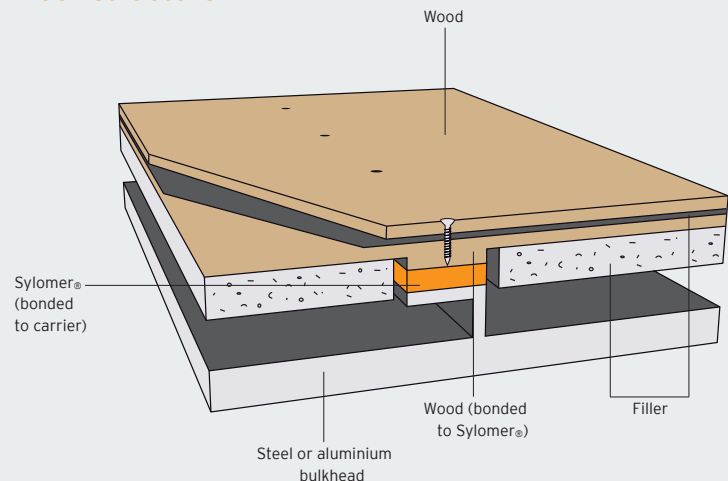




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Experience and prominent references

International marine and acoustic engineers have been putting their faith in the experience and materials of Getzner for decades. An international dealer network ensures that shipyards all over the world can be supplied with Sylomer® and Sylodyn®.

“The elastic ship-building solutions from Getzner significantly increase comfort levels on board.”

Range of services

Getzner's specialists work with customers to develop tailor-made solutions. They also provide their experience and in-depth knowledge to naval architects and acoustic consultants when the ship's hull is being lined.

- calculation of the deflection of the elastic bearing
- representation of the time-dependent compression set
- extensive information regarding material properties
- online calculation tools for the initial material selection

