



Decoupling Wheelhouses

Solutions for reduction of
noise and vibrations

The polyurethane materials **Sylomer®**, **Sylodyn®** and **Sylodamp®** have been used for decades for vibration isolation on ships. They prove themselves by their outstanding insulating properties and longer service life compared to all other materials.

Benefits

- Proven protection against vibrations and shocks
- Constantly low noise level
- Durable elastic properties without settling
- Height of the bearing can be adapted to existing systems
- Resistant to oil and salt water
- Self-adhesive equipment for easy mounting

Challenges

Ships and boats are naturally subjected to high dynamic forces and vibrations. These are partly generated due to natural forces such as the wind and the waves, but are also due to machines present onboard such as drive motors, air-conditioning plant, etc.

This always affects the wheelhouse, however there is a maximum prescribed noise level inside the wheelhouse for the crew's protection (see table).

**Table B2 Cargo ships ¹⁾
Crew Accommodation Noise levels in dB(A)**

Locations	Comfort rating number (crn)		
	1	2	3
Wheelhouse	60	60	65

Source: Det Norske Veritas, „Rules and Classification of Ships“

Solution for reducing noise in wheelhouses

An effective measure for reducing the level of noise is to decouple the entire wheelhouse (cabin) from the rest of the structure. This can be achieved using foamed polyurethane materials Sylomer® and Sylodyn®. If allowance is made for this in the ship's design, the cabin can be completely decoupled using a simple sandwich solution. Furthermore, all electronic devices and sensitive equipment in the wheelhouse were protected from vibration, in this way extending their service life.

The long-lasting, consistent material properties guarantee high efficiency levels throughout the entire service life (case study available), and its resistance to machine oil and salt water makes the material perfect for use in this environment.

➤➤ *A comparative measurement taken from a project in Scandinavia showed that the use of Sylodyn® NB in comparison to a rigid connection achieved noise reduction of 7 dB.*



Sylomer® stripes decoupling the whole wheelhouse

Application areas

- Cabin and floor decoupling in ships
- Bearing of motors, generators, air-conditioning plant, etc.
- Decoupling of sensitive electronic equipment
- Battery bearings