

Sylomer® Aluminium Vibration Damper

Floating Floors for Rolling Stock

by getzner
sylomer®

Design

High-quality anodised aluminium profile with a wall thickness of 2 mm. Its construction consists of an upper and lower profile that are clipped together. Sylomer® strips are used as elastic inserts and for vibration suppression. The profiles are able to absorb the forces that occur in the event of a collision. The two thin Sylomer® inserts also serve to transfer the tensile forces upwards. They prevent the aluminium parts from colliding when the train brakes and in the event of emergency braking. The standard length of the profiles is 1.5 metres. The Sylomer® inserts are individually adapted to the working loads of each train.

The hollow space in the upper profile allows floor panels to be fastened with screws. The profile is affixed to the bare floor of the carriage by screwing the side tabs. A groove is provided as a drilling aid. Thanks to the cooperation with SAPA – the world leading manufacturer of aluminium profiles – the design can be adapted to the customer's requirements as necessary.

Area of application

Sylomer® Aluminium vibration dampers are used for the bearing of floors in trains and ships as well as for machine engineering applications. The elastic Sylomer® inserts provide effective vibration decoupling and lead to a dramatic reduction in secondary airborne noise. All components mounted on them (train interiors or machines) are subjected to fewer vibrations, which extends their service life. The low installation height of 30 mm aids lightweight construction and the planning of low floor structures.

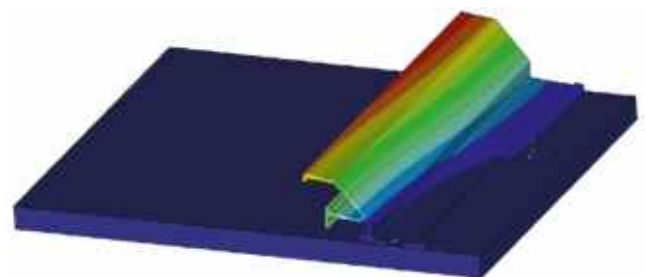
Customer benefits

- Effective isolation and decoupling of vibrations
- Less noise in rail vehicles
- Simple screw-mounting reduces installation time and costs
- Elastic Sylomer® inserts help to offset tolerances during installation
- Sylomer® Aluminium vibration dampers can be flexibly adapted to the customer's requirements
- Constant material properties over the long term – no maintenance required



Advantages

- No brittleness of the Sylomer® inserts (free from softeners)
- Various types for different working loads
- Flammability in accordance with DIN EN 45545-2
- Low installation height of 30 mm
- Aluminium profile designed for maximum loads in a rear-end collision
- Electrically insulating
- Resistant to oils and greases
- Total weight per metre approx. 3 kg



Finite element modelling demonstrates the stability (details available upon request)

The existing designs can be individually adapted to customer requirements in terms of length, width and profile shape, and also to other working loads, etc.

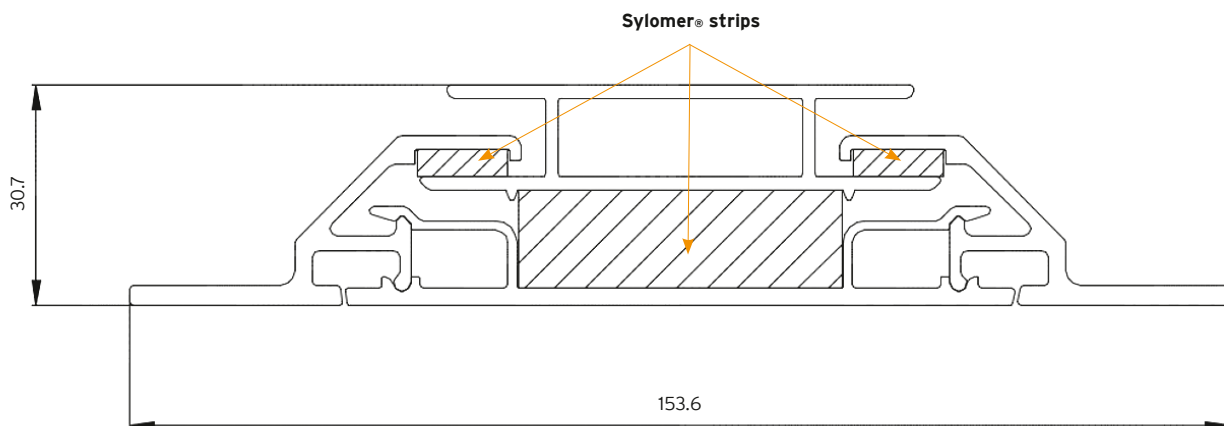
Item	Nominal line load / m	Maximum line load / m	Nominal natural frequency	Deflection	Remark
ALCB-3A	73 kg	144 kg	37 – 43 Hz	1.1 mm – 1.5 mm	KP, AS
ALWB-3B	73 kg	144 kg	37 – 43 Hz	1.1 mm – 1.5 mm	BT, AS
ALCB-5A	141 kg	282 kg	31 – 37 Hz	1.4 mm – 1.5 mm	KP, AS
ALWB-5B	143 kg	286 kg	31 – 37 Hz	1.4 mm – 1.5 mm	BT, AS
ALCB-6A	287 kg	575 kg	26 – 36 Hz	1.3 mm – 1.5 mm	KP, AS
ALWB-6B	279 kg	558 kg	26 – 36 Hz	1.3 mm – 1.5 mm	BT, AS

KP: The profile incl. Sylomer® as a component has been tested in accordance with fire prevention requirements DIN EN 45545-2, section R10

BT: Aluminium and Sylomer® as individual components have been tested in accordance with fire prevention requirements DIN EN 45545-2, section R10

AS: Incl. the two Sylomer® strips as collision protection for tensile forces

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The natural frequencies can be controlled by the profile distances and can therefore be individually adapted. The maximum deflection stated is based on the maximum line load when the maximum permissible weight is reached.

All information and data is based on our current level of knowledge. It can be used in calculations and for reference purposes, but is subject to typical manufacturing tolerances and does not represent warranted properties; subject to change without notice.