



GHH[®]SILENCE-ID | product specification

The **GHH[®]SILENCE-ID** is an integrated damping solution for the proven **GHH[®]V60** wheel system. The damper is positioned inside the wheel tyre and is designed to increase wheel damping, especially to mitigate the curve squealing. Furthermore, the **GHH[®]SILENCE-ID** can be retrofitted to nearly all existing **GHH[®]V60** wheels. Its internal design makes the absorber inherently safe in operation, as it is enclosed within the wheel tyre and cannot be lost during service. The system supports quieter, lighter and more efficient wheel solutions.

Key features

- Integrated damper inside the wheel tyre
- Operational safety — the damper cannot be lost
- Retrofit solution for nearly all GHH[®]V60 wheels
- Increased wheel damping for targeted vibration reduction through an elastomer-based damping principle with a tuned mass
- Supports lightweight and low-noise running gear solutions



GHH-BONATRANS
Pioneers of wheelset solutions

Integrated design

The **GHH®SILENCE-ID** consists of a damper system integrated into a dedicated groove inside the wheel tyre. The functional principle combines an elastomer element with a tuned mass. Depending on the design variant, the system can be realised as a segmented design or as a one-piece design with multiple masses.

Acoustic performance

Curve squeal is caused by dynamic wheel-rail interaction and can lead to intense axial wheel vibrations. These vibrations generate tonal noise, which is often perceived as particularly unpleasant. The **GHH®SILENCE-ID** increases the modal damping of the wheel and thereby reduces curve squealing. Modal analyses have shown a significant increase in wheel damping with **GHH®SILENCE-ID**.

Safety

The damper is positioned inside the wheel tyre. This protected installation position provides inherent operational safety, because the damper is enclosed in the wheel assembly and cannot detach from the outside. The concept is therefore well suited for demanding tram, metro and light-rail operation.

Retrofit

The **GHH®SILENCE-ID** is also designed as a retrofit solution for the established **GHH®V60** wheel platform. This enables existing wheel designs to be upgraded acoustically without fundamentally changing the wheel concept.

Maintenance

The mounting concept is designed to closely follow the conventional tyre mounting process. The wheel tyre with **GHH®SILENCE-ID** can be mounted as usual, without adverse effects on the standard mounting procedure.

Typical application

Low-floor tram, metro and light-rail vehicles with **GHH®V60** wheel system

Application focus:

- Urban railway systems with demanding acoustic requirements
- Vehicles with relevant curve-squeal tendency
- Retrofit projects for existing **GHH®V60** wheels
- Operators aiming to reduce noise without increasing LCC

Technical specifications

- Product type: Integrated tuned mass damper system
- Installation position: Inside wheel tyre groove
- Base wheel system: **GHH®V60**
- Retrofit capability: Nearly all existing **GHH®V60** wheels
- Design variants: Segmented or one-piece design
- Main acoustic target: Increased damping against curve squeal
- Additional effect: Potential reduction of radial-mode noise emission

