



GHH[®] ULTRA-P | product specification

GHH[®] ULTRA-P is synonym for reliability and long-term proven design, from tram and loco applications to nowadays low-floor LRV.

GHH[®] ULTRA-P is a successor of the well-known SAB resilient wheel. The SAB resilient wheel was originally designed for and has been applied to tramways in large numbers during the past centuries. This wheel type has the largest radial deflection (2–10 mm) on the market and reduces the dynamic loads by appr. 50 percent.

Key features

- Low unsprung mass
- Reduction of noise, vibrations and dynamic track forces
- Reduction of maintenance cost
- Safe wheel design



GHH-BONATRANS
Pioneers of wheelset solutions

Proven design

The design of the **GHH®ULTRA-P** has a tyre disc arrangement basing on rubber pads, which are arranged in pairs and compressed between hub disc and pressure disc. These discs are fastened together by distance bolts, which pass through holes in the tyre disc, and by screws in the bottom area of the pressure disc.

Low unsprung mass

The tyre-disc is the only non-suspended component of the **GHH®ULTRA-P**. All other parts (like hub disc and pressure disc) are yet belonging to the first "primary" suspension level of the vehicle.

Reduction of noise, vibrations and dynamic track forces

Due to its super-resilience and the very efficient damping effect of the wheel, wheel noise generation and dynamic loads / vibrations are reduced and limited.

Reduction of maintenance cost

The **GHH®ULTRA-P** is a split wheel design. This allows an easy and robust way of wheel tyre exchange.

Safe wheel design

All rubber pads are arranged in parallel. Even if one of them is damaged, it does not cause any loss of safety, resilience or running comfort.

Applications

Today, **GHH®ULTRA-P** is applied to specific applications on modern low-floor Light Rail Vehicles, whenever due to the track and operation conditions a robust and long-term service proven design of a super-resilient wheel is needed to reduce ground borne vibrations and noise.

Typical application

„De Lijn“ low-floor trams in Antwerpen and Gent – supplied by Bombardier/Siemens.

Wheel diameter:	660 / 600 mm
Max. axle load:	11,000 kg
Radial wheel stiffness:	ca. 20 kN/mm
Axial wheel stiffness:	ca. 70 kN/mm

Technical specifications

Wheel dia (new):	600–1350 mm
Max. wheel load:	50–100 kN
Radial wheel stiffness:	15–40 kN/mm

Rubber pads – steel discs

Safe and reliable force and torque transmission by form closure.

