

# Noise reduction



## GHH-VALDUNES OFFERS CUSTOMISED SOLUTIONS AND ITS WIDE EXPERTISE

- Solutions for squealing and rolling noise
- Wheels specifically designed to reduce noise and vibrations, through optimised geometry
- Dampening devices, permanent or removable, for easier maintenance

### COMPLETE SYSTEMS SPECIFICALLY DESIGNED FOR DIFFERENT MARKETS

- **Urban transportation:** Tramways, LRVs and metros
- **Suburban transportation:** Tram-trains and trains
- **Passenger transportation:** Main passenger lines
- **High speed and very high speed trains**
- **Goods transportation:** freight trains

REDUCTION  
OF NOISE  
AND VIBRATIONS

PASSENGER COMFORT

RESPECT  
OF NOISE DIRECTIVE  
AND REGULATION

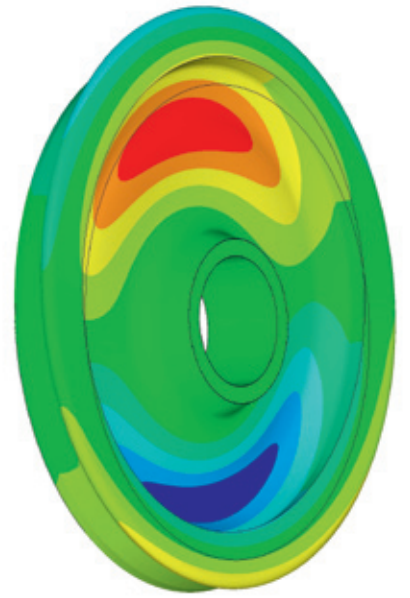


 Personalised solutions,  
a real expertise



**GHH-VALDUNES**  
[www.ghh-valdunes.com](http://www.ghh-valdunes.com)

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## TRAMWAYS AND LIGHT RAIL VEHICLES

- **Speed: up to 80 kph**
- **Challenge:** Squealing noise, especially in tight curves, impairing passenger comfort and generating public nuisance. Low or ultra low floor vehicles.
- **GHH-VALDUNES solution:** Resilient wheel, with wide range of radial stiffness - from SAB V60 rubber sprung wheel to VUT™ low stiffness wheel. Potential use of dampening devices according to specific needs (damping rings, vibration absorbers, permanently fixed or removable).
- **Result:** squealing noise reduced up to 10 dB(A).

## METROS, TRAM-TRAINS AND SUBURBAN TRAINS

- **Speed: up to 120 kph**
- **Challenge:** Squealing noise in urban zones, impairing passenger comfort and generating public nuisance. Vibration propagation in densely populated areas.
- **GHH-VALDUNES solution:** resilient wheels, damping rings, vibration absorbers, permanently fixed or removable.
- **Result:** Squealing noise reduced up to 15-20 dB(A) on specific frequencies.

## MAIN PASSENGER LINES AND FREIGHT TRAINS

- **Speed: up to 200 kph**
- **Challenge:** rolling noise, detrimental to passenger comfort, generating public nuisance and not compliant to noise regulation or directive.
- **GHH-VALDUNES solution:** composite vibration absorbers; VMS™ low stress wheel coupled with composite braking blocks.
- **Result:** noise reduction up to 5-7 dB(A).

## HIGH AND VERY HIGH SPEED TRAINS

- **Speed: 200 kph and above.**
- **Challenge:** rolling noise, detrimental to passenger comfort, generating public nuisance and not compliant to noise regulation or directive.
- **GHH-VALDUNES solution:** optimised wheel geometry coupled with dampening device or shields.
- **Result:** noise reduction up to 7 dB(A).



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