

A Sound Solution for Noise Damping

An essential requirement of today's rail transit vehicles is the design of low-noise wheel systems to reduce noise from wheel/rail contact. Such noise comes from the rolling and microscopic sliding movements by the wheels on the rails, and from intensive slipping and sliding on tight curves.

To meet this challenge, Penn Machine Company (PMC), in cooperation with our strategic partner, Bochumer Verein Verkehrstechnik GmbH (BVV), has developed *tuned axial noise absorbers* to reduce axial curve squeal vibration by dissipating vibration energy into heat instead of audible noise. These customized noise absorbers contain a series of axial stainless steel "tongues" which can be tuned to address specific frequency challenges. The noise absorbers are fastened to the wheel to achieve maximum noise reduction.

Before we ship PMC/BVV noise absorbers, they undergo the same degree of rigorous quality testing as our tires and centers.

Environmentally Friendly

PMC/BVV noise absorbers offer many advantages, the most significant being their ability to reduce audible frequency vibration heard by passengers and residents alike. Specifically, our noise absorbers can reduce curve squeal noise up to 20dBA. PMC/BVV also offers axial absorbers that reduce the rolling noise of trains traveling faster than 50 mph, which minimizes the impact of high speed rail on the environment and improves the rider experience.

PMC/BVV noise absorbers can also be retrofitted on existing wheels with acceptable clearances. From a sustainability perspective, these components are ideal because they have an operating life of 20-30 years and can be re-used.

The technical superiority of PMC/BVV tuned axial noise absorbers, combined with the advantages they offer riders and transit authorities, and residents living near high speed rail lines, make them a sensible investment.



PMC/BVV NOISE ABSORBERS are designed, engineered and tuned to reduce curve squeal vibration.



AXIAL ABSORBERS are used in rail applications, where tight curves can cause curve squeal.

Solid & Resilient Wheels | Gear Boxes | Axles | Gear Box & Wheel Set Repair

Solid & Resilient Wheels That Outperform the Others

Penn Transit Solid & Resilient Wheels set the standard for excellence.

Our proprietary manufacturing process allows us to make lightweight **Steel Wheels** that require less energy to operate.

What's more, our 300,000+ **Resilient Wheels** in service worldwide offer these features & benefits:

- > Rubber or Ring Elements with Precise Elasticity
- > Superior Damping Properties
- > Increased Rider Comfort
- > Longer Operating Life

By using ultrasonic and magnetic particle testing, and conducting dimensional checks, we produce the quality wheels you need to move forward.

To find out how we can help, call **724.459.0302** or visit www.pennmach.com



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