



The new resilient aluminium wheels

# 30% lighter in weight, 100% safe

Minus 600 kg on a scale makes every OEM happy, since ultimately, everybody pays detailed attention to weight - especially if it is the weight of a vehicle. And air conditioning and a low entrance are always more comfortable for the passenger than forged steel on the rails.

Therefore, BVV has broken new ground again by developing resilient aluminium wheels. In San Francisco, the first units are already in service.

Forged aluminium is light in weight and resistant - this we have tested and proven in many test series. Combined with our proven torsion-resistant rubber spring mounting, this was developed into a 100% reliable system, which will follow its course on rails:

- silent-running as are all our resilient wheels
- strong-running due to high-strength wheel tyres in Excelsior® quality
- easy to service due to a simplified tyre change.

Maybe you will take a closer look at your tramcar during your next holiday in California. We would not be surprised if you found aluminium at the bottom and excellent climatic conditions inside.

Weight →  
Running properties →  
High economic efficiency →

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## Facts & Figures

### Ultralight resilient wheels - an advancement by BVV



Wheel diameter 650 mm, axle load 9.5 t Used at Muni, San Francisco	Weight of the wheel 1)
Bo 54 with steel wheel centre	184 kg
Bo 54 with aluminium wheel centre	140 kg
Weight reduction	44 kg equals 24%

Wheel diameter 660 mm, axle load 12.3 t Field test NJT	Weight of the wheel 1)
Bo 84 with wheel centre and wheel rim ring made of steel	245 kg
Bo 84 with wheel centre and wheel rim ring made of aluminium	172 kg
Weight reduction	73 kg equals 30%

1) Max. weight applying the tolerance, and including corrosion protection

### Comparison of ultralight aluminium wheels

Depending on the design, there are considerable weight advantages of resilient aluminium wheels: Bo 54 is 44 kg lighter in weight per wheel than its

design in steel, Bo 84 even 72 kg lighter. Regarding a 6-axled tram vehicle, the weight advantage even adds up to a surprising 528 or 864 kg.

### Fatigue strength test passed!

The fatigue strength tests of aluminium wheel centres is one of numerous tests done by external institutes to test the strength and thus the suitability of aluminium when used in local public transport - successfully!



*Fatigue test of aluminium center*

### Interference fit torsion resistant!

Special equipment was necessary to verify the torsion resistance of the Interference fit in demanding processes. Here as well, the results are clear: The aluminium wheels are positioned on the wheelset axle in a torsion resistant manner.



*Torsion test of the press fit  
aluminium centre/axle*