

WHY OUR ALUMINIUM BUS BODIES ARE BETTER

A BRIEF HISTORY OF AUSTRALIAN BUS BODIES

Forty years ago, all buses were made of steel. Except ours.

Volgren began manufacturing bus bodies in 1977. We partnered with Swiss vehicle construction visionaries, Hess, who had been using aluminium in their bus bodies since 1933.

Our aluminium buses changed the Australian market. Within decades aluminium's many advantages over steel were well-established and Volgren had become the leading bus body manufacturer in Australia.

Today, we're proud to maintain that position. And we're just as proud that the aluminium versus steel debate is all but over. In fact, many of our competitors who were once trying to improve their steel buses to compete with our aluminium buses, are today introducing aluminium buses of their own.

So, have we finally lost the great advantage that got us to where we are today?

Not by a long shot...



THE ALUMINIUM EDGE – BACKED BY RESEARCH

After conducting a rigorous study involving nine bus operators around Australia and examining categories such as fuel savings, repair and refit costs, and purchase price, Monash found that an operator could expect a saving of more than \$60,000 over the life of a Volgren bus compared to competitors using steel buses.

WHAT MAKES VOLGREN BUSES DIFFERENT?

It's now possible to choose between aluminium bus bodies, but only one company that manufactures for the Australian market uses CO-BOLT® technology.

We've been working with the CO-BOLT® aluminium technology structure for decades. It allows us to build our bodies using a system of bolted gusseted joints. That means that Volgren buses are not only light-weight and corrosion-resistant but, compared with other aluminium bus bodies, they:

- Have fewer components
- Have lower dependency on assembly skills
- Are more repair and service friendly
- Have no holes for rivets and self-cutting screws in the profile
- Have no risk of leakage or cracking
- Require no adhesives between roof profiles and side wall profiles
- Have no risk of movement between the structural elements

The CO-BOLT® system is one of the main reasons we're able to offer a **15-year warranty as standard on all aluminium structures.**

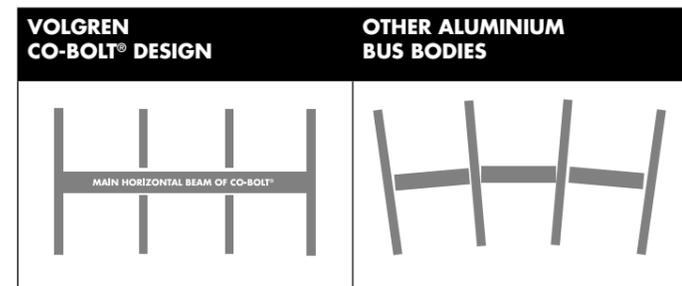
VOLGREN VERSUS OTHERS – A COMPARISON

We have never promoted ourselves as offering the "cheapest" price tag – and we very likely never will. Instead we offer a bus of superior quality and unrivalled value.

STRENGTH

The CO-BOLT® system removes the need for welding and so increases joint strength.

It also includes continuous main beams, which are significantly more robust than other designs.



LOCAL SUPPLY CHAIN AND SUPPORT

Volgren is an Australian company with a local supply chain and after sales service centres across Australia. We see our supply chain as an extension of our business, and as a fundamental part of our partnerships from suppliers to customers.

By building relationships with leading manufacturers, engineers and fabricators – we can offer something unique: a highly motivated, highly agile supply chain working towards a common commercial goal.

| VOLGREN CO-BOLT® DESIGN | OTHER ALUMINIUM BUS BODIES |
|---|---|
| Australian aluminium and components | Imported aluminium and components |
| 40 years of engineering experience and local supply chain | Minimal experience with aluminium engineering |
| Local responsiveness to requests for change | Cumbersome overseas approval for change |

CANTRAIL & MAINBEAM

Strength from unique dual skin, not fabricated and riveted.



RELIABILITY



| VOLGREN CO-BOLT® DESIGN | OTHER ALUMINIUM BUS BODIES |
|--|--|
| Volgren offer a 15-year warranty as standard on all aluminium structures | Untested performance over the required life of modern buses in Australian conditions |



TRUSTED BY LEADING OPERATORS

Since building our first bus body in 1977, we've designed and manufactured more than 5500 buses. We're proud of the fact that some of the biggest operators (including government operators) from around the country rely on our buses every day.





THE FUTURE OF BUSES IS LIGHTER STILL

Volgren has got to where we are today not just because we've used aluminium to manufacture bus bodies, but because we've always found new ways to make our bus bodies better.

And we'll continue to do that.

In partnership with Deakin University, CleanTeQ and the Advanced Manufacturing Growth Centre, we're currently investigating how scandium, a rare earth mineral, can be alloyed with aluminium for application in buses.

Aluminium is often amalgamated with small amounts of other elements – silicon, magnesium and copper, for example – to produce materials used in bus body manufacture. The scandium alloy we're researching has the potential to vastly outperform the best alloy currently in use. It will be:

- **AS MUCH AS 30% STRONGER**
- **CAPABLE OF REDUCING COMPONENT WEIGHT BY AS MUCH AS 30%**

Significantly lighter and stronger buses will allow the inclusion of larger batteries, essential for electric vehicles.



WANT TO FIND OUT MORE?

Call Volgren sales on (03) 9791 4255 or visit www.volgren.com.au

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