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## What is 'Super Green' Low Carbon Aluminium?

### Traditional Aluminium Production

Carbon Emissions = 12.4 kg of CO<sub>2</sub> per 1 kg Aluminium

**Bauxite Mining and Refining:** The process begins with the extraction of bauxite ore, which is then refined into alumina (aluminium oxide) using the Bayer process. This stage involves energy consumption and generates carbon emissions.

**Alumina to Aluminium Reduction:** The primary aluminium production involves the electrolytic reduction of alumina to aluminium in an electrolytic cell, known as the Hall-Héroult process. This step is highly energy-intensive and typically uses electricity derived from fossil fuels, contributing a substantial amount of carbon emissions.

**Overall Carbon Footprint:** The carbon footprint of traditional aluminium production is high due to the energy intensity and the reliance on non-renewable energy sources. This results in an average of about 12.4 kg of CO<sub>2</sub> emissions per kg of aluminium produced.



Carbon Emissions = 8 kg of CO<sub>2</sub> per 1 kg Aluminium

**Improved Efficiency and Technology:** Low carbon aluminium production aims to reduce carbon emissions by adopting more efficient technologies and processes. This might include improved energy efficiency in the smelting process, better management of emissions, and transitioning to cleaner energy sources.

**Alternate and Renewable Energy:** A significant factor in reducing emissions is the shift towards alternate and renewable energy sources (such as gas, hydro, wind, or solar) for the electrolytic reduction process. This switch lowers the carbon intensity of the electricity used in production.



Carbon Emissions = 4 kg of CO<sub>2</sub> per 1 kg Aluminium

**Advanced Technologies:** Super green aluminium production represents a major leap forward in reducing carbon emissions. This can involve cutting-edge technologies such as inert anodes, which eliminate carbon dioxide emissions from the electrolytic reduction process, or new methods of production that drastically lower energy consumption.

**Holistic Approaches:** Beyond technological improvements, super green production may include comprehensive sustainability practices throughout the supply chain, such as using renewable energy sources exclusively and implementing energy-efficient processes.

BAB Aluminium is the proud user of 'Super Green' low carbon aluminium in all its products. 100% of our aluminium extrusion is Australian sourced and 100% is used either in products or recycled as offcuts.

**Some facts...**

- High value and infinitely recyclable aluminium is a material tailor-made for a more circular and sustainable economy.
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- Recycling is a critical part of the modern aluminium business. Making recycled aluminium only takes around 5% of the energy needed to make new aluminium, thus reducing carbon emissions and saving money for businesses and end consumers.
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- Nearly 95% of all aluminium ever produced is still in use today, as shown by comprehensive industry data.

<https://www.capral.com.au/sustainability/bab-aluminium-leads-the-way-in-australian-made-low-carbon-aluminium-seating/>

- In many industrial markets like automotive and building, recycling rates for aluminium exceed 90%.

BAB Aluminium, along with our major supplier, Capral are members of the Aluminium Stewardship Initiative. ASI is a worldwide movement with a view to long term sustainability in the aluminium value chain.

BAB is also a member of SEDEX an international movement dealing with supply chain sustainability. (Member No - ZC421244338)

BAB products carry a 20 Year Warranty with a life expectancy of 50+ years.

All our products are 100% recyclable at end of life.

