carboncalcpcf.com

xjgmgurlrd Product Carbon Footprint Dashboard

Quick Summary & Key Insights

Total PCF: 50.13 kg CO_2e / unit

Total Product Footprint

50.13 kg CO_2e

per functional unit

Carbon Intensity

50.13 kg CO_2e

per unit

Top Material Hotspot

Aluminium Alloy

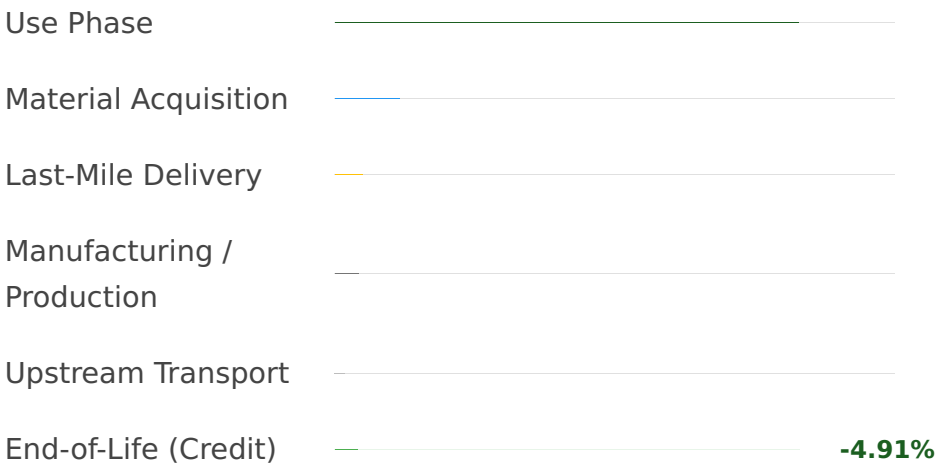
4.0 kg CO_2e (68.38% of material)

Primary Emission Scope

Scope 3 Downstream

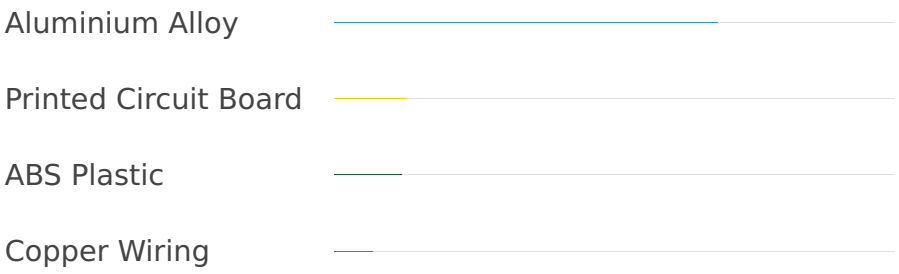
83.80% of total PCF

Lifecycle Stage Breakdown



The Use Phase dominates the product's carbon footprint, accounting for a substantial 82.76% of total emissions. This highlights the critical impact of the product's energy consumption during its active lifespan. Material acquisition and downstream logistics also represent significant areas of impact, while End-of-Life strategies provide a notable carbon credit.

Material Carbon Impact (Out of 5.85 kg CO_2e Total Material Emissions)



Aluminium Alloy is the most carbon-intensive material, contributing the majority of emissions during the material acquisition stage. This highlights opportunities to reduce the upstream footprint through sourcing recycled aluminium or exploring alternative low-carbon materials for this critical component.

Highlights & Key Insights

- **Use Phase Dominance:** The product's operational energy consumption over its 7-year lifespan is the largest contributor to its carbon footprint (82.76%), making it the primary hotspot.
- **Material Hotspots:** Within raw material acquisition, Aluminium Alloy stands out as the most significant contributor (4.0 kg CO_2e), offering a clear target for sustainable sourcing initiatives.
- **Scope 3 Importance:** The vast majority of emissions (over 95%) fall under Scope 3 categories, emphasizing the critical need for value chain collaboration to achieve significant reduction targets.

Recommended Action Plan for Reduction

- **Optimize Use Phase Efficiency:** Implement design changes to significantly reduce the energy consumption of xjgmgurlrd during its active life, potentially through lower-power components or smart energy management features.
- **Sustainable Sourcing:** Prioritize sourcing lower-carbon or recycled materials, especially for high-impact components like Aluminium and Printed Circuit Boards, and engage with suppliers on their decarbonization efforts.
- **Enhance Circularity:** Further expand existing take-back programs and actively explore closed-loop systems for key components and materials to maximize end-of-life benefits and minimize virgin material demand.