html

carboncalcpcf.com

Product Carbon Footprint Dashboard

Product: vzrxlrlmuy | **Company:** kwpdokmwor | **Standard:** GHG Protocol

167.82 **kg CO2e**

Total Footprint (per unit)

32.90 **kg CO2e/kg**

Carbon Intensity (Product Weight)

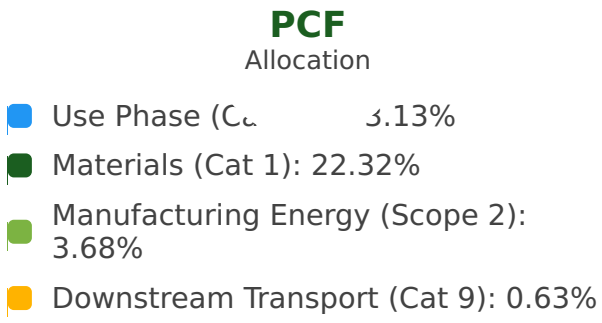
Aluminium Alloy

Top Material Hotspot

Scope 3 **(96.25%)**

Primary Emission Scope

Lifecycle Stage Breakdown



End-of-Life (Cat 12): **-3.11 kg CO2e** (net avoided emissions)

Top Material Carbon Impact

Aluminium Alloy Frame	20.00 kg CO2e (52.42%)
Lithium-ion Battery Pack	7.50 kg CO2e (19.66%)
ABS Plastic Casing	5.25 kg CO2e (13.76%)

Total Material Embodied Carbon: **38.15 kg CO2e**

Key Emission Hotspots

- **Use Phase Dominance:** The product's energy consumption during its 5-year lifespan accounts for ~74.5% of the total PCF, making it the single largest contributor.
- **Material Embodied Carbon:** Raw material and component production contribute ~22.7% of the footprint, with Aluminium Alloy and Li-ion Batteries being significant.
- **Circular Economy Impact:** High recyclability (70%) and a take-back program result in net avoided emissions at End-of-Life, highlighting positive circularity efforts.

Recommendations for Decarbonization

✓ **Optimize Use Phase:** Implement design improvements, energy-efficient components, and smart power management to reduce in-use energy consumption.

- ✓ **Decarbonize Materials:** Collaborate with suppliers to source lower-carbon alternative materials and processes for high-impact components.
- ✓ **Expand Renewables:** Increase renewable energy procurement at the China manufacturing facility to further reduce Scope 2 emissions.
- ✓ **Enhance Circularity:** Strengthen take-back programs and explore advanced recycling technologies to maximize material recovery and reuse.