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Product Carbon Footprint: mhudInxefn

Total Cradle-to-Grave CO₂e

17.17 kgCO₂e

Total Footprint

17.17 kgCO2e

for 1.0 unit, factory_gate to end-of-life

Carbon Intensity

17.17 kgCO2e/unit

Based on 1.0 functional unit

Top Material Hotspot

Aluminium Casing

3.50 kgCO2e of 7.60 kgCO2e Material Impact

Lifecycle Stage Contribution (kgCO2e)

Use Phase (52.7%)

Materials Acquisition (44.3%)

Production (Scope 1 & 2) (2.4%)

Transportation (Upstream & Downstream) (4.2%)

End-of-Life (Credit: -3.5%)

Material Impact Breakdown (within 7.60 kgCO2e)

Aluminium Casing (46.1%)

Lithium-ion Battery (39.5%)

ABS Plastic Housing (11.8%)

Copper Wiring (2.6%)

Key Insights & Hotspots

Use Phase Dominance: The product's energy consumption over its 5-year lifespan contributes 52.7% of the total carbon footprint, making it the largest hotspot.

Material Intensity: Raw materials, especially Aluminium Casing and the Lithium-ion Battery, account for 44.3% of emissions, highlighting supply chain impact.

Circularity Benefits: High recyclability (70%) and advanced take-back programs result in a -3.5% emissions credit, significantly reducing the overall footprint.

Recommendations for Reduction

Enhance Use Phase Efficiency: Prioritize design improvements for mhudlnxefn to reduce energy consumption during its lifespan and encourage renewable energy use by customers.