

Product Carbon Footprint Report

Product

Functional Unit

Description

CNC Case Study 2

System Boundary Definition

Cradle-to-Gate (Stage A)
A1 Raw Material Supply
A2 Transport to Manufacturer
A3 Manufacturing & Waste

Cradle-to-Grave (Stages B & C)
B1 Use Phase
B2 End of Life
C1 End of Life
C2 End of Life
C3 End of Life
C4 End of Life

Total Emissions by Part (kg CO₂e)

Part	Emissions (kg CO ₂ e)	Percentage
Only Part	77.35	66.1 %
Another Part	39.74	33.9 %

Part: Only Part

Total Emissions (kg CO ₂ e)	77.35
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Lifecycle Breakdown (A/B/C)

A1-A3 (Cradle-to-Gate)	73.33
B Stage (Use Phase)	0.00
C Stage (End of Life)	0.27

Materials

Material	Weight (kg)
Aluminum	1.6

Upstream Transport

Class	Vehicle	Distance (km)	Mass (kg)
HGV Articulated (>3500kg to 33000kg) (50% Laden)	HGV (Diesel)	240	0

Machining

Brand	Machine	Operating Time (hr)
Mazak	INTEGREX i-100S NEO	0.33
Mazak	INTEGREX i-100S NEO	0.25
Mazak	VORTEX i-630V/6S	0.17

Part: Another Part

Total Emissions (kg CO ₂ e)	39.74
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Lifecycle Breakdown (A/B/C)

A1+A3 (Cradle-to-Gate)	21.88
B Stage (Use Phase)	16.00
C Stage (End of Life)	0.00

Materials

Material	Weight (kg)
Cement	3

Upstream Transport

Class	Vehicle	Distance (km)	Mass (kg)
HGV Rigid (> 3500kg to 7500kg) (0% Laden)	HGV Refrigerated (Diesel)	100	2

Machining

Brand	Machine	Operating Time (hr)
Amada	WINSTAR-SP	1.2