

Product Environmental Profile

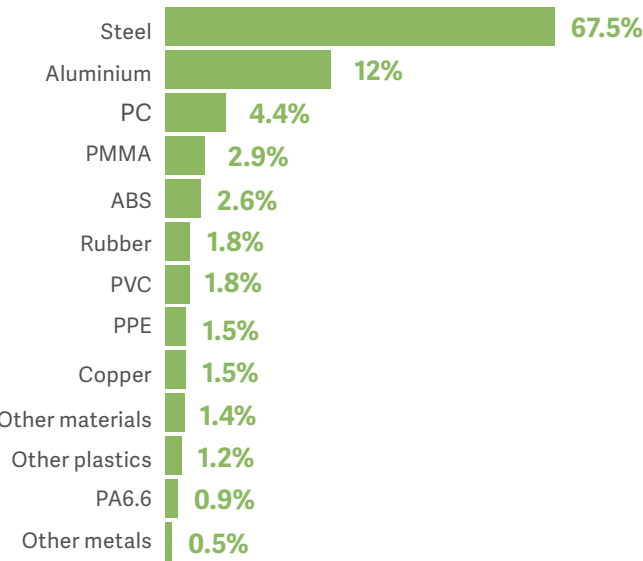
Maquet PowerLED II surgical light

The profile has been achieved with a Maquet PowerLED II surgical light 700/500 DF, with a single flat screen holder, a SA 850/1000/1150 suspension, a power supply WPS and a touchscreen wall keypad.



Constituent material

Total weight of the product: 123.82 kg / 272.97 lbs



Basis of the life cycle assessment

Functional unit

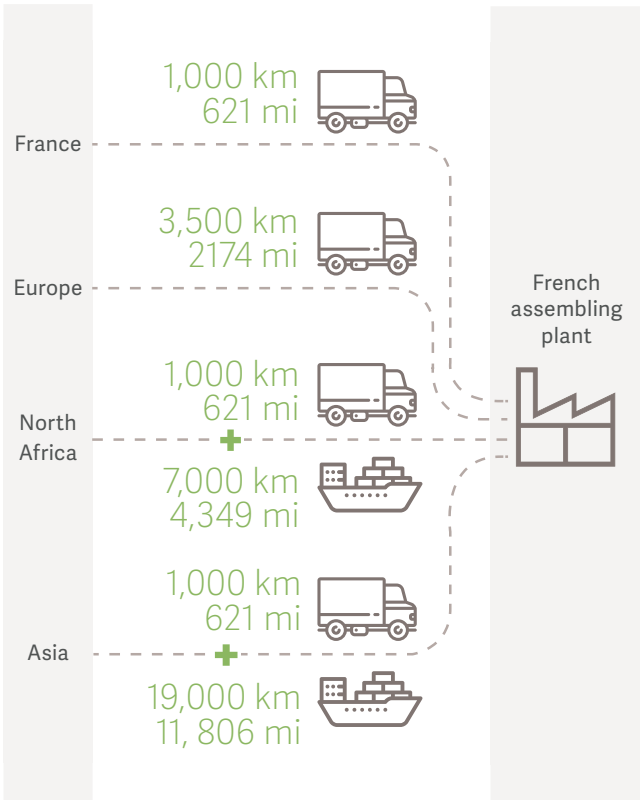
« Lighting a surgical area at 100,000 lux, and supporting 1 screen, 10 hours by day for 10 years »

System boundaries

Environmental analysis has been conducted from cradle to gate. It takes into account the manufacturing processes for each of the components.

Manufacturing

More of 99% of the product components and the industrial process of forming material have been considered. The upstream transportation of each element has also been considered in the study. The following hypotheses show the distance between suppliers and French assembling plants.



Distribution

Transport scenario:

The mode of distribution and distance covered during shipping has been calculated in pro rata with country sales distribution.

The average product travels 1,713 km by truck (1,064 miles), 10,386 km (6,454 miles) by boat and 440 km (273 miles) by plane. Hypothetically, products transported to North America and Asia travel 10% by plane and 90% by boat.

Packaging:

Cardboard: 15.13 kg

Use

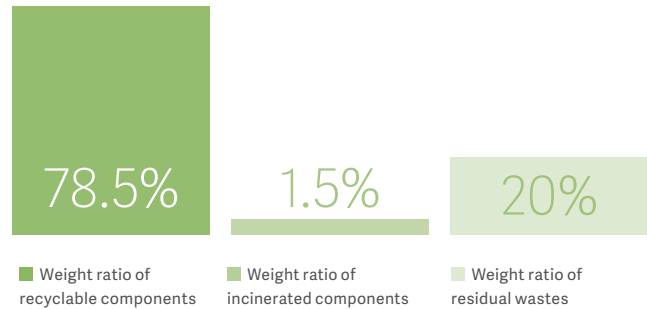
The product consumes 84.6 W – at 100,000 lux – in operating mode with AIM and touchscreen activated and 13.6 W in inactive mode (loss from WPS). The operating time is evaluated at 10 hours by day, 300 days per year over 10 years. The production energy model used in the study is a mix calculated in pro rata with country sales distribution.

End of life

End of life scenario:

The end of life scenario for the product include, in order, collection, depollution, Shredding and automatic material sourcing. Next, the sourced material follows the common recycling path (recycling, energy recovery and landfill according to its recycling potential). The Eco'DEEE methodology has been used for this calculation.

End of life indicators:



Result according to the Eco'DEEE (recycling potential for electronic and electric equipment) methodology calculator.

Environmental impact

Methodology: Life Cycle Assessment (LCA)

The EIME (Environmental Impact and Management Explorer) software version 5.7.0.2, and its database, version CODDE-2016-11 were used for the Life Cycle

Assessment (LCA). The assumed service life of the product is 10 years and an appropriate electricity power consumption model is used. This analysis takes the product usage and emissions into account in the life cycle phases: Manufacturing including the processing of raw materials, Distribution, Use and End of Life.

Impact indicator	Unit	Total Life cycle	Manufacturing	Distribution	Use	End of life
Air Acidification (AA)	kg H + eq	6.30E-01	27.42%	6.00%	66.33%	0.26%
Air Toxicity (AT)	m ³	7.85E+08	29.68%	6.65%	63.35%	0.32%
Energy Depletion (ED)	MJ	5.60E+04	32.59%	0.70%	66.53%	0.18%
Global Warming Potential (GWP)	kg CO ₂ eq.	3.40E+03	26.49%	5.09%	67.93%	0.50%
Hazardous Waste Production (HWP)	kg	6.19E+01	18.43%	0.14%	81.33%	0.11%
Ozone Depletion Potential (ODP)	kg CFC-11 eq.	1.90E-04	61.75%	0.95%	36.82%	0.48%
Photochemical Ozone Creation Potential (POCP)	kg C ₂ H ₄ eq.	6.92E-01	28.37%	3.73%	67.46%	0.44%
Raw Material Depletion (RMD)	Y-1	2.95E-12	98.80%	0.14%	1.06%	0.01%
Water Depletion (WD)	dm ³	1.66E+04	64.68%	9.04%	26.17%	0.11%
Water Eutrophication (WE)	kg PO ₄ ³⁻ eq.	1.19E-01	88.43%	6.35%	3.86%	1.36%
Water Toxicity (WT)	m ³	1.90E+03	77.85%	3.81%	14.27%	4.07%

CO₂ impact for the life cycle of the product: ~ 3.40 tones CO₂ equivalent

Standards and Regulations

MAQUET SAS certifies that the product has been developed in compliance with the Eco-design procedure and in accordance with the environmental standards and regulations in force (ISO 14001, RoHS, Reach, WEEE, Battery directive, Chinese ROHS, California proposition 65 and Directive on packaging and packaging waste EU Directive 94/62/EC).

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