LCA Information

Contracting organization	Mascot International A/S, Denmark
Project team	Corporate Responsibility Department, Mascot International A/S
Review of Mascot's Life-Cycle Assessment (LCA) methodology and product LCA	Quantis Sàrl, Switzerland
Method validity date	December 2023 Methodology is valid for 5 years
Method	ISO 14040:2006 + A1:2020 / ISO 14044:2006 + A1:2018 + A2:2020. Product Environmental Footprint Category Rules (PEFCR) for Apparel and Footwear is followed when possible.
Description of system boundaries	Cradle to grave
LCIA method	EF 3.1 (adapted)
Data collection	Primary data – main source. Generic data from ecoinvent v.3.10 APOS database Reference year is 2024
LCA software used	SimaPro v.9.6.0.1
Data quality	Method for data quality rating (DQR) developed in alignment with the PEF requirements.
Data quality declaration	High (rated as described in PEFCR for Apparel and Footwear).
Limitations	Style studies are based on reference sizes as defined in PEFCR for apparel and footwear. Current model is also based on reference colours. For other sizes and colours, the reader is encouraged to bear this in mind.
LCA methodology summary report	Contact responsibility@mascot.dk if you are interested in the report.

LIFE CYCLE ASSESSMENT FACTSHEET

April 2025 version 2.1

TARGET GROUP

The 19901 is part of a collection designed for a broad target group in different more demanding work situations within contractors, road workers, offshore and wind sector, airport workers and sailors and with laundry agreements.

LONG-LASTING DURABILITY

By analysing fabric performance requirements and collecting data on customer experience, the LCA is verified by Quantis for an estimated duration of service of use in hard working situations and with industrial wash every week.

CRADLE-TO-GRAVE

Cradle-to-grave is a scoping of the LCA that calculates the entire lifecycle of a product from Extraction of Raw materials to the Use & Wash and End-of-Life stages. Cradle-to-grave results are presented per use according to PEF Category Rules for Apparel and Footwear.

METHODOLOGY

MASCOT LCAs is mainly based on primary data from own factories and suppliers. MASCOT LCAs are calculated according to ISO14040/44. The method is verified by Quantis and applies to all colours.
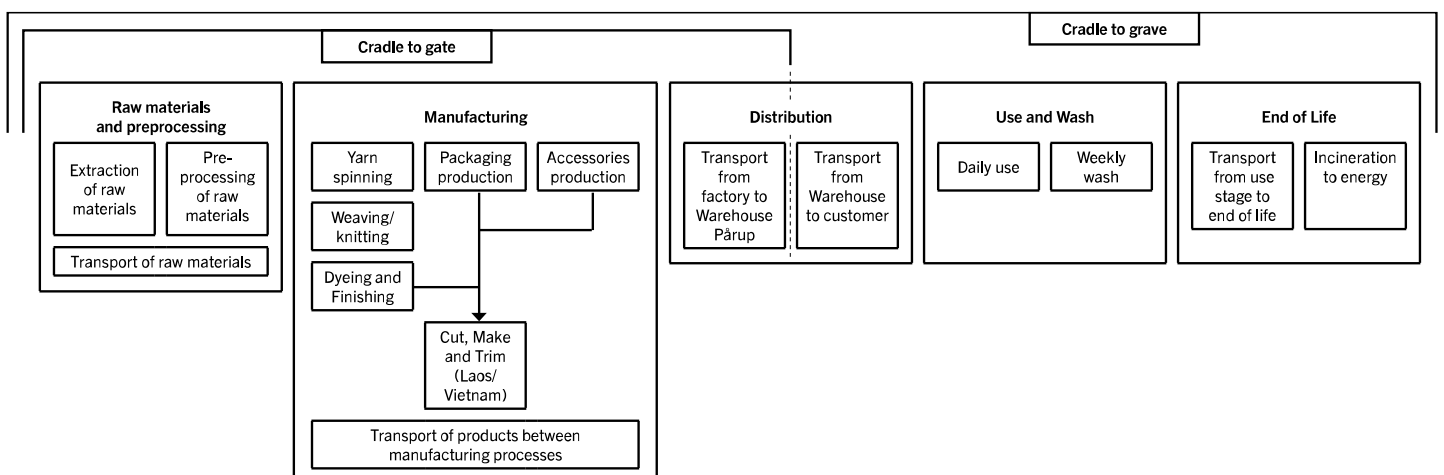
- Cradle to Gate: 8,23 kg CO_2 per garment
- Cradle to Grave: 0,0584 kg CO_2 per use
- Based on an ISO compliant methodology verified by Quantis

PROCESS CHAIN

Cradle to gate		Cradle to grave	
Raw materials and preprocessing	**Manufacturing**	**Distribution**	**Use and Wash**	**End of Life**

Raw materials and preprocessing:
- Extraction of raw materials
- Pre-processing of raw materials
- Transport of raw materials

Manufacturing:
- Yarn spinning
- Packaging production
- Accessories production
- Weaving/knitting
- Dyeing and Finishing
- Cut, Make and Trim (Laos/Vietnam)
- Transport of products between manufacturing processes

Distribution:
- Transport from factory to Warehouse Pårup
- Transport from Warehouse to customer

Use and Wash:
- Daily use
- Weekly wash

End of Life:
- Transport from use stage to end of life
- Incineration to energy

MASCOT® WORKWEAR

THE 16 IMPACT FACTORS

Impact category	Damage assessment unit	Impact to-gate per garment	Impact to-grave per use
Acidification	mol H$^+$ eq	0,0478	0,000235
Climate change	kg CO$_2$ eq	8,23	0,0584
Climate change - Biogenic	kg CO$_2$ eq	0,0823	0,000743
Climate change - Fossil	kg CO$_2$ eq	8,13	0,0565
Climate change - Land use and LU change	kg CO$_2$ eq	0,0211	0,00111
Ecotoxicity, freshwater	CTUe	66	0,575
Ecotoxicity, freshwater - part 2	CTUe	51,4	0,199
Ecotoxicity, freshwater - inorganics	CTUe	84,8	0,576
Ecotoxicity, freshwater - organics part 1	CTUe	6,52	0,127
Ecotoxicity, freshwater - organics part 2	CTUe	26,1	0,0717
Particulate matter	disease inc.	0,000000436	0,00000000218
Eutrophication, marine	kg N eq	0,00977	0,0000733
Eutrophication, freshwater	kg P eq	0,000381	0,00000617
Eutrophication, terrestrial	mol N eq	0,0995	0,000553
Human toxicity, cancer	CTUh	0,0000000244	0,00000000018
Human toxicity, cancer - inorganics	CTUh	0,0000000012	0,00000000000617
Human toxicity, cancer - organics	CTUh	0,0000000232	0,000000000174
Human toxicity, non-cancer	CTUh	0,000000113	0,000000000594
Human toxicity, non-cancer - inorganics	CTUh	0,0000000938	0,000000000525
Human toxicity, non-cancer - organics	CTUh	0,0000000192	0,0000000000696
Ionising radiation	kBq U^{-235} eq	0,623	0,00235
Land use	Pt	33,4	0,272
Ozone depletion	kg CFC11 eq	0,00000338	0,00000000833
Photochemical ozone formation	kg NMVOC eq	0,0358	0,000203
Resource use, fossils	MJ	123	0,83
Resource use, minerals and metals	kg Sb eq	0,000128	0,000000436
Water use	m^3 depriv.	6,2	0,0234