



*trekking & outdoor footwear*

# IMPACTO

A TOOL TO ESTIMATE CO<sub>2</sub> EMISSION  
IN THE OUTDOOR FOOTWEAR

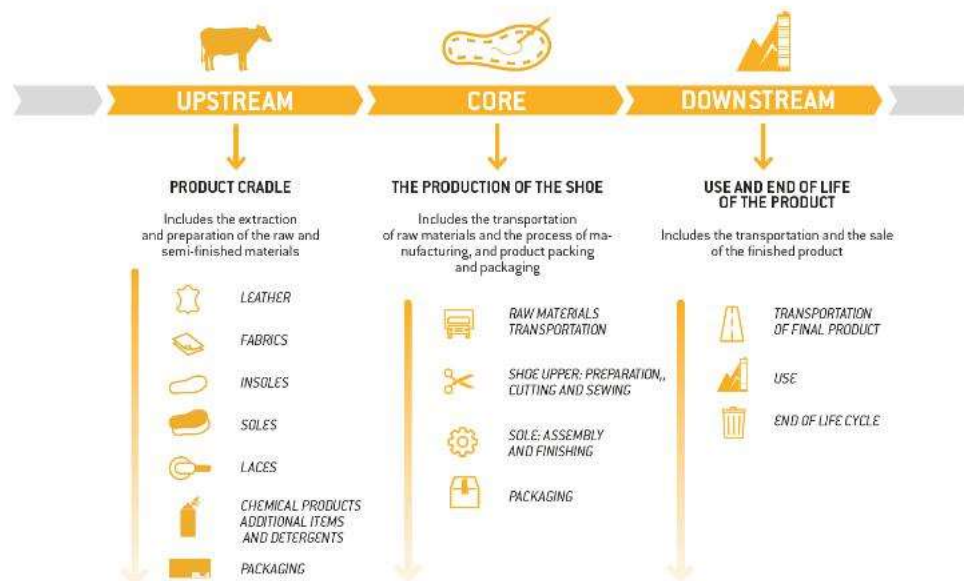
NATURE IS  
CALLING  
*re*ACT  
RESPONSIBLY

## AKU CARBON FOOTPRINT CALCULATION

### WHAT DOES IT MEAN FOR AKU?

As part of its commitment to reduction of environmental impact, AKU decided to equip itself with a tool to calculate the potential contribution of a product to global warming, expressed in CO2 equivalent, by quantifying all greenhouse gas emissions and removals over the life cycle of a product.

This tool, called **Carbon Footprint Product Systematic Approach**, has been developed in collaboration with *Aequilibria – Carbon Management Solutions*, following the ISO 14067 standard and verified by the third-party accredited body Bureau Veritas.



The data obtained through this tool allows us to have precise information on the amount of impact of a specific product divided into the three phases of the life cycle:

### UPSTREAM - CORE - DOWNSTREAM

with details for each phase.

This allows a clear assessment of any targeted activities to reduce and possibly offset emissions.

## AKU CARBON FOOTPRINT CALCULATION

### WHAT DOES IT MEAN FOR YOU AS A RETAILER?

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This overview gives the possibility to get a precise idea of diverse footwear's CO<sub>2</sub> emissions and their allocation throughout the entire value chain.

It allows retailers to obtain an **estimate of the carbon footprint for the most relevant Outdoor Footwear categories.**

The division into upstream, core and downstream makes it possible to identify the phases of highest impact, from the raw material production to the end of life of the shoe.

A Retailer can decide to take responsibility for the products' entire life cycle emissions or only for the downstream phase – the phase from the Footwear Factory door to the end of life of the product that includes the following:

#### **TRANSPORTATION FROM FACTORY TO SHOP - USE - END OF LIFE**

The quantified CO<sub>2</sub> emissions can serve to implement possible reduction initiatives at the phase where Retailers have an impact or even to offset downstream emissions.

This tool can be used to have a rough estimation of the Carbon Footprint of each Retailer's Outdoor Footwear sold quantities. Just take the amount of product sold by category (Mountaineering, Backpacking, Trekking, ...) and multiply it by the CO<sub>2</sub>e value that indicated on each product in this document, choosing the most relevant for each category.

**ANALYSED PRODUCT**



**MOUNTAINEERING**



**HAYATSUKI GTX**

This model is representative for mountaineering boots for hard and mixed terrain.

- Made in Italy
- Suede Leather + Synthetic Upper
- Rubber Rand + Liba Smart PU
- Double Density PU Midsole
- Rubber Outsole
- Weight incl. Packaging: 1,935 kg

**DECLARED UNIT**  
1 pair of shoes including primary packaging

**REFERENCE YEAR**  
2021

**SYSTEM BOUNDARIES**  
From cradle to grave

**EXCLUDED PHASES**  
None

**INCLUDED PRODUCTION SITES**

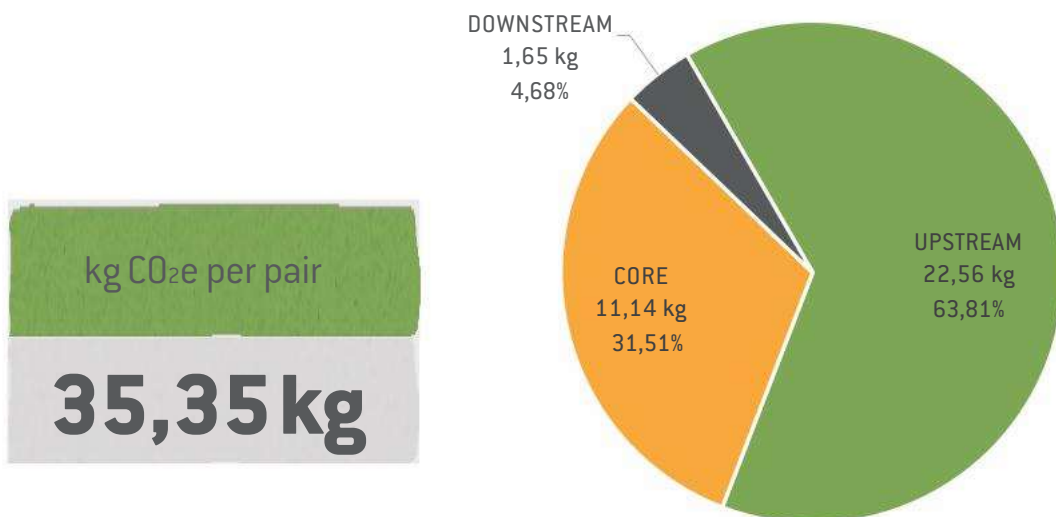
- Montebelluna (Italy)
- Cluj Napoca (Romania)

**PCRF REFERENCE**  
PCR 2013:15 "Leather footwear" version 2.11



**NOTE**  
Data verified by: Bureau Veritas

**TOTAL IMPACT**



**ANALYSED PRODUCT**



**BACKPACKING**



**SUPERALP NBK GTX**

This model is representative for Backpacking, full-grain leather boots for long distances.

- Made in Italy
- Nubuck Leather Upper
- Rubber Rand
- Double Density PU Midsole
- Rubber Outsole
- Weight incl. Packaging: 1,745 kg

**DECLARED UNIT**  
1 pair of shoes including primary packaging

**REFERENCE YEAR**  
2021

**SYSTEM BOUNDARIES**  
From cradle to grave

**EXCLUDED PHASES**  
None

**INCLUDED PRODUCTION SITES**

- Montebelluna (Italy)
- Cluj Napoca (Romania)

**PCRO REFERENCE**

PCR 2013:15 "Leather footwear" version 2.11



**NOTE**

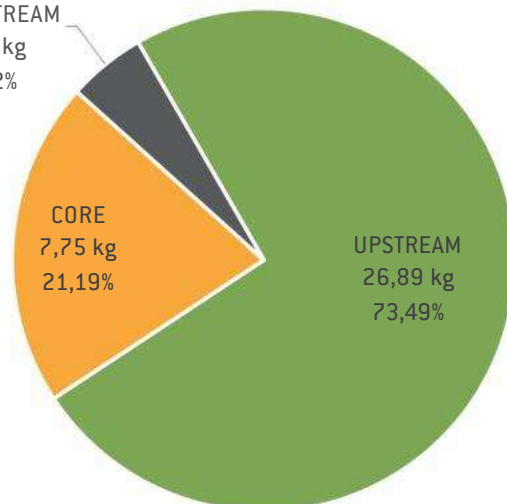
Data verified by: Bureau Veritas

**TOTAL IMPACT**

kg CO<sub>2</sub>e per pair

**36,59 kg**

**DOWNSTREAM**  
1,95 kg  
5,32%



**ANALYSED PRODUCT**



**HIKING**

**TREKKER LITE III GTX**

This model is representative for robust and light Hiking boots.

- Made in EU
- Suede Leather + Synthetic Upper
- EVA Midole
- Rubber Outsole
- Weight incl. packaging: 1,305 kg

**DECLARED UNIT**  
1 pair of shoes including primary packaging

**REFERENCE YEAR**  
2021

**SYSTEM BOUNDARIES**  
From cradle to grave

**EXCLUDED PHASES**  
None

**INCLUDED PRODUCTION SITES**

- Cluj Napoca (Romania)

**PCRO REFERENCE**

PCR 2013:15 "Leather footwear" version 2.11



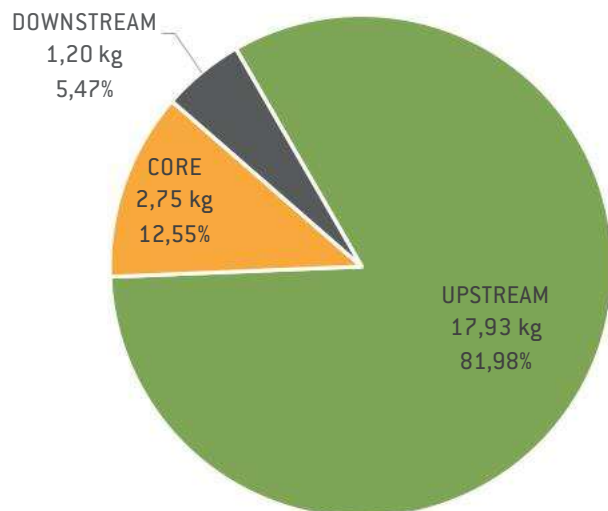
**NOTE**

Data verified by: Bureau Veritas

**TOTAL IMPACT**

kg CO<sub>2e</sub> per pair

**21,72 kg**



**ANALYSED PRODUCT**



**APPROACH**

**ROCK DFS GTX**

This model is representative for typical low-cut approach shoes for light climbing and mountain paths with leather uppers.

- Made in Vietnam
- Suede Leather + Synthetic Upper
- Rubber Rand
- EVA and PU Midsole
- PU Outsole
- Weight incl. Packaging: 1,32 kg

**DECLARED UNIT**  
1 pair of shoes including primary packaging

**REFERENCE YEAR**  
2021

**SYSTEM BOUNDARIES**  
From cradle to grave

**EXCLUDED PHASES**  
None

**INCLUDED PRODUCTION SITES**

- Ho-Chi-Minh (Vietnam)

**PCR OF REFERENCE**

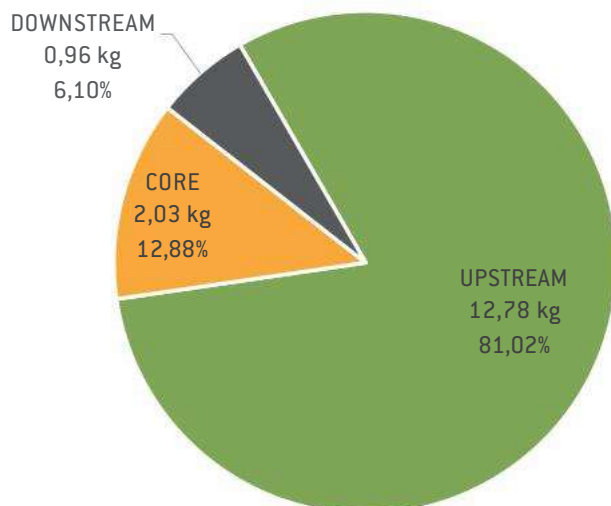
PCR 2013:15 "Leather footwear" version 2.11



**NOTE**

Data verified by: Bureau Veritas

**TOTAL IMPACT**



## ANALYSED PRODUCT



### FAST HIKING

#### SELVATCA MID GTX

This model is representative for light mid-cut fast hiking shoes with synthetic uppers.

- Made in Vietnam
- Synthetic + Welded PU Upper
- EVA Midole
- Rubber Outsole
- Weight incl. Packaging: 1,49 kg

#### DECLARED UNIT

1 pair of shoes including primary packaging

#### REFERENCE YEAR

2021

#### SYSTEM BOUNDARIES

From cradle to grave

#### EXCLUDED PHASES

None

#### INCLUDED PRODUCTION SITES

- Ho-Chi-Minh (Vietnam)

#### PCR OF REFERENCE

PCR 2013:15 "Leather footwear" version 2.11



#### NOTE

Data verified by: Bureau Veritas

## TOTAL IMPACT

kg CO<sub>2</sub>e per pair

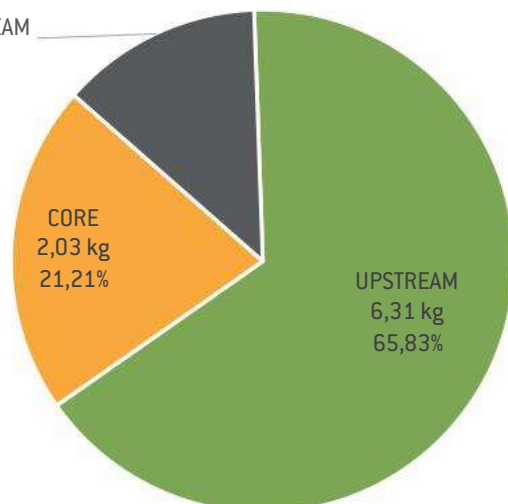
**9,58 kg**

#### DOWNSTREAM

1,24 kg  
12,96%

CORE  
2,03 kg  
21,21%

UPSTREAM  
6,31 kg  
65,83%





**ANALYSED PRODUCT**



**FAST HIKING**

**ALTERRA LITE MID GTX**

This model is representative for light mid-cut fast hiking shoes with leather uppers.

- Made in Vietnam
- Suede Leather + Synthetic Upper
- EVA Midsole
- Rubber Outsole
- Weight incl. Packaging: 1,24 kg

**DECLARED UNIT**  
1 pair of shoes including primary packaging

**REFERENCE YEAR**  
2021

**SYSTEM BOUNDARIES**  
From cradle to grave

**EXCLUDED PHASES**  
None

**INCLUDED PRODUCTION SITES**

- Ho-Chi-Minh (Vietnam)

**PCRO REFERENCE**

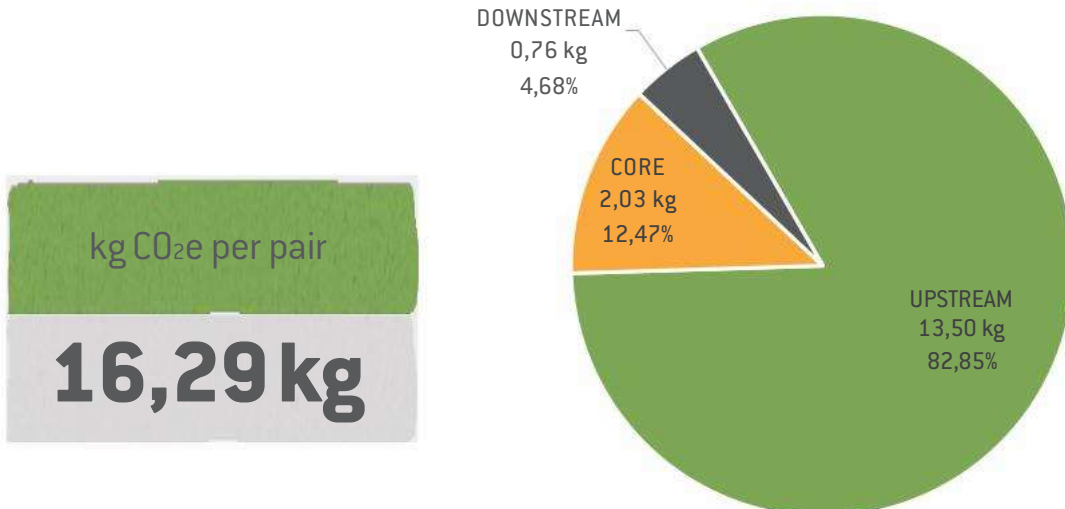
PCR 2013:15 "Leather footwear" version 2.11



**NOTE**

Data verified by: Bureau Veritas

**TOTAL IMPACT**



**ANALYSED PRODUCT**



**FAST HIKING**

**ALTERRA LITE GTX**

This model is representative for light low-cut fast hiking shoes with leather uppers.

- Made in Vietnam
- Suede Leather + Synthetic Upper
- EVA Midsole
- Rubber Outsole
- Weight incl. Packaging: 1,32 kg

**DECLARED UNIT**  
1 pair of shoes including primary packaging

**REFERENCE YEAR**  
2021

**SYSTEM BOUNDARIES**  
From cradle to grave

**EXCLUDED PHASES**  
None

**INCLUDED PRODUCTION SITES**

- Ho-Chi-Minh (Vietnam)

**PCR REFERENCE**

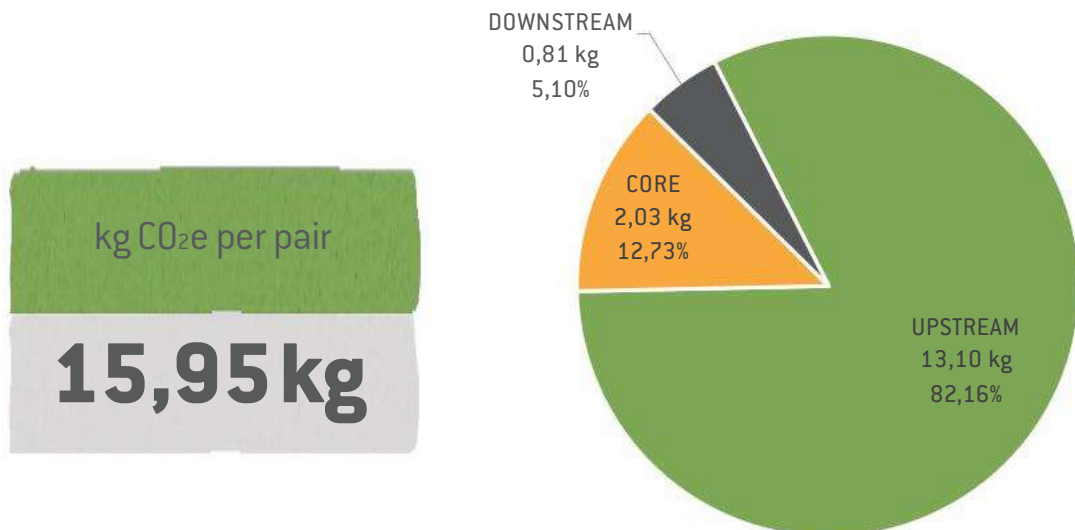
PCR 2013:15 "Leather footwear" version 2.11



**NOTE**

Data verified by: Bureau Veritas

**TOTAL IMPACT**



**ANALYSED PRODUCT**



**FAST HIKING**

**ROCKET DFS GTX**

This model is representative for light low-cut fast hiking shoes with synthetic uppers.

- Made in Vietnam
- Synthetic Upper
- EVA Midsole
- Rubber Outsole
- Weight incl. Packaging: 1,15 kg

**DECLARED UNIT**  
1 pair of shoes including primary packaging

**REFERENCE YEAR**  
2021

**SYSTEM BOUNDARIES**  
From cradle to grave

**EXCLUDED PHASES**  
None

**INCLUDED PRODUCTION SITES**

- Ho-Chi-Minh (Vietnam)

**PCRO REFERENCE**

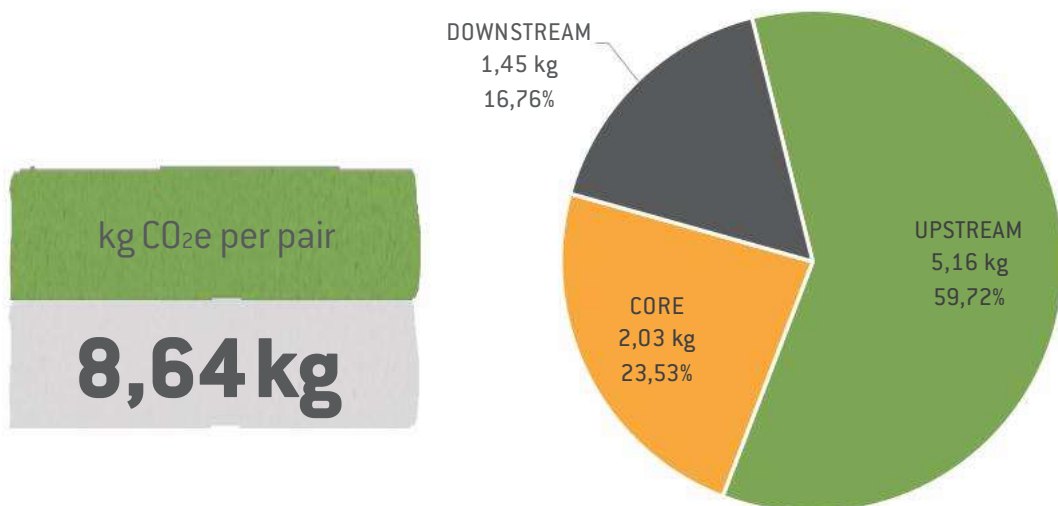
PCR 2013:15 "Leather footwear" version 2.11



**NOTE**

Data verified by: Bureau Veritas

**TOTAL IMPACT**



## FROM CO<sub>2</sub>E TO REASONABLE CONSIDERATIONS

VS.

### MOUNTAIN INSPIRED

#### BELLAMONT III SUEDE GTX

- Made in Europe
- Suede Leather + Nubuck
- Liba Smart PU Rand
- Partially Recycled EVA Midsole
- N-Oil Rubber Outsole
- Weight incl. Packaging: 1,12 kg



### FAST HIKING

#### ALTERRA LITE GTX

- Made in Vietnam
- Suede Leather + Synthetic Upper
- EVA Midsole
- Rubber Outsole
- Weight incl. Packaging: 1,32 kg



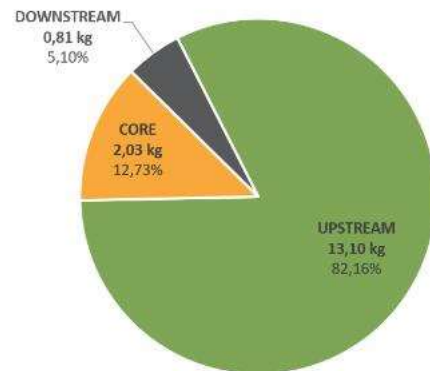
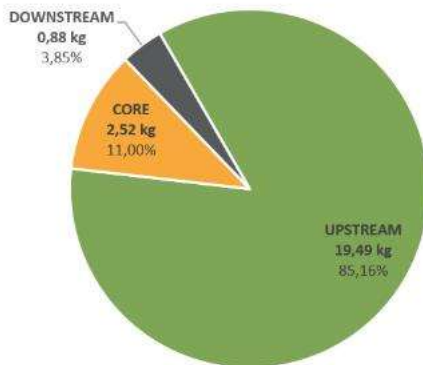
kg CO<sub>2</sub>e per pair

**22,89 kg**

### TOTAL IMPACT

kg CO<sub>2</sub>e per pair

**15,95 kg**



## HOW TO INTERPRET THESE NUMBERS

One would expect a shoe entirely made in Europe, like our Bellamont III Suede GTX, with local suppliers, short transport distances and lower impact components to have a smaller CO<sub>2</sub> Footprint than a comparable made-in-Vietnam product.

We see: This is not always the case!

**Bellamont III Suede GTX: 340,1 gr of leather**

VS.

**Alterra Lite GTX: 301,5 gr of leather**

The European style contains a significantly higher amount of leather than the Vietnamese style.

On the one hand, these results demonstrate the high impact of leather on a product's CO<sub>2</sub> emissions, even of locally, certified and responsibly sourced leather.

Breeding and agriculture associated with livestock, including cattle methane emissions and water consumption, have a major influence on emissions.

On the other hand, leather is a renewable, durable, and long-lasting material that prolongs the lifespan of outdoor footwear.

Therefore, responsible sourcing of leather is a viable approach.

Both styles feature leather sourced from LWG certified tanneries.

[aku.it](http://aku.it)  

AKU IS AN ITALIAN FOOTWEAR COMPANY

**AKU**

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