Royal Smit & Zoon Life Cycle Assessment (LCA) approach

What is a Life Cycle Assessment (LCA)

An LCA is a recognized scientific method to quantify selected environmental impacts of products and services throughout its life cycle, from raw material extraction through production, use, and disposal ("cradle to grave"). The Royal Smit & Zoon product LCAs have a "cradle-to-gate" scope, covering 19 environmental impacts up to the product leaving the factory gate.

Measuring what matters

At Royal Smit Zoon, we believe product environmental impact data resulting from a Life Cycle Assessment (in short: LCA data) are crucial for a future-proof leather value chain. By providing credible chemical input data and portfolio-level hotspot insights, we enable more informed decisions and innovation - for production companies like ourselves as well as for tanneries, brands and OEMs, and more consistent responses to customer and regulatory data requests.

LCA at RSZ

Royal Smit & Zoon focuses on executing and providing cradle-to-gate product LCAs for its core-range portfolio, covering the relevant Environmental Footprint (EF) 3.1 impact categories, including not only carbon footprint (global warming potential), but also for example water use, resource depletion and toxicity-related indicators. These multi-impact cradle-to-gate LCAs provide a robust and consistent data foundation that supports informed choices across innovation, operations, supply-chain engagement and customer collaboration. This supports customers in responding to OEM, brand and regulatory data requests with more robust and consistent information.

Roadmap 2030

LCAs are a key topic in the Royal Smit & Zoon (RSZ) "Drops of Difference" Sustainability Strategy. Our goal is to have cradle-to-gate LCA data available for 90% of RSZ core-range products by 2030 in order to:

- Identify environmental impact hotspots.
- Steer continuous improvement based on quantitative insights.
- Guide innovation towards meaningful multi-impact reductions.
- Provide credible, decision-ready data.

A site-based approach

Instead of traditional single-product calculations, RSZ applies a site-based LCA approach, covering all production sites in the Netherlands. This ensures consistency, scalability, and strengthening internal capabilities over time. ISO 14040/14044 standards and the Environmental Footprint (EF) 3.1 methodology are followed, with a cradle-to-gate scope. Calculations are built on high-quality, primary data including operational data, product recipes, analytical results and supplier information, supported by recognized secondary datasets from Ecoinvent database when necessary. The LCA program is governed as a continuous improvement process, with annual data updates, increasing use of primary supplier data and structured review of hotspots across recipes, sourcing and operations.

Achievements and insights

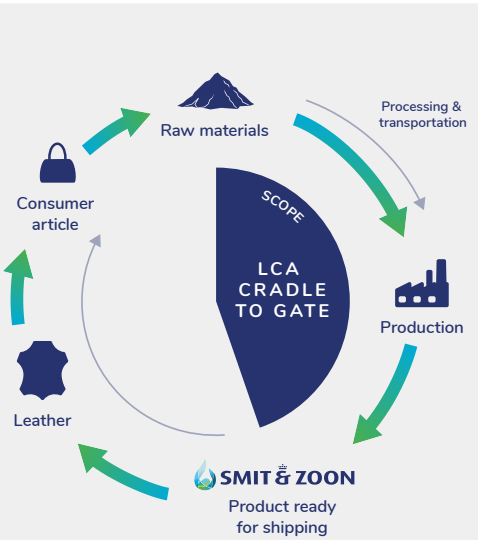
By the end of 2025, cradle-to-gate LCAs are available for all Smit wet-end portfolios and sustainable tanning agents (e.g. Zeology) produced in the Netherlands, representing approximately 50% of RSZ's core-range products. Insights show that upstream raw materials are often the dominant impact driver. This confirms that meaningful impact reduction requires supplier engagement, recipe optimization and value-chain collaboration, beyond only internal operational process optimization.

An enabler for Tanneries, Brands & OEMs

Today, Royal Smit & Zoon can provide portfolio-level LCA insights, enabling tanneries, brands and OEMs to use more reliable (primary) chemical input data and identify hotspots. While the environmental profile of finished leather depends on the full tannery process and article manufacturing system, RSZ's product LCAs provide robust chemical input data and insights for improved value-chain decision-making.

Developing a sustainable leather value chain, together!

Royal Smit & Zoon has built a robust, methodologically consistent LCA data foundation for its core product portfolio. Our focus on cradle-to-gate product LCAs enables multi-impact assessment beyond carbon footprint. Royal Smit & Zoon's 2030 ambition is defined by methodological consistency, strong governance, continuous improvement of data quality and the ability to demonstrate measurable environmental impact improvements over time. A more sustainable leather value chain can only be achieved collectively - anchored in reliable data, transparency and shared accountability.



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