# Avery Dennison Carbon Footprint Tool

**Date:** 19/12/2023

**Product 1:**
MPI 2000 Gloss
10 rolls, 685 m²

Carbon Impact    Water Use

|  | kgCO$_2$e | m$^3$ |
|---|---|---|
| MPI 2000 Gloss cradle-to-gate impact per 10 rolls | 650.470 | 15.767 |
| MPI 2000 Gloss cradle-to-grave impact per 10 rolls | 764.480 | |
| MPI 2000 Gloss cradle-to-gate impact per m² | 0.950 | 0.023 |
| MPI 2000 Gloss cradle-to-grave impact per m² | 1.116 | |

The Cradle to Grave Carbon impact per m² is equivalent to 7.15 miles driven by an average passenger vehicle (Source: BEIS 2021). Cradle-to-gate includes materials, Inbound Transport, AD Processing and Packaging. The Cradle to Gate Water impact per m² is equivalent to the average daily water consumption of 0.151 people in the UK (Source: Statista, 2021). Cradle-to-Grave is the entire footprint and includes all the cradle-to-gate features plus downstream distribution, Use Phase, End-of-life.
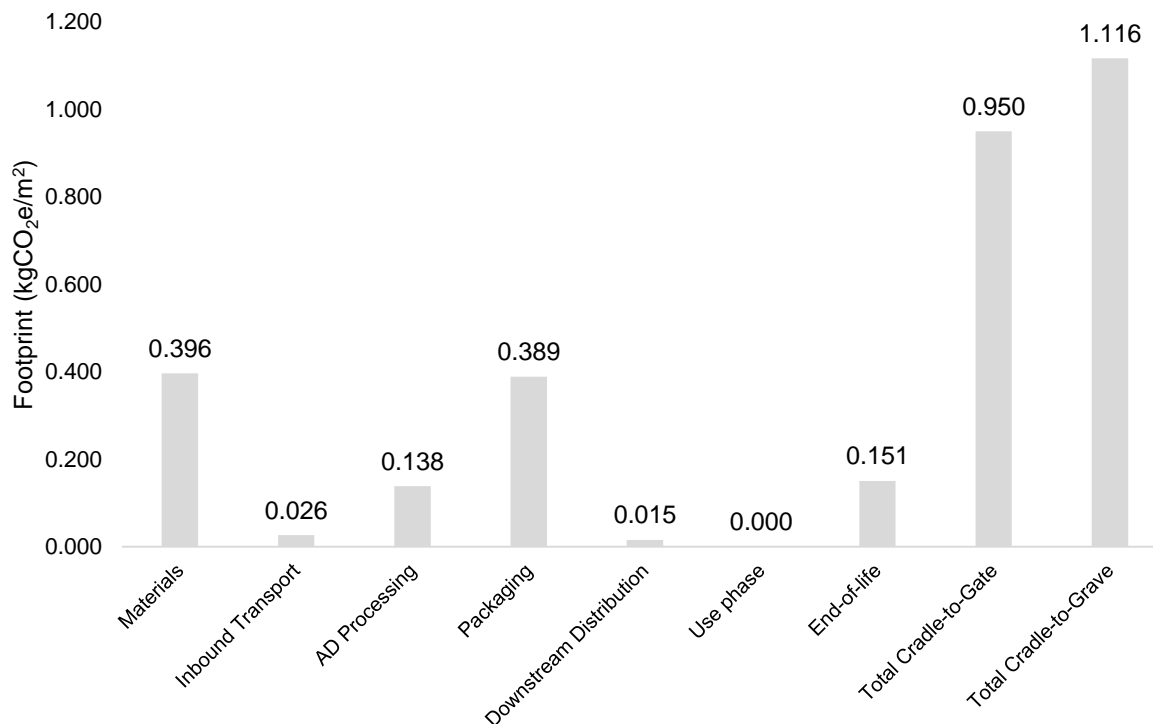


Lifecycle Stages Breakdown Cradle-to-Grave

Results may be displayed with several significant figures, but do not imply a corresponding level of precision. Model outputs do not constitute a certified product/organisation footprint. This calculation is valid for one year after date of being published. The tool has been developed in collaboration with the Carbon Trust.

## Avery Dennison Carbon Footprint Tool Methodology

**Water**
A measure of the amount of process water that is treated and discharged to receiving waters. This measure does not include water used for the generation of electricity via hydropower or water used for process cooling.

**Greenhouse Gases (GHG)**
A measure of greenhouse gas emissions, such as $CO_2$, $CH_4$, and $N_2O$. These emissions are causing an increase in the absorption of radiation emitted by the earth, magnifying the natural greenhouse effect.

The carbon element of the LCA tool was carried out in accordance with the requirements of PAS2050. The modelling was carried out using LCA software and emission factors from Ecoinvent 3.8.

The results provide directional indication of product carbon and water foot printing and should not be used for direct comparison to products created by other companies as boundaries and scope in other calculations may be different.

Results may be displayed with several significant figures, but do not imply a corresponding level of precision. Supporting data is based on a combination of primary data when available and industry average information.

## Limitations of the Methodolody

The core characteristic of a life cycle approach is its 'holistic' nature, which is both its major strength and, at the same time, its limitation. The broad scope of analysing the complete life cycle of a product can only be achieved at the expense of simplifying other aspects. These include:

- LCA is typically a steady-state rather than dynamic approach, and does not look at aspects of processes and products changing over time. This model covers the time period of data collection from 1st January 2021 to 31st December 2021.
- Footprint model focuses on physical characteristics of industrial activities and does not include market mechanisms or secondary effects on technological development.
- This footprint focuses on carbon and water aspects of products, and does not assess economic, social and other environmental sustainability characteristics.
- Environmental impacts are described as 'potential impacts' as they are not specified in time and space.
- Footprint aims to be science-based, however it involves a number of technical assumptions and value choices. It is important to make these assumptions and value-choices as transparent as possible.
- Footprints are limited by the availability and quality of data. Primary data can be difficult to obtain or may not exist. Secondary data are frequently obsolete, incomparable or of unknown quality.
- Footprints provides information for decision support. Footprint cannot replace the decision making process itself.