

## INTRODUCTION

The product **Water Footprint** represents the measured impact on use of water resources associated with the life cycle of a product, expressed in cubic metres of water equivalent ( $\text{m}^3 \text{H}_2\text{O eq}$ ).

Quantification follows **ISO 14046:2014 - Environmental Management - Water Footprint - Principles, requirements and guidelines**, which defines the requirements and guidelines for the assessment of water footprint using the LCA approach, and uses the **AWARE V1.06** characterisation method, developed to evaluate the relative availability and scarcity of water in different geographical contexts.

This analysis allows identification of the life cycle stages that determine the greatest consumption or impact on the water resource, providing useful tools to reduce environmental impact and communicate transparently to stakeholders and customers.

This document illustrates the Water Footprint assessment for the Urmet model 1760/6 video door phone, considering the entire life cycle of the product (cradle-to-grave).

The functional unit considered in the study is **1 video door phone model Ref. 1760/6**, with an average useful life estimated at **10 years**.

## RELEVANT PRODUCTS

The data are representative of the following product codes:

- **Ref. 1760/6**      **2Voice system white video door phone (representative product)**
- **Ref. 1760/5**      **2Voice system black video door phone (derivative product)**

## METHOD USED

For quantification of the **Water Footprint**, reference was made to the **ISO 14046:2014** standard, using **AWARE V1.06** as the characterisation method, applied via **Sigma Pro software version 9.6** with **Ecoinvent 3.10** database.

*Note: The inventory data used for quantification of the Water Footprint derive from a LCA study compliant with ISO 14040/ISO 14040:2006 - Environmental management - Life cycle assessment - Principles and reference framework, ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines and ISO 14025:2006 - Environmental labels and declarations - Type III environmental declarations - Principles and procedures, under a verified inventory model for EPD.*

## FINDINGS

The following climatic impact category was considered:

- **Water use:** net consumption in cubic metres of freshwater equivalent ( $\text{m}^3 \text{H}_2\text{O eq}$ )

| Impact category | Unit         | Total    | Manufacturing (Phase 1) | Distribution (Phase 2) | Installation (Phase 3) | Manufacturing (Phase 4) | End of life (Phase 5) |
|-----------------|--------------|----------|-------------------------|------------------------|------------------------|-------------------------|-----------------------|
| Water use       | $\text{m}^3$ | 2.16E+01 | 1.89E+01                | 9.21E-02               | -1.73E-03              | 2.59E+00                | 2.81E-02              |

The main contribution to the **Water Footprint** of the 1760/6 video door phone is represented by the **production phase (manufacturing)**, equal to approximately  **$18.9 \text{ m}^3 \text{H}_2\text{O eq}$** , which constitutes the prevalent share of the overall water impact. The use phase makes a contribution of  **$2.59 \text{ m}^3 \text{H}_2\text{O eq}$** , while the distribution ( **$0.092 \text{ m}^3 \text{H}_2\text{O eq}$** ) and the **end of life** ( **$0.028 \text{ m}^3 \text{H}_2\text{O eq}$** ) have a much smaller impact. **The installation phase** has a negligible and slightly negative value ( **$-0.0017 \text{ m}^3 \text{H}_2\text{O eq}$** ), due to specificities of the inventory.

The value of the **Water Footprint** corresponds to approximately  **$21.6 \text{ m}^3 \text{H}_2\text{O eq}$**  per unit of product.

To conclude, the production phase accounts for the main share of the water footprint, due to the high requirements associated with extraction and processing of raw materials and manufacture of electronic components.

The use phase, although less relevant than production, still has a significant impact on energy consumption.. The distribution and end-of-life phases have marginal impact, but contribute to completing the life cycle vision.

The analysis highlights the reduction of water impact mainly depends on the deployment of materials and suppliers with less water-intensive processes and on optimising the efficiency of production and energy processes along the entire product life cycle.