



Pipeline class 16, 25 mm



We stand out for being a reference in tracking the **Water and carbon footprint** of our products, to mitigate its impact on water and greenhouse gases (GHG) by increasing energetic and hydric efficiency.



At **Rotoplas** we implement projects to create and share economic, social and environmental value.





What is the Water footprint?

It is a 360° analysis of the different processes that make up the life cycle of our products, considering the production of raw materials, transportation, manufacturing, distribution, use-phase and end-of-life. With this analysis, we determine the potential environmental impacts related to the water. The study was carried out measuring 3 impact categories: eutrophication, ecotoxicity and scarcity.

Why is it relevant to measure the Water footprint of our products?

With these studies, we devise practices that lessen the impacts generated throughout the life cycle of our products.



In 2016, the World Economic Forum recognized the water supply crisis as the most important global risk for society.

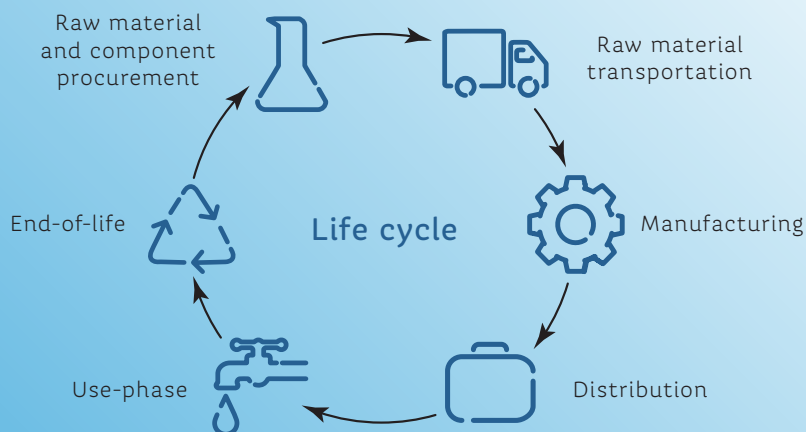


According to the CDP organization, less than **1.2 %** of the total water in the planet is available to human consumption.

Stages of the life cycle evaluated:

Our Carbon and water footprint studies are characterized by considering the entire life cycle of our product, shown in the following diagram.

In this way, we identify the parts of the process that have a greater impact on the environment. This allows us to carry out certain initiatives to lessen our impact and continue fulfilling our mission: **“for people to have more and better water”**.



What about the Carbon footprint?



The **Carbon footprint** is the amount of carbon dioxide that the human being produces by fabricating a product or when carrying out their daily activities. It is the footprint that leaves our path in the planet.



During its use-phase life, a 20 m **Pipeline** class 16, 25 mm, emits the CO₂ equivalent to one t-shirt.

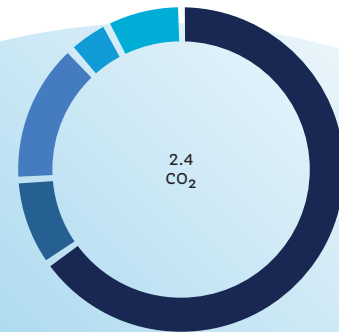
We continuously improve our processes to contribute to a minor impact on the environment:

- We develop systems for **reducing raw material consumption**
- We work with local suppliers through of the **“Green Project”**
- We develop best practices improving **environmental responsibility** of our production

Carbon footprint

Sum of greenhouse-phase gas emissions and removals during the life cycle of a product system, expressed as equivalent Carbon Dioxide (CO₂).

If the CO₂ emissions in the production processes continue to increase year by year, the temperature on Earth will increase and in consequence, climate extreme events will affect people and ecosystems.



%	
85	Raw material production
4	Manufacturing at Rotoplas plant
3	Use-phase
4	End-of-life
4	Other production processes

Water footprint results

Eutrophication: the enrichment of aquatic systems with macronutrients, measured in kg PO₄ eq. (Phosphate equivalent).

The more nutrients in a body of water (lake, rivers, etc.), the number of algae increases, which has the potential to decrease the levels of dissolved oxygen and with it, the decrease of aquatic life.

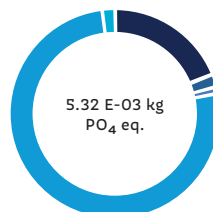
Ecotoxicity: refers to the destination, exposure and effects of toxic substances in the freshwater aquatic system, measured in kg 1,4-DB eq. (1,4 Dichlorobenzene).

If the freshwater body has an excess of toxic agents, it damages aquatic organisms and alters the (trophic) food chain of the organisms that inhabit it.

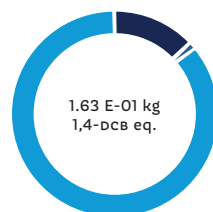
Scarcity: is the relationship between the extraction of fresh water and the total water availability in a certain region. It is measured in liters.

If the volume of water withdrawal exceeds the natural recharge, an overexploitation of aquifers cause-phases water stress that could end in a drought.

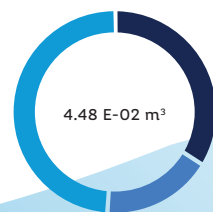
* For the calculations, 10 units of length of functional unit were taken into account, equivalent to 40 meters in length.



%	
19	Raw material production
2	Manufacturing at Rotoplas plant
1	Use-phase
76	End-of-life
2	Other production processes



%	
13	Raw material production
1	Manufacturing at Rotoplas plant
0	Use-phase
86	End-of-life
0	Other production processes



%	
100	Raw material production
-10	Manufacturing at Rotoplas plant
5	Use-phase
1	End-of-life
4	Other production processes



Important

We reduce the Water and carbon footprint, the consumption of water and the GHG emissions in our production plants under the following practices:

- We measure with IoT (Internet of Things) our water consumption.
- We install systems for the reuse-phase of water in our processes.
- We share best practices on the improved environmental responsibility of our production in the countries we have presence in.
- We develop systems to reduce the raw material consumption.
- We work and develop processes with local suppliers through the "Green Project".
- We improve our cooling systems to consume less water.

How can you help?

Lower your impact on the Water and carbon footprint with the following actions:



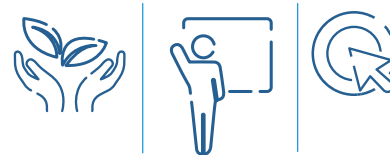
Consumer:

- Make your domestic water consumption more efficient.
- Check your water meter and replace it if it is broken.
- Detect and repair leaks on time.
- Compare the environmental impact of the products and services that you are going to consume.
- Replace your copper or PVC pipeline with hydraulic Tuboplas (PP-R).



Installer:

- Recommend to your clients responsible products with the environment.
- Train yourself in the correct installation of the products.
- Check our training in:
<https://rotoplascapacitacion.com/calendario/>



Builder:

- Consider implementation of products responsible with the environment in your projects.
- Train your workers for the correct installation of the pipeline.
- Perform checkups of the hydraulic installation of the construction, detecting and repairing leaks on time.
- Communicate with your customers, the value of integrating solutions responsible with the environment.



Study methodology

Impact category	Assessment mid-point method	Indicator
Scarcity	AWARE (Boulay et. Al. 2016)	m ³
Aquatic ecotoxicity	ReCipe Midpoint (H)	kg 1,4-DB eq.
Eutrophication	CML baseline 2000	kg PO ₄ eq.
Climate change	IPCC GWP 100a	kg CO ₂ eq.

This report represents a synthesis of the full carbon and water footprint study reports based on the ISO 14046:2014, and ISO 14067:2013 standards; made by Grupo Rotoplas for a selection of its products. For more information, contact: sustentabilidad@rotoplas.com