Industrias Mar SAS
TUyCO

# Environmental Product Declaration

In accordance with ISO 14025: 2006 and EN 15804:2012+A2:2019/AC:2021 for:

## Recycled HDPE pipes - Monotube and Tritube configurations

EPD of multiple products, based on the average results of the product group.


Programme:
The International EPD® System, www.environdec.com

Programme operator:
EPD International AB

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EPD-IES-0002861

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2030-06-17


*An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com*

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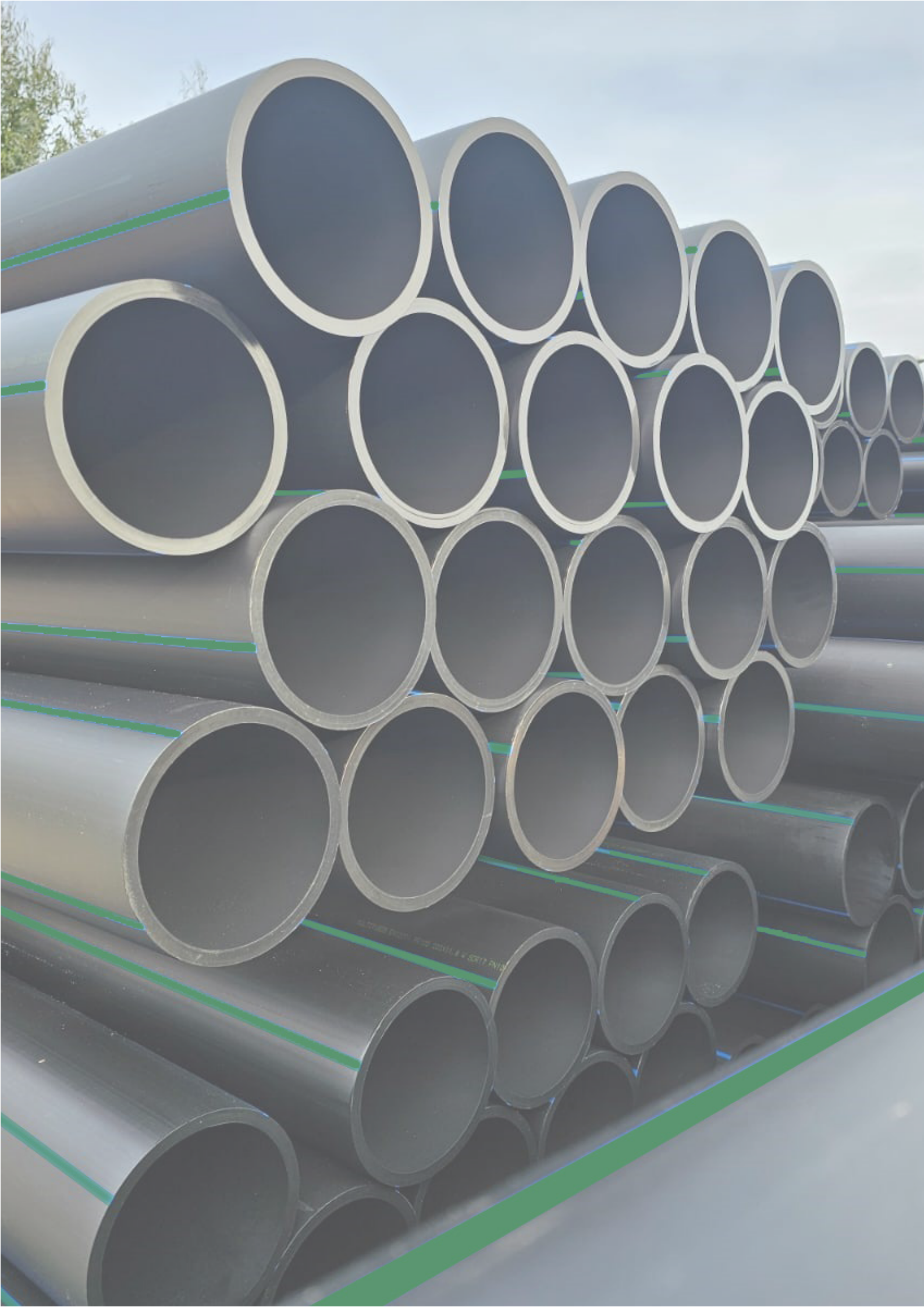

# 1-
# Programme information

An Environmental Product Declaration, or EPD, is a standardised and verified way of quantifying the environmental impacts of a product based on a consistent set of rules known as a PCR (Product Category Rules). EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison.

## Programme:

The International EPD® System
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SE-100 31 Stockholm Sweden
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## Product Category Rules (PCR)

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): PCR 2019:14 Construction products (EN 15804+A2) (version 1.3.4) (1.3.4). UN CPC 369 Other plastics products
PCR review was conducted by: Martin Erlandsson, IVL Swedish Environmental Research Institute, martin.erlandsson@ivl.se

## Life Cycle Assessment (LCA)

LCA accountability: Ing. Leticia Tuninetti and Ing. María Raquel Cavagnaro – INTI Córdoba

## Third-party verification

Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:

☒ EPD verification by individual verifier

Third-party verifier: Bárbara María Civit - por Universidad Tecnológica Nacional Facultad Regional Mendoza

Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier:

☒ Yes ☐ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.
EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

## 2-
# Company information

| | |
|---|---|
| **Owner of the EPD:** | Industrias Mar SAS |
| **Contact:** | Marcelo Dario Martinez |
| **Description of the organisation:** | TUYCO (Industrias Mar S.A.S.) is an Argentine company based in the city of Córdoba, specialized in manufacturing infrastructure solutions for public utility networks. Its main product line includes high-density polyethylene (HDPE) pipes for water, gas, sewage systems, and cable protection for electrical and telecommunications networks. The company also manufactures metal poles for public lighting. TUYCO is recognized for its commitment to quality, continuous improvement, and sustainability, incorporating high-tech extrusion processes, in-house laboratory quality control, and responsible resource management. It operates under a Quality Management System based on ISO 9001 With a strong customer focus and dedication to developing safe and efficient infrastructure, TUYCO supplies contractors, government agencies, and private developers throughout Argentina. |
| **Product-related or management system-related certifications:** | None |
| **Name and location of production site(s):** | TUYCO – Industrias Mar S.A.S. Avenida Velez Sarsfield 6515, Córdoba Capital, Córdoba, Argentina. |

# 3-
# Product information

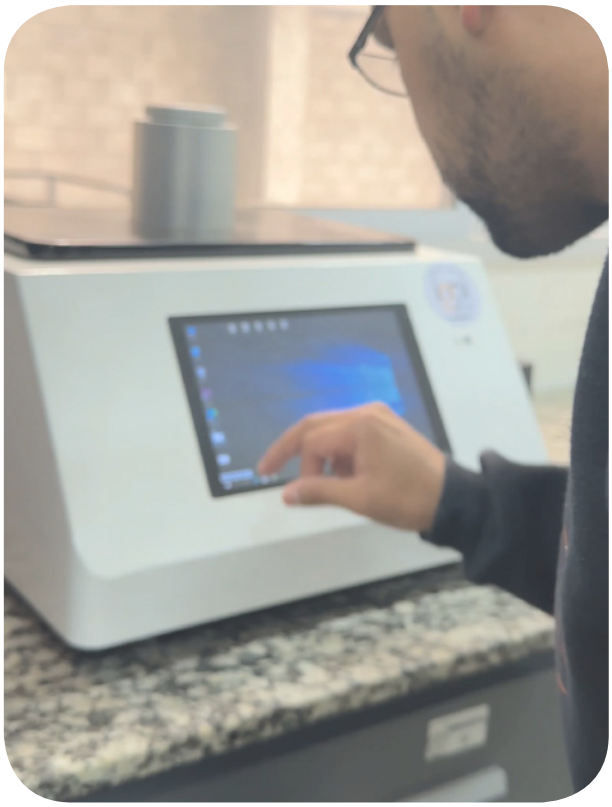
This EPD represents an average product based on data from multiple similar products manufactured by TUYCO (Industrias Mar S.A.S.) under the TUYCO and GREENTUB brand are ducting systems made from recycled high-density polyethylene (recycled PE). These systems are designed for underground infrastructure applications, such as conduits for telecommunications, electrical, public lighting networks and non pressure wastewater.

The products are available in various diameters and configurations to suit project requirements. From sdr 41 to sdr9.

**Composition and Manufacturing Process**
The base material is selected recycled polyethylene sourced from post-industrial or post-consumer streams, which undergoes a rigorous sorting, cleaning, and reprocessing operation. The material is extruded under controlled conditions, in compliance with the internal quality standards defined by the company's management system.

**The manufacturing process includes:**
Continuous dimensional control during production, Verification of physical parameters such as melt flow index, density, and thermal stability.

The TRITUBE and MONOTUBE recycled PE products are subjected to the following tests, according to TUYCO's internal procedures:



**Quality Testing**

**Density test (ISO 1183):** to verify the consistency of the recycled material.
**Melt flow index test (ISO 1133):** to ensure processability of the material.
**Tensile test (ISO 6259):** to evaluate the mechanical strength of the pipe.
**Longitudinal reversion test (ISO 2505):** to detect thermal instability in the recycled material.
**Dimensional and ovality control (ISO 3126):** to guarantee compatibility during installation.

**Applications**
TUYCO's recycled PE pipes are intended for non-pressurized use, mainly in underground ducting works for cable routing.

# PIPE DIMESIONS

| SDR | | 26 | 21 | 17,6 | 17 | 13,6 | 11 | 9 | |
|---|---|---|---|---|---|---|---|---|---|
| NOMINAL PRESSURE (Kg/Cm) | PE 80 | 5 | 6,3 | 8 | 9,6 | 10 | 12,6 | 16 | |
| | PE 100 | 6,3 | 8 | 9,6 | 10 | 12,6 | PN16 | PN20 | |
| OUTSIDE DIAMETER (mm) | | thickness | thickness | thickness | thickness | thickness | thickness | thickness | lenght (m) |
| 16 | | | | | | | | 2,0 | 100 |
| 20 | | | | | | | 2,0 | 2,3 | 100 |
| 25 | | | | | | 2,0 | | | 100 |
| 32 | | | | | 2,0 | | 3,0 | 3,6 | 100 |
| 40 | | | | | | 3,0 | 3,7 | 4,5 | 100 |
| 50 | | | | | 3,0 | 3,7 | 4,6 | 5,6 | 100 |
| 63 | | | 3,0 | | 3,8 | 4,7 | 5,8 | 7,1 | 100 |
| 75 | | | 3,6 | | 4,5 | 5,6 | 6,8 | 8,4 | 100 |
| 90 | | 3,5 | 4,3 | | 5,4 | 6,7 | 8,2 | 10,1 | 100 |
| 110 | | 4,2 | 5,3 | 6,3 | 6,6 | 8,1 | 10,0 | 12,3 | 12 |
| 125 | | 4,8 | 6,0 | 7,1 | 7,4 | 9,2 | 11,4 | 14,0 | 12 |
| 140 | | 5,4 | 6,7 | 8,0 | 8,3 | 10,3 | 12,7 | 15,7 | 12 |
| 160 | | 6,2 | 7,7 | 9,1 | 9,5 | 11,8 | 14,6 | 17,9 | 12 |
| 180 | | 6,9 | 8,6 | 10,2 | 10,7 | 13,3 | 16,4 | 20,1 | 12 |
| 200 | | 7,7 | 9,6 | 11,4 | 11,9 | 14,7 | 18,2 | 22,4 | 12 |
| 225 | | 8,6 | 10,8 | 12,8 | 13,4 | 16,6 | 20,5 | 25,2 | 12 |

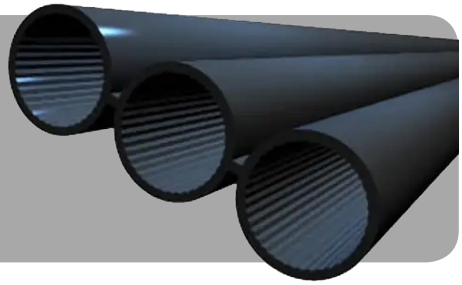
REFERENCES
SDR: STANDARD DIAMETER RATE

PRODUCTION REFERENCE:

Coiled tube  Straight tube

## TRITUBE DIMENSION.

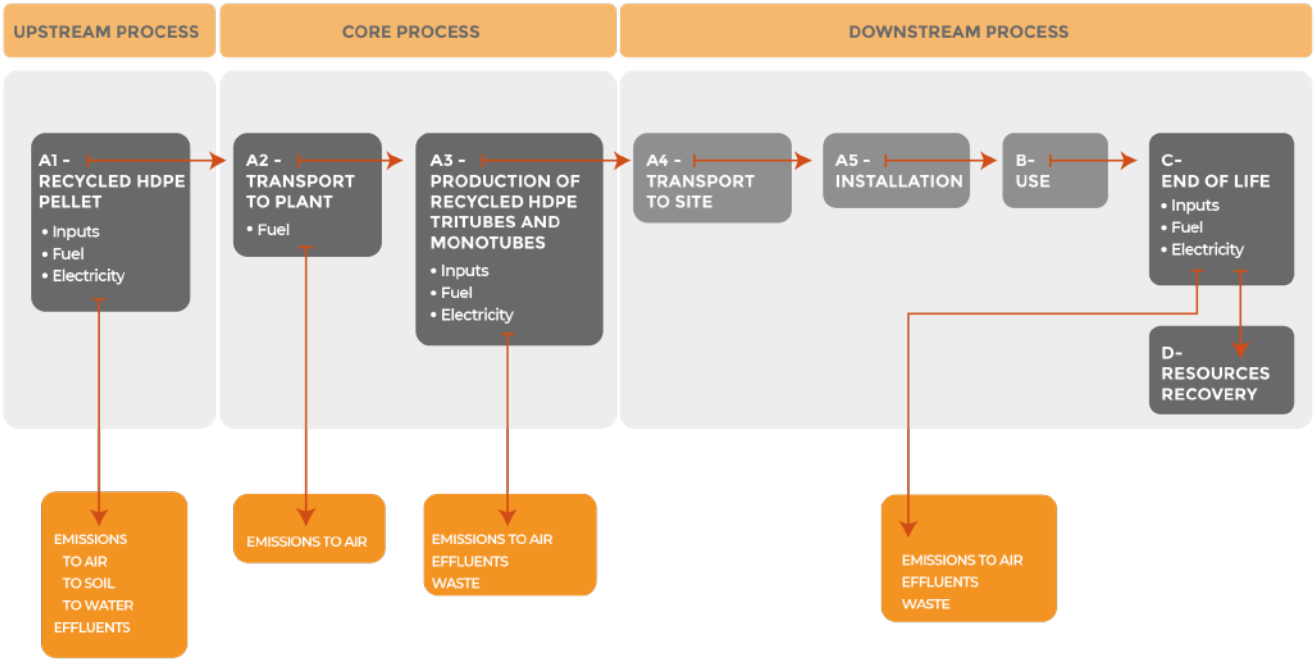
OUTSIDE DIAMETER 40MM
INSIDE DIAMETER 34MM+-0,5MM
THICKNESS 3MM +-0,3MM



# 4-
# LCA information

| | |
|---|---|
| **Declared unit:** | One kilogram of recycled high density polyethylene HDPE pipes - Monotube and Tritube |
| **Reference service life:** | 50 years |
| **Time representativeness:** | The study was carried out with data from the production process for the year 2023 |
| **Database(s) and LCA software used:** | SimaPro 9.6.0.1 // Ecoinvent v3.10.1 |
| **Description of system boundaries:** | a) Cradle to gate with modules C1–C4 and module D (A1–A3 + C + D); |

**System diagram:**




**More information:**

No environmental allocation was performed, because the processes under study don't generate others products or by-products that require this division.
The scope for the study is "**cradle to gate with module C1-C4, and module D**"; are included all the raw materials extraction or recycled stages (upstream process), industrialization pipes stages (core process) and end of life stage (downstream process). Transport between the stages, and transports of raw material supplies are included too.
Purchased electricity used in the manufacturing process of module A3 accounts for more than 30% of the GWP-GHG results of modules A1-A3.
The electricity emission factor for Argentina was sourced from the ecoinvent database. The shares have been calculated based on statistics from 2020: IEA World Energy Statistics and Balances.

| Energy source | Share (%) |
|---|---|
| Natural gas | 80,88% |
| Oil | 12,39% |
| Hydro | 3,87% |
| Hard coal | 2,63% |
| Nuclear | 0,22% |
| Wind | 0,00% |

## Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

| | Product stage | | | Construction process stage | | Use stage | | | | | | | End of life stage | | | | Resource recovery stage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw material supply | Transport | Manufacturing | Transport | Construction installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | Deconstruction demolition | Transport | Waste processing | Disposal | Reuse-Recovery-Recycling-potential |
| Module | A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| Modules declared | X | X | X | ND | ND | ND | ND | ND | ND | ND | ND | ND | X | X | X | X | X |
| Geography | AR | AR | AR | - | - | - | - | - | - | - | - | - | X | X | X | X | AR |
| Specific data used | >35% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Variation – products | < 10% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Variation – sites | - | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

X = Included in LCA
ND = Not Declared

## Modules declared description:

The system boundaries include the modules A1-A3, C1, C2, C3, C4 and D provided by the Stardard EN 15804 according to an application of type “Cradle to gate with options, modules C1-C4 and module D”. Infrastructure, machinery, buildings, vehicles,

and common-use spaces were excluded from the study due to their long useful lives and low contribution to the overall environmental impact. Employee transportation was also excluded, as well as effluent generation, since no liquid discharges were recorded at any stage of the plastic pipe production process.

**Module A1:**

The full production cycle of recycled high density polyethylene was considered. The material is sourced in Argentina, and its production was modeled using the Argentine energy mix. Most of the supply comes from recycled material originating in Córdoba. The assessment also includes inputs related to the production of fuels, additives, and packaging materials used throughout the process.

**Module A2:**

Raw materials are transported to manufacturing sites, with the modelling including road transportation for each material.

**Module A3:**

Production involves the manufacturing of recycled HDPE pipes in both monotube and tritube configurations. The plant operates two extrusion lines covering a diameter range from 20 to 250 mm. Both lines are equipped with magnetic filters and hydraulic pre-die filters, which help ensure the quality of the tritube. Production begins with the receipt and quality control of raw materials. These are tested in the laboratory to ensure compliance with applicable standards. Once approved, the materials are fed into the extrusion machines, where they are melted and forced through heated dies, forming a plastified preform with a circular cross-section. This preform is then introduced into a calibration device that defines the pipe's final dimensions. Along with a thermal shock using cooled water, the final shape of the pipe is achieved. The pipe then passes through a series of additional machines: some perform laser or mechanical printing on its surface; another grips and pulls the pipe to maintain continuous movement; and finally, a cutting machine defines the length of each section, or, in the case of

coils, a winding machine rolls the pipe. The total value of electrical energy consumption was assumed for the production process. The company does not have separate meters between the production plant and the offices, cafeteria, and other spaces. Diesel consumption in the forklift and waste generation were reported for the entire plant. Allocation was based on the plant's total production across all production lines. Additionally, during the pipe extrusion process, scrap is generated that can be reintegrated into the production line. This material is shredded within the plant and added back into the extrusion process along with purchased pellets. This procedure is not regular; it is carried out only when enough scrap has accumulated to justify operating the shredder. The electricity used by the shredder is already included in the total electricity consumption reported by the plant and therefore is not excluded from the model.

**Module C1:**

This is considered the most common scenario when a section needs to be replaced or modifications to the network are required. In such cases, the product is removed to be replaced. The emissions are attributed to the construction process of the new system that replaces the previous one.

**Module C2:**

In accordance with the Federal Recycling Map of Argentina, which includes the location of dumpsites and sanitary landfills, a transport distance of 200 km was assumed from the site where the product is removed and the end of its service life to the final disposal site.

**Module C3:**

Before final disposal, the pipe undergoes shredding using specialized machinery designed for this purpose, with an energy consumption of 0,04 kWh per kilogram processed.

**Module C4:** It is disposed of as waste at a landfill.

**Module D:** In Argentina, iniciatives for recycling construction waste, such as plastic pipes, are still in their early stages. Despite the potential for recovering these materials, there are currently no known data indicating that such recovery is taking place, and even less information on the extent to which it could be implemented.

# 5-
# Content information

| Product components | Weight, kg | Post-consumer material, weight-% | Biogenic material, weight-% and kg C/kg |
|---|---|---|---|
| HDPE recycled pellet | 9,60E-1 | 0,0% | 0,0% |
| Masterbatch | 4,00E-2 | 0,0% | 0,0% |
| TOTAL | 1,00E+0 | 0,0% | 0,0% |
| **Packaging materials** | **Weight, kg** | **Weight-% (versus the product)** | **Weight biogenic carbon, kg C/kg** |
| Paper label | 1,60E-6 | 0,0% | 0,0% |
| Strapping | 1,33E-3 | 0,0% | 0,0% |
| TOTAL | 1,33E-3 | 0,0% | 0,0% |

| Dangerous substances from the candidate list of SVHC for Authorisation | EC No. | CAS No. | Weight-% per declared unit |
|---|---|---|---|
| - | - | - | - |

# 6-
# Results of the environmental performance indicators

## Mandatory impact category indicators according to EN 15804

Usage of results from A1-A3 without considering the results of module C is not encouraged. The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

| Results per declared unit | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Indicator** | **Unit** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| GWP-fossil | kg CO2 eq. | 8,61E-1 | 0,00E+0 | 3,92E-2 | 1,68E-2 | 2,70E-3 | 0,00E+0 |
| GWP-biogenic | kg CO2 eq. | 7,89E-2 | 0,00E+0 | 2,09E-6 | 2,33E-4 | 2,85E-7 | 0,00E+0 |
| GWP-luluc | kg CO2 eq. | 1,35E-2 | 0,00E+0 | 1,34E-6 | 4,19E-4 | 1,36E-7 | 0,00E+0 |
| GWP-total | kg CO2 eq. | 9,53E-1 | 0,00E+0 | 3,92E-2 | 1,75E-2 | 2,70E-3 | 0,00E+0 |
| ODP | kg CFC 11 eq. | 2,49E-8 | 0,00E+0 | 5,31E-10 | 6,33E-10 | 4,02E-11 | 0,00E+0 |
| AP | mol H+ eq. | 2,05E-3 | 0,00E+0 | 1,11E-4 | 2,51E-5 | 2,51E-5 | 0,00E+0 |
| EP-freshwater | kg P eq. | 4,51E-5 | 0,00E+0 | 7,67E-7 | 2,35E-7 | 8,07E-8 | 0,00E+0 |
| EP-marine | kg N eq. | 8,00E-4 | 0,00E+0 | 4,03E-5 | 6,51E-6 | 1,14E-5 | 0,00E+0 |
| EP-terrestrial | mol N eq. | 6,31E-3 | 0,00E+0 | 4,27E-4 | 6,90E-5 | 1,24E-4 | 0,00E+0 |
| POCP | kg NMVOC eq. | 2,76E-3 | 0,00E+0 | 1,55E-4 | 3,79E-5 | 3,71E-5 | 0,00E+0 |
| ADP-minerals&metals* | kg Sb eq. | 2,22E-7 | 0,00E+0 | 2,31E-9 | 4,26E-10 | 1,07E-10 | 0,00E+0 |
| ADP-fossil* | MJ | 1,54E+1 | 0,00E+0 | 5,19E-1 | 3,06E-1 | 3,47E-2 | 0,00E+0 |
| WDP* | m3 | 8,09E-1 | 0,00E+0 | 7,35E-4 | 2,50E-2 | 4,78E-5 | 0,00E+0 |
| Acronyms | GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption | | | | | | |

** Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*

## Additional mandatory and voluntary impact category indicators

| Results per declared unit | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Indicator** | **Unit** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| GWP-GHG [1] | kg CO2 eq. | 9,53E-1 | 0,00E+0 | 3,92E-2 | 1,75E-2 | 2,70E-3 | 0,00E+0 |

## Resource use indicators

| Results per declared unit | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Indicator** | **Unit** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| PERE | MJ | 2,11E+0 | 0,00E+0 | 6,74E-4 | 6,44E-2 | 7,63E-5 | 0,00E+0 |
| PERM | MJ | 1,51E-2 | 0,00E+0 | 8,58E-5 | 5,80E-5 | 7,83E-5 | 0,00E+0 |
| PERT | MJ | 2,12E+0 | 0,00E+0 | 7,60E-4 | 6,45E-2 | 1,55E-4 | 0,00E+0 |
| PENRE | MJ | 2,05E-4 | 0,00E+0 | 1,71E-7 | 2,39E-7 | 1,23E-7 | 0,00E+0 |
| PENRM | MJ | 1,54E+1 | 0,00E+0 | 5,19E-1 | 3,06E-1 | 3,47E-2 | 0,00E+0 |
| PENRT | MJ | 1,54E+1 | 0,00E+0 | 5,19E-1 | 3,06E-1 | 3,47E-2 | 0,00E+0 |
| SM | kg | 1,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 |
| RSF | MJ | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 |
| NRSF | MJ | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 |
| FW | m3 | 8,09E-1 | 0,00E+0 | 7,35E-4 | 2,50E-2 | 4,78E-5 | 0,00E+0 |
| Acronyms | PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water | | | | | | |

1 *This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO2 is set to zero.*

## Waste indicators

| Results per declared unit | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Indicator** | **Unit** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| Hazardous waste disposed | kg | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 |
| Non-hazardous waste disposed | kg | 6,15E-2 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 1,00E+0 | 0,00E+0 |
| Radioactive waste disposed | kg | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 |

## Output flow indicators

| Results per declared unit | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Indicator** | **Unit** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| Components for re-use | kg | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 |
| Material for recycling | kg | 2,50E-1 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 |
| Materials for energy recovery | kg | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 |
| Exported energy, electricity | MJ | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 |
| Exported energy, thermal | MJ | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 | 0,00E+0 |

# 7-
# Additional environmental information

## 7.1 Proper use instructions:

TUYCO's HDPE pipes and cable protection ducts should be installed following the technical specifications and regulatory standards applicable to each system. This includes trench preparation, proper bedding and backfilling with selected materials, use of compatible fittings.
In the case of cable protection ducts, installation should prevent excessive bending or crushing.
Correct installation ensures mechanical integrity, prevents cracking, and contributes to minimizing energy loss, and repair interventions over time

## 7.2 Maintenance and service:

These products require minimal maintenance under normal operating conditions. For buried pipes, periodic inspections of manholes and access points are recommended to ensure system integrity. Any visible damage should be addressed with proper replacement procedures using compatible HDPE sections.

## 7.3 Durability-related components:

The durability of TUYCO's products is determined primarily by the quality of the raw material, wall thickness, UV resistance, and proper handling during installation. The estimated service life is 50 years under typical use conditions.

## 7.4 Recycling procedures and benefits:

TUYCO's HDPE pipes can be recycled at the end of their service life. The recommended procedure involves cutting or shredding the pipes into smaller sections and sending them to authorized recycling facilities. Recycling reduces the demand for virgin plastic, conserves resources, and lowers overall environmental impact.

## 7.5 Reuse and waste disposal:

In some cases, HDPE pipes and ducts can be reused in non-critical applications such as protective sheathing or temporary fluid conveyance. If reuse is not possible, the product should be disposed of through mechanical shredding and final landfilling under regulated conditions. No hazardous components are present.

## 7.6 Minimizing end-of-life impact:

End-of-life handling should prioritize recovery and recycling whenever feasible. For disposal, ensure that pipes are clean and transported to appropriate facilities. Avoid open burning or uncontrolled dumping to prevent environmental harm.

• **Description of the organisation's overall environmental work:**
TUYCO (Industrias Mar S.A.S.) integrates environmental responsibility into its core business strategy through a continuous improvement approach in manufacturing and resource management. The company operates under a system, which governs all stages of production, from raw material control to finished product testing and traceability.

In terms of environmental practices, TUYCO is committed to:

- Incorporating recycled raw materials into a significant portion of its product line (e.g., tritubes and monotubes made from post-consumer recycled HDPE).

- Reprocessing internal production scrap to reduce waste and improve material efficiency.

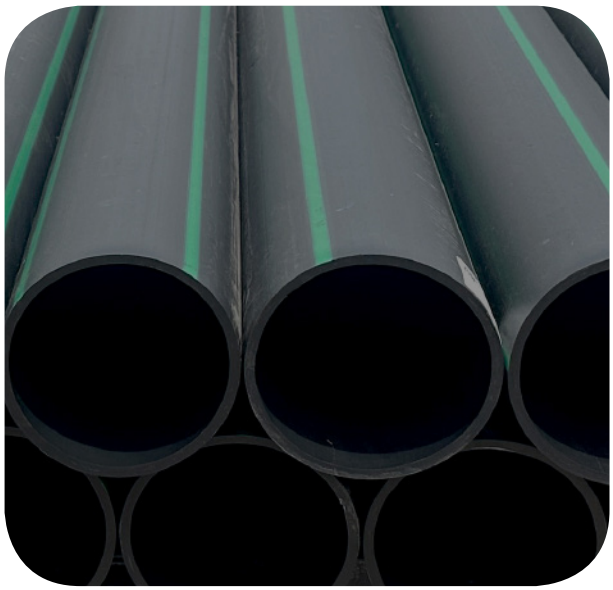
- Minimizing electricity consumption by monitoring energy use across all production lines.

- Participating in national initiatives for plastic recycling and circular economy models.

- TUYCO has conducted a full Life Cycle Assessment (LCA) and pursued Environmental Product Declarations (EPDs) as part of its strategy to increase transparency and measure environmental performance under international standards (EN 15804, ISO 14025).

- More information on the company's environmental activities, certifications, and sustainability initiatives can be obtained by contacting: tecnica@tuyco.com.ar or visiting the company's official communication channels. TUYCO also maintains cooperation with institutions such as INTI (Instituto Nacional de Tecnología Industrial), CIPC (Cámara de la Industria Plástica de Córdoba) and local recyclers to enhance its environmental footprint.

Additional environmental information can also include information on carbon offset, carbon storage and delayed emissions, or on release of dangerous substances to indoor air, soil and water during the use stage.



# 8-
# Additional social and economic information

TUYCO (Industrias Mar S.A.S.) is a family-owned company based in Córdoba, Argentina, and maintains a strong commitment to social responsibility and economic sustainability throughout its operations.

## Social responsibility:

TUYCO actively collaborates with local recycling companies in the procurement of post-consumer HDPE, thereby supporting formal employment and strengthening inclusive supply chains. Approximately 77% of the recycled plastic used in production is sourced from a company located only 7 km from the plant. This practice not only shortens logistics distances but also promotes local circular economy models and community development.
The company ensures safe working conditions, provides permanent staff training, and promotes gender equity and inclusion in its recruitment practices. Employee health and safety are addressed through internal protocols and continuous monitoring of working conditions within the production plant.

## Economic sustainability:

Through local manufacturing, the company generates employment, contributes to regional development, and offers a stable supply of infrastructure products to both public and private sectors.
The use of recycled materials also reduces reliance on imported virgin resins, improving cost stability and resilience to international supply disruptions. This approach supports long-term value creation across the supply chain and aligns with Argentina's national goals for sustainable development.
All stated practices are monitored through traceable production records, supplier audits, and environmental tracking systems used in the preparation of this EPD.

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