

MASTER | 3PLUS

SOIL AND WASTE PIPES

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with **ISO 14025:2006** and **EN 15804:2012+A2:2019/AC:2021** for:
PIPELIFE Master3Plus soil and waste pipes*

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

Programme operator: EPD International AB

EPD owner: Wienerberger AG |  **wienerberger**

EPD registration number: EPD-IES-0015162

Publication date: 2024-07-04

Valid until: 2029-06-04

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

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



GENERAL INFORMATION

PROGRAMME INFORMATION

Programme: The International EPD® System
Address: EPD International AB; Box 210 60; SE-100 31 Stockholm, Sweden
Website: www.environdec.com
E-mail: info@environdec.com

ACCOUNTABILITIES FOR PCR, LCA AND INDEPENDENT THIRD-PARTY VERIFICATION

PRODUCT CATEGORY RULES (PCR)

CEN standard EN 15804 serves as the core Product Category Rules (PCR).

Product Category Rules (PCR): Construction Products PCR 2019:14 v1.3.4

PCR review was conducted by: The Technical Committee of the International EPD® System. A full list of members is available on www.environdec.com.

Chair of the PCR review: Claudia A. Peña. The review panel may be contacted at info@environdec.com.

LIFE CYCLE ASSESSMENT (LCA)

LCA accountability: Ieke Bak and Jurie Potgieter, Ecochain Technologies

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: Anni Oviir, LCA support



Approved by: The International EPD® System

Procedure for follow-up of data during EPD validity involves third party verifier:

Yes No

[The procedure for following up on the validity of the EPD is required at least once a year to confirm whether the information in the EPD remains valid or if the EPD needs to be updated during its validity period. The follow-up can be organized entirely by the EPD owner or together with the original verifier via an agreement between the two parties. In both approaches, the EPD owner is responsible for ensuring the procedure is carried out. If a change that requires an update is identified, the EPD shall be re-verified by a verifier.]

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category (construction) but registered in different EPD programmes, or not compliant with EN 15804, and seen in a building context, 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.

COMPANY INFORMATION

Owner of the EPD:

WIENERBERGER AG, Wienerbergerplatz 1, 1100 Vienna, Austria

Contact:

Oliver Bannert, oliver.bannert@wienerberger.com

Description of the organisation:

PIPELIFE deploys industry 4.0 technologies to measure and reduce our energy and raw material consumption, as well as the related CO₂ emissions.

Product-related or management system-related certifications:

Quality management systems and environmental measures are implemented at all PIPELIFE production sites, meeting national as well as international standards such as ISO 9001 (Quality Management System) and ISO 14001 standards (Environmental Management System).

Name and location of production site(s):

PIPELIFE Czech s.r.o., Kučovaniny 1778, 765 02 Otrokovice, Czech Republic

PRODUCT INFORMATION

PRODUCT NAME: PIPELIFE Master3Plus soil and waste pipe

PRODUCT DESCRIPTION:

PIPELIFE Master3Plus pipes suppress noise from soil and waste activity. Comprised of three functional layers, Master3Plus pipes boast excellent sound absorption while remaining hydraulically optimized and easy to install. Master3Plus pipe systems are made from top-quality materials to deliver tangible benefits for designers, installers, investors, and residents.

MULTIPLE PRODUCTS COVERAGE:

The declared unit of this EPD is 1 kg PIPELIFE Master3Plus soil and waste pipe. The results per kg are based on the weighted average of all products in the PIPELIFE Master3Plus soil and waste pipe product line. The table below provides the products covered in this EPD, along with the mass per piece. These masses should be used to calculate the LCA result per 1 piece, by multiplying the environmental results of all modules with the weight specified below.

PIPELIFE MASTER3PLUS SOIL AND WASTE PIPE PRODUCTS WITH A CONVERSION FACTOR COVERED IN THIS EPD

PRODUCT	MASS (KG/PC)	PRODUCT	MASS (KG/PC)
3296341001	0.053	3296343010	0.592
3296341002	0.074	3296343011	0.996
3296341003	0.125	3296343012	1.449
3296341004	0.228	3296343013	1.902
3296341005	0.331	3296343014	2.489
3296341006	0.434	3296344001	0.354
3296342001	0.075	3296344002	0.484
3296342002	0.103	3296344003	0.816
3296342003	0.172	3296344004	1.357
3296342004	0.292	3296344005	1.968
3296342005	0.423	3296344006	2.578
3296342006	0.553	3296344007	3.370
3296342007	0.091	3296344008	0.500
3296342008	0.128	3296344009	0.682
3296342009	0.217	3296344010	1.052
3296342010	0.366	3296344011	1.927
3296342011	0.533	3296344012	2.795
3296342012	0.699	3296344013	3.659
3296343001	0.162	3296344014	4.781
3296343002	0.222	3296344015	0.725
3296343003	0.376	3296344016	0.991
3296343004	0.621	3296344017	1.649
3296343005	0.902	3296344018	2.957
3296343006	1.182	3296344019	4.274
3296343007	1.545	3296344020	5.589
3296343008	0.251	3296344021	7.296
3296343009	0.347		

UN CPC code:

36320 - Tubes, pipes and hoses, and fittings therefore, of plastics

Geographical scope:

Modules A1-A3: Czech Republic

Modules A4-D: Europe

LCA INFORMATION

Functional/declared unit:

The declared unit used in the LCA study for the product is 1 kilogram of product.

Reference service life (RSL):

The RSL for this product is 50 years.

Time represented:

The year covered by the data used for the LCA calculation is 2022.

Database(s) and LCA software used:

For life cycle modelling of the considered product, the EcolInvent database 3.8 was used.

The modelling was done with the LCA software Ecochain Helix version 4.3.1.

System model: Allocation, cut-off, EN 15804

Description of system boundaries:

The EPD considers Cradle-to-Gate with options including modules A4, A5, C1–C4 and module D.

Full description:

Raw material supply (A1), transport of these materials (A2), the manufacturing of the pipe (A3), transport to construction location (A4), installation at construction location (A5), the deconstruction of the pipe (C1), the transport to the waste processor (C2), the waste processing itself (C3), the waste disposal (C4), and finally the benefits and loads beyond the system boundaries (D).

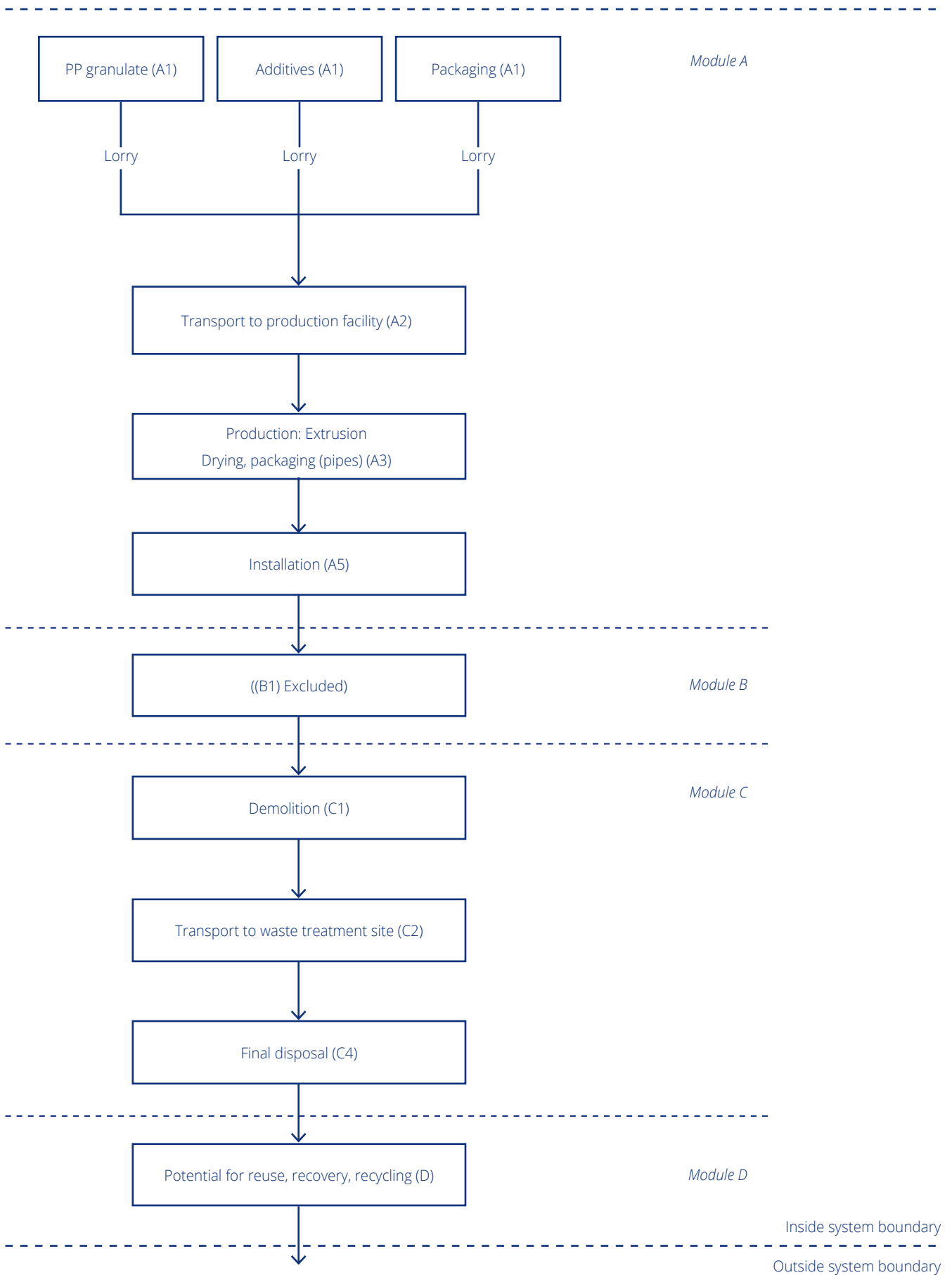
All relevant inputs and outputs, such as emissions, energy and materials, have been taken into account in this LCA. In accordance with EN 15804+A2:2019 the total neglected input flows per module do not exceed 5% of energy usage and mass. In this LCA the waste processes are allocated in the relevant module. In the case of the use of secondary materials or energy recovered from secondary fuels, the system boundary between the system under study and the previous system (providing the secondary materials) is set where outputs of the previous system, e.g. materials, products, building elements or energy, reach the end-of-waste state. All processes were included.

The system boundaries that have been adopted are in accordance with the modular approach of EN 15804+A2. The allocation has been done based on a bulk method, in which the usages and emissions of a full production year are taken into account. The emissions are divided over internal processes, and thereafter over the full production portfolio. This is done to determine the average emissions per product.

Electricity mixes:

The electricity mixes considered for the processing site are country-specific (national generic background data) and are representative for the average residual mix for Czech Republic. The emission factor for the GWP-GHG indicator for the Czech Republic residual mix is 0.775 kg CO₂eq./kWh.

SYSTEM DIAGRAM:



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

	Product stage					Con- struction 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	De-construction 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	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X		
Geography	CZ			EU									EU				EU		
Specific data used	80% for A1-A3			-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Variation – products	all impact categories ¹			-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Variation – sites	Not relevant			-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Content information

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/ declared unit
PP	0.6685	0%	0
Filler	0.3150	0%	0
Rubber	0.0165	0%	0
Aluminium	0.0001	0%	0
TOTAL	1	0%	0
Packaging materials	Weight, kg	Weight-% (versus the product)	Weight biogenic carbon, kg C/ declared unit
Paper/cardboard	0.0237	2.4%	0.0021
Plastics	0.0020	0.2%	0
TOTAL	0.0257	2.6%	0.0021

DANGEROUS SUBSTANCES

The product “1 kg Master3Plus soil and waste pipe” does not contain substances listed on the SVHC Candidate List for Authorization.

¹ modules A-C: GWG GHG: +16%/-2%; Climate change: +16%/-2%; Acidification:+13%/-0%; Ecotoxicity, freshwater:+12%/-8%; Particulate matter:+7%/-5%; Eutrophication, freshwater: +32%/-21%; Eutrophication, marine:+15%/+1%; Eutrophication, terrestrial:+12%/+2%; Human toxicity, cancer:+8%/-3%; Human toxicity, non-cancer: +7%/-2%; Ionising radiation: +31%/+20%; Land use: +47%/-5%; Ozone depletion:+32%/-9%; Photochemical ozone formation: +130%/-22%; Resource use, fossils:+16%/-9%; Resource use, minerals and metals:+8%/-2%; Water use:+16%/-12%

ASSUMPTIONS FOR USE AND END-OF-LIFE SCENARIOS

This stage includes transportation of products to the building site. In this study, an average distance of 1500 km by truck with empty return is assumed for the transportation of products within Europe. The used dataset is market for transport, freight, lorry, unspecified | transport, freight, lorry, unspecified | Europe.

Installation into the project at the construction site (A5)

This stage includes the product installation, which is done manually and therefore no energy is needed. The waste disposal of packaging materials is considered in this scenario. The used datasets are treatment of waste paperboard, municipal incineration | waste paperboard | Switzerland; treatment of waste polyethylene, municipal incineration | waste polyethylene | Switzerland; treatment of waste paper, unsorted, sorting | waste paper, sorted | Europe without Switzerland; treatment of waste polyethylene, for recycling, unsorted, sorting | waste polyethylene, for recycling, sorted | Europe excluding Switzerland.

Deconstruction/demolition (C1)

This stage includes the demolition and removal of the product, which is done manually and therefore no energy is needed.

Transport to waste processing (C2)

This stage includes transporting the demolished product to waste treatment facilities based on assumed transportation distances. The distances to landfill and incineration are based on the default distances according to the Bepalingsmethode. These distances are more worst-case than the distances specified for the project 'Transport of wastes to landfill, incineration and recycling facilities' of the EeBGuide. For transport to recycling facilities, the recommendation from the EeBGuide project is to use an average distance of 250 km with a truck. This distance is indicated in this study, because the distance to a recycling facility is likely to be higher than distances to a higher number of landfill and incineration facilities. As EN 15804 does not specify distances, this is considered the best approach. See the assumptions on distance and transport mode below in the table. The used dataset is market for transport, freight, lorry, unspecified | transport, freight, lorry, unspecified | Europe.

Waste processing for reuse, recovery and/or recycling (C3)

This stage includes the required waste processing for the product's region. See the assumptions on waste processing scenario's in the table below. The electrical efficiency 15.0% and the thermal efficiency 37.1% were considered, the total efficiency considered is 52.1%. This is not enough to consider the incineration process under C3 (the criteria for thermal recycling are not met) and therefore they are reported in C4. The used datasets are treatment of waste polyethylene, for recycling, unsorted, sorting | waste polyethylene, for recycling, sorted | Europe excluding Switzerland.

Disposal (C4)

This stage includes processes for components and waste that could not be recycled in module C3. See the assumptions on waste processing scenarios in the table below. The used datasets are treatment of waste polypropylene, municipal incineration | waste polypropylene | Switzerland; treatment of waste rubber, unspecified, municipal incineration | waste rubber, unspecified | Europe excluding Switzerland; treatment of waste glass, municipal incineration | waste glass | Rest-of-World; treatment of waste paint, municipal incineration | waste paint | Europe without Switzerland;

treatment of waste polypropylene, sanitary landfill | waste polypropylene | Switzerland;
 treatment of inert waste, inert material landfill | inert waste, for final disposal | Switzerland;
 treatment of waste plastic, mixture, sanitary landfill | waste plastic, mixture | Switzerland;
 treatment of waste paint, sanitary landfill | waste paint | Europe without Switzerland.

Reuse, recovery and/or recycling potential, expressed as net impacts and benefits (D)

See the assumptions on waste processing scenarios in the table below. The used datasets are market for pulpwood, hardwood, measured as solid wood under bark | pulpwood, hardwood, measured as solid wood under bark | Europe without Switzerland;
 synthetic rubber production | synthetic rubber | Europe;
 quicklime production, milled, packed | quicklime, milled, packed | Switzerland;
 polyvinylchloride production, suspension polymerisation | polyvinylchloride, suspension polymerised | Europe;
 polypropylene production, granulate | polypropylene, granulate | Europe;
 electricity production, natural gas, combined cycle power plant | electricity, high voltage | Rest-of-World;
 heat production, natural gas, at industrial furnace >100kW | heat, district or industrial, natural gas | Europe without Switzerland.

Applied End-of-Life scenarios for packaging in A5 and product in C1, C2, C3, C4, D.

Material category	Landfill	Incineration	Recycling	Reuse	Recycling/reuse quality factor	Secondary content	Incineration LHV
Packaging, palette	0%	10%	10%	80%	100%	0%	13.99
Packaging, paper/cardboard	0%	28%	72%	0%	100%	0%	15.92
PP, including additives	10%	20%	70%	0%	67%	0%	32.78*
Rubber (EPDM)	10%	85%	5%	0%	67%	0%	27.19
Transport distance to waste processing facility by truck with empty return (km)	50	100	250	50			

*additives have another lower heating value than PP but due to confidentiality, these are not shown here.

Processes	Packaging			Product			Unit (expressed per declared unit)
	Palette	Paper/cardboard	Plastics	PP, including additives	Filler	Rubber	
Collection process specified by type	0.0237	0.0020	0.668	0.315	0.016	0.0001	Kg collected separately
	0	0	0	0	0	0	Kg collected with mixed construction waste
Recovery system specified by type	0	0	0	0	0	0	Kg for re-use
	0.0171	0.0001	0.4679	0.2205	0.0008	0.0000	Kg for recycling
	0.0066	0.0017	0.1337	0.0630	0.0140	0.0001	Kg for energy recovery
Disposal specified by type	0	0.0002	0.0668	0.0315	0.0016	0.0000	Kg product or material for final deposition

RESULTS OF THE ENVIRONMENTAL PERFORMANCE INDICATORS

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

MANDATORY IMPACT CATEGORY INDICATORS ACCORDING TO EN 15804

Results per functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-fossil	kg CO2 eq.	1.77 E+00	1.97 E-01	7.10 E-03	ND	ND	ND	ND	ND	ND	ND	0	2.60 E-02	2.57 E-01	3.95 E-01	-8.44 E-01
GWP-biogenic	kg CO2 eq.	3.64 E-03	1.92 E-04	1.09 E-02	ND	ND	ND	ND	ND	ND	ND	0	2.54 E-05	0	1.72 E-04	-1.77 E-02
GWP-luluc	kg CO2 eq.	6.44 E-04	8.01 E-05	7.89 E-07	ND	ND	ND	ND	ND	ND	ND	0	1.06 E-05	1.59 E-04	4.91 E-06	-1.77 E-04
GWP-total	kg CO2 eq.	1.77 E+00	1.97 E-01	1.80 E-02	ND	ND	ND	ND	ND	ND	ND	0	2.61 E-02	2.93 E-01	3.95 E-01	-8.62 E-01
ODP	kg CFC 11 eq.	7.62 E-08	4.62 E-08	3.52 E-10	ND	ND	ND	ND	ND	ND	ND	0	6.11 E-09	1.80 E-08	9.04 E-10	-3.31 E-08
AP	mol H+ eq.	6.60 E-03	1.12 E-03	1.26 E-05	ND	ND	ND	ND	ND	ND	ND	0	1.48 E-04	7.19 E-04	6.35 E-05	-2.34 E-03
EP-freshwater	kg P eq.	3.38 E-05	1.45 E-06	2.45 E-08	ND	ND	ND	ND	ND	ND	ND	0	1.91 E-07	3.84 E-06	6.52 E-08	-8.52 E-06
EP-marine	kg N eq.	1.30 E-03	4.01 E-04	4.78 E-06	ND	ND	ND	ND	ND	ND	ND	0	5.31 E-05	2.01 E-04	2.88 E-05	-4.21 E-04
EP-terrestrial	mol N eq.	1.41 E-02	4.42 E-03	5.19 E-05	ND	ND	ND	ND	ND	ND	ND	0	5.84 E-04	2.18 E-03	3.08 E-04	-4.64 E-03
POCP	kg NMVOC eq.	9.55 E-03	1.26 E-03	1.56 E-05	ND	ND	ND	ND	ND	ND	ND	0	1.67 E-04	7.15 E-04	8.51 E-05	-2.12 E-03
ADP-minerals&metals*	kg Sb eq.	1.45 E-05	6.59 E-07	1.04 E-08	ND	ND	ND	ND	ND	ND	ND	0	8.72 E-08	1.27 E-06	1.62 E-08	-4.18 E-06
ADP-fossil*	Mj	5.61 E+01	3.03 E+00	2.35 E-02	ND	ND	ND	ND	ND	ND	ND	0	4.01 E-01	2.51 E+00	6.45 E-02	-2.64 E+01
WDP*	m3	1.07 E+00	9.95 E-03	2.05 E-04	ND	ND	ND	ND	ND	ND	ND	0	1.32 E-03	5.16 E-02	8.45 E-04	-4.59 E-01
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 functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG	kg CO2 eq.	1.77 E+00	1.97 E-01	7.11 E-03	ND	ND	ND	ND	ND	ND	ND	0	2.60 E-02	2.57 E-01	3.95 E-01	-8.44 E-01
Particulate matter	disease inc.	6.75 E-08	2.17 E-08	2.07 E-10	ND	ND	ND	ND	ND	ND	ND	0	2.88 E-09	1.47 E-08	7.52 E-10	-2.34 E-08
Ionising radiation	kBq U-235 eq	5.96 E-02	1.32 E-02	1.02 E-04	ND	ND	ND	ND	ND	ND	ND	0	1.74 E-03	7.44 E-03	2.26 E-04	-1.27 E-02
Ecotoxicity, freshwater	CTUe	1.54 E+01	2.40 E+00	4.52 E-02	ND	ND	ND	ND	ND	ND	ND	0	3.17 E-01	2.50 +00	2.02 E-01	-3.47 E+00
Human toxicity, cancer	CTUh	5.45 E-10	9.57 E-11	4.28 E-12	ND	ND	ND	ND	ND	ND	ND	0	1.27 E-11	3.08 E-10	4.98 E-11	-1.70 E-10
Human toxicity, non-cancer	CTUh	1.43 E-08	2.76 E-09	4.23 E-11	ND	ND	ND	ND	ND	ND	ND	0	3.66 E-10	2.73 E-09	3.79 E-10	-3.88 E-09
Land Use	Pt	4.50 E+00	2.59 E+00	1.33 E-02	ND	ND	ND	ND	ND	ND	ND	0	3.42 E-01	1.96 E+00	9.04 E-02	-2.05 E+00

RESOURCE USE INDICATORS

Results per functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	1.06 E+00	4.35 E-02	7.16 E-04	ND	ND	ND	ND	ND	ND	ND	0	5.76 E-03	1.24 E-01	2.40 E-03	-6.60E-01
PERM	MJ	1.29 E-01	0.00 E+00	0.00 E+00	ND	ND	ND	ND	ND	ND	ND	0	0.00 E+00	-1.29 E-01	0.00 E+00	0.00E+00
PERT	MJ	1.19 E+00	4.35 E-02	7.16 E-04	ND	ND	ND	ND	ND	ND	ND	0	5.76 E-03	-5.00 E-03	2.40 E-03	-6.60E-01
PENRE	MJ	4.33 E+01	3.22 E+00	2.50 E-02	ND	ND	ND	ND	ND	ND	ND	0	4.25 E-01	2.68 E+00	6.90 E-02	-2.84E+01
PENRM	MJ	1.68 E+01	0.00 E+00	0.00 E+00	ND	ND	ND	ND	ND	ND	ND	0	0.00 E+00	-1.51 E+01	-1.68 E+00	0.00E+00
PENRT	MJ	6.01 E+01	3.22 E+00	2.50 E-02	ND	ND	ND	ND	ND	ND	ND	0	4.25 E-01	-1.24 E+01	-1.61 E+00	-2.84E+01
SM	kg	0.00 E+00	0.00 E+00	0.00 E+00	ND	ND	ND	ND	ND	ND	ND	0	0.00 E+00	0.00 E+00	0.00 E+00	0.00E+00
RSF	MJ	0.00 E+00	0.00 E+00	0.00 E+00	ND	ND	ND	ND	ND	ND	ND	0	0.00 E+00	0.00 E+00	0.00 E+00	0.00E+00
NRSF	MJ	0.00 E+00	0.00 E+00	0.00 E+00	ND	ND	ND	ND	ND	ND	ND	0	0.00 E+00	0.00 E+00	0.00 E+00	0.00E+00
FW	m ³	2.03 E-02	3.61 E-04	1.03 E-05	ND	ND	ND	ND	ND	ND	ND	0	4.78 E-05	1.42 E-03	1.46 E-04	-6.98E-03

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

WASTE INDICATORS

Results per functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste disposed	kg	1.55 E-05	7.73 E-06	6.34 E-08	ND	ND	ND	ND	ND	ND	ND	0	1.02 E-06	4.13 E-06	2.01 E-07	-6.68 E-06
Non-hazardous waste disposed	kg	1.73 E-01	2.02 E-01	1.28 E-03	ND	ND	ND	ND	ND	ND	ND	0	2.67 E-02	1.29 E-01	1.04 E-01	-2.16 E-02
Radioactive waste disposed	kg	5.67 E-05	2.04 E-05	1.48 E-07	ND	ND	ND	ND	ND	ND	ND	0	2.70 E-06	9.41 E-06	3.16 E-07	-1.17 E-05

OUTPUT FLOW INDICATORS

Results per functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0.00 E+00	0.00 E+00	0.00 E+00	ND	ND	ND	ND	ND	ND	ND	0	0	0.00 E+00	0.00 E+00	0.00 E+00
Material for recycling	kg	0.00 E+00	0.00 E+00	1.72 E-04	ND	ND	ND	ND	ND	ND	ND	0	0	6.89 E-03	0.00 E+00	0.00 E+00
Materials for energy recovery	kg	0.00 E+00	0.00 E+00	8.36 E-05	ND	ND	ND	ND	ND	ND	ND	0	0	0.00 E+00	2.11 E-03	0.00 E+00
Exported energy, electricity	MJ	0.00 E+00	0.00 E+00	9.32 E-02	ND	ND	ND	ND	ND	ND	ND	0	0	0.00 E+00	2.51 E+00	0.00 E+00
Exported energy, thermal	MJ	0.00 E+00	0.00 E+00	6.64 E-02	ND	ND	ND	ND	ND	ND	ND	0	0	0.00 E+00	1.79 E+00	0.00 E+00

Disclaimer: It is discouraged to use the results from modules A1-A3 without also considering results from module C.

ADDITIONAL ENVIRONMENTAL INFORMATION

ENERGY EFFICIENCY

We are making huge strides in the energy efficiency of our production processes by reusing industrial off-heat, installing photovoltaic systems and utilizing closed cooling circuits. We are also using renewable energy sources to heat office buildings and increasing the number of electric vehicles in our warehouses and distribution centers.

BIODIVERSITY

As part of the world of Wienerberger, PIPELIFE is working toward self-imposed Environmental, Social and Corporate Governance Goals. Accordingly, biodiversity measures are implemented at all our production sites to encourage flora and fauna to flourish in the area.

REDUCED WASTE

As well as reusing scrap wherever suitable in our production processes, our prefab designs ensure your on-site waste is kept to the absolute minimum and can be seamlessly installed without the need for extra fittings, labor or energy. The Master3Plus assortment is 100% recyclable. Our cradle-to-cradle designs ensure that pipes and fittings can be reproduced into new quality-assured products, keeping waste to a minimum.

MEASURING AND IMPROVING EFFICIENCY

We deploy industry 4.0 technologies to measure and reduce our energy and raw material consumption, as well as their related CO₂ emissions. Quality management systems and environmental measures are implemented at all PIPELIFE production sites, meeting national as well as international standards such as ISO 9001 (Quality Management System) and ISO 14001 standards (Environmental Management System).

REFERENCES

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PIPELIFE International GmbH, Wienerbergerplatz 1, 1100 Vienna
T +43 1 602 2030 0, E info@pipelife.com, pipelife.com

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