

# Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.80



Product: 3041229 - Tigris PEXc/Al/PE Pipe WT 40x4.0 L=5  
 Unit: 1 piece  
 Manufacturer: Wavin - PL - MPC

LCA standard: EN15804+A2 (2019)  
 Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off  
 Externally verified: Yes  
 Issue date: 30-06-2023  
 End of validity: 30-06-2028  
 Verifier: Martijn van Hövell - SGS Search



This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard.

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - PL - MPC (2021). (☑ = module declared, MND = module not declared).

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
☑	☑	☑	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	☑	☑	☑	☑

## Product stage

A1 Raw material supply A2 Transport A3 Manufacturing

## Construction process stage

A4 Transport gate to site  
 A5 Assembly / Construction installation process

## Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment  
 B6 Operational energy use B7 Operational water use

## End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing  
 C4 Disposal

## Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

## Environmental impacts and parameters

**GWP-total** = EF EN15804+A2 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF EN15804+A2 Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

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# Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.67E+1	3.90E-1	2.41E-1	1.73E+1	4.23E-2	6.43E+0	1.41E-1	2.14E+0	2.61E+1
GWP-f	kg CO2 eq	1.74E+1	3.89E-1	1.52E-1	1.79E+1	4.23E-2	5.69E+0	1.40E-1	2.14E+0	2.59E+1
GWP-b	kg CO2 eq	-7.48E-1	1.80E-4	8.91E-2	-6.59E-1	2.57E-5	7.40E-1	7.77E-4	-1.81E-2	6.35E-2
GWP-luluc	kg CO2 eq	4.67E-2	1.43E-4	6.72E-5	4.69E-2	1.50E-5	1.67E-5	3.72E-6	1.80E-2	6.49E-2
ODP	kg CFC11 eq	7.24E-7	8.59E-8	8.87E-9	8.19E-7	9.75E-9	7.62E-9	4.26E-9	-1.78E-7	6.62E-7
AP	mol H+ eq	1.01E-1	2.26E-3	6.17E-4	1.04E-1	2.41E-4	8.04E-4	1.06E-4	3.09E-2	1.36E-1
EP-fw	kg P eq	5.63E-4	3.93E-6	4.11E-6	5.71E-4	3.48E-7	8.65E-7	1.72E-7	1.59E-4	7.32E-4
EP-m	kg N eq	1.59E-2	7.95E-4	1.21E-4	1.68E-2	8.62E-5	3.57E-4	6.49E-5	4.18E-3	2.15E-2
EP-T	mol N eq	1.78E-1	8.77E-3	1.13E-3	1.88E-1	9.50E-4	4.06E-3	4.31E-4	4.59E-2	2.39E-1
POCP	kg NMVOC eq	5.76E-2	2.50E-3	3.65E-4	6.05E-2	2.72E-4	1.09E-3	1.52E-4	1.46E-2	7.66E-2
ADP-mm	kg Sb eq	1.16E-4	9.86E-6	6.36E-6	1.32E-4	1.09E-6	4.61E-7	1.06E-7	-1.04E-3	-9.03E-4
ADP-f	MJ	2.78E+2	5.87E+0	1.12E+0	2.85E+2	6.49E-1	4.68E-1	3.22E-1	2.13E+1	3.08E+2
WDP	m3 depriv.	5.77E+0	2.10E-2	3.05E-2	5.82E+0	1.99E-3	4.69E-3	1.60E-3	9.47E-1	6.78E+0
PM	disease inc.	1.13E-6	3.50E-8	6.07E-9	1.17E-6	3.82E-9	7.73E-9	2.11E-9	3.79E-7	1.57E-6
IR	kBq U-235 eq	3.76E-1	2.46E-2	1.63E-3	4.02E-1	2.84E-3	1.55E-3	1.70E-3	5.97E-2	4.68E-1
ETP-fw	CTUe	3.74E+2	5.23E+0	4.90E+0	3.84E+2	5.27E-1	2.09E+0	1.80E+2	1.07E+2	6.73E+2
HTP-c	CTUh	1.87E-8	1.70E-10	2.58E-10	1.91E-8	1.88E-11	8.33E-10	1.35E-11	6.37E-9	2.64E-8
HTP-nc	CTUh	3.53E-7	5.73E-9	6.10E-9	3.65E-7	6.28E-10	6.01E-9	2.85E-10	1.10E-7	4.82E-7
SQP	Pt	1.08E+2	5.09E+0	9.63E-1	1.14E+2	5.55E-1	3.20E-1	7.64E-1	-8.35E+0	1.07E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.97E+1	0	7.20E+0	3.69E+1	9.31E-3	2.09E-2	2.23E-2	3.10E+0	4.00E+1
PERM	MJ	0	7.35E-2	0	7.35E-2	0	0	0	0	7.35E-2
PERT	MJ	2.97E+1	7.35E-2	7.20E+0	3.70E+1	9.31E-3	2.09E-2	2.23E-2	3.10E+0	4.01E+1
PENRE	MJ	2.97E+2	0	1.21E+0	2.98E+2	6.89E-1	5.00E-1	3.42E-1	2.03E+1	3.20E+2
PENRM	MJ	0	6.23E+0	0	6.23E+0	0	0	0	0	6.23E+0
PENRT	MJ	2.97E+2	6.23E+0	1.21E+0	3.04E+2	6.89E-1	5.00E-1	3.42E-1	2.03E+1	3.26E+2
PET	MJ	3.27E+2	6.31E+0	8.40E+0	3.41E+2	6.99E-1	5.21E-1	3.64E-1	2.34E+1	3.66E+2
SM	kg	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m3	1.55E-1	7.15E-4	8.41E-4	1.56E-1	7.35E-5	1.05E-3	4.05E-4	3.29E-2	1.91E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.32E-3	1.49E-5	1.27E-6	5.33E-3	1.66E-6	2.05E-6	3.84E-7	-2.18E-3	3.16E-3
NHWD	kg	2.80E+0	3.72E-1	2.09E-2	3.19E+0	4.02E-2	5.44E-2	1.29E+0	8.79E-1	5.46E+0
RWD	kg	3.83E-4	3.85E-5	1.86E-6	4.23E-4	4.42E-6	1.96E-6	2.15E-6	5.99E-5	4.91E-4
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0



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