Environmental Profile

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

Ecochain v3.5.80

Product:	3018296 - Tigris PEXc/Al/PE Pipe WT 50x4.5 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]

Statement of Confidentiality

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.73E+1	3.72E-1	4.28E-1	2.81E+1	6.94E-2	1.24E+1	2.25E-1	4.49E+0	4.53E+1
GWP-f	kg CO2 eq	3.06E+1	3.72E-1	2.69E-1	3.12E+1	6.93E-2	9.07E+0	2.24E-1	4.49E+0	4.51E+1
GWP-b	kg CO2 eq	-3.38E+0	1.72E-4	1.60E-1	-3.22E+0	4.21E-5	3.35E+0	1.34E-3	-3.02E-2	1.01E-1
GWP-luluc	kg CO2 eq	8.28E-2	1.36E-4	1.17E-4	8.31E-2	2.45E-5	3.24E-5	6.20E-6	3.11E-2	1.14E-1
ODP	kg CFC11 eq	1.54E-6	8.21E-8	1.57E-8	1.64E-6	1.60E-8	1.50E-8	7.02E-9	-2.57E-7	1.42E-6
AP	mol H+ eq	1.82E-1	2.16E-3	1.07E-3	1.85E-1	3.95E-4	1.51E-3	1.75E-4	5.42E-2	2.41E-1
EP-fw	kg P eq	9.87E-4	3.75E-6	7.18E-6	9.98E-4	5.71E-7	1.62E-6	2.87E-7	2.79E-4	1.28E-3
EP-m	kg N eq	3.00E-2	7.60E-4	2.14E-4	3.10E-2	1.41E-4	6.67E-4	1.04E-4	7.28E-3	3.92E-2
EP-T	mol N eq	3.37E-1	8.38E-3	1.99E-3	3.47E-1	1.56E-3	7.57E-3	7.11E-4	7.87E-2	4.36E-1
POCP	kg NMVOC eq	1.06E-1	2.39E-3	6.40E-4	1.09E-1	4.45E-4	2.03E-3	2.50E-4	2.59E-2	1.38E-1
ADP-mm	kg Sb eq	2.29E-4	9.42E-6	1.10E-5	2.49E-4	1.79E-6	1.03E-6	1.75E-7	-1.81E-3	-1.55E-3
ADP-f	MJ	4.63E+2	5.61E+0	1.98E+0	4.71E+2	1.06E+0	9.67E-1	5.32E-1	5.51E+1	5.28E+2
WDP	m3 depriv.	9.24E+0	2.01E-2	5.35E-2	9.31E+0	3.27E-3	8.23E-3	2.65E-3	1.84E+0	1.12E+1
PM	disease inc.	2.15E-6	3.34E-8	1.07E-8	2.20E-6	6.26E-9	1.48E-8	3.48E-9	6.53E-7	2.88E-6
IR	kBq U-235 eq	7.35E-1	2.35E-2	2.91E-3	7.61E-1	4.65E-3	3.39E-3	2.82E-3	1.09E-1	8.81E-1
ETP-fw	CTUe	6.73E+2	5.00E+0	8.52E+0	6.87E+2	8.64E-1	3.52E+0	3.13E+2	1.80E+2	1.18E+3
HTP-c	CTUh	3.37E-8	1.62E-10	4.49E-10	3.43E-8	3.08E-11	1.49E-9	2.28E-11	1.11E-8	4.70E-8
HTP-nc	CTUh	6.36E-7	5.47E-9	1.06E-8	6.52E-7	1.03E-9	1.02E-8	4.79E-10	1.91E-7	8.54E-7
SQP	Pt	3.91E+2	4.86E+0	1.68E+0	3.97E+2	9.11E-1	6.94E-1	1.25E+0	-5.40E+1	3.46E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.98E+1	0	1.24E+1	9.21E+1	1.53E-2	3.98E-2	3.77E-2	-2.49E+0	8.97E+1
PERM	MJ	0	7.02E-2	0	7.02E-2	0	0	0	0	7.02E-2
PERT	MJ	7.98E+1	7.02E-2	1.24E+1	9.22E+1	1.53E-2	3.98E-2	3.77E-2	-2.49E+0	8.98E+1
PENRE	MJ	4.94E+2	0	2.13E+0	4.96E+2	1.13E+0	1.03E+0	5.63E-1	5.50E+1	5.54E+2
PENRM	MJ	0	5.95E+0	0	5.95E+0	0	0	0	0	5.95E+0
PENRT	MJ	4.94E+2	5.95E+0	2.13E+0	5.02E+2	1.13E+0	1.03E+0	5.63E-1	5.50E+1	5.60E+2
PET	MJ	5.74E+2	6.02E+0	1.45E+1	5.94E+2	1.15E+0	1.07E+0	6.01E-1	5.25E+1	6.50E+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	2.63E-1	6.83E-4	1.48E-3	2.65E-1	1.20E-4	1.93E-3	6.69E-4	6.02E-2	3.28E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	9.33E-3	1.42E-5	2.28E-6	9.34E-3	2.72E-6	3.80E-6	6.32E-7	-3.78E-3	5.57E-3
NHWD	kg	6.03E+0	3.56E-1	3.74E-2	6.42E+0	6.60E-2	1.31E-1	2.12E+0	1.53E+0	1.03E+1
RWD	kg	7.89E-4	3.68E-5	3.34E-6	8.30E-4	7.24E-6	4.45E-6	3.55E-6	1.09E-4	9.54E-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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