Environmental Profile

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

Ecochain v3.5.80

Product:	3059254 - 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]

Statement of Confidentiality

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.51E+1	3.74E-1	2.13E-1	1.57E+1	3.02E-2	5.70E+0	9.53E-2	2.07E+0	2.36E+1
GWP-f	kg CO2 eq	1.68E+1	3.74E-1	1.41E-1	1.73E+1	3.02E-2	4.02E+0	9.47E-2	2.07E+0	2.35E+1
GWP-b	kg CO2 eq	-1.69E+0	1.73E-4	7.24E-2	-1.61E+0	1.83E-5	1.67E+0	7.37E-4	-2.23E-2	3.89E-2
GWP-luluc	kg CO2 eq	4.63E-2	1.37E-4	7.24E-5	4.65E-2	1.07E-5	1.72E-5	2.95E-6	1.76E-2	6.41E-2
ODP	kg CFC11 eq	6.95E-7	8.25E-8	8.20E-9	7.85E-7	6.95E-9	7.82E-9	3.12E-9	-9.96E-8	7.04E-7
AP	mol H+ eq	9.86E-2	2.17E-3	6.76E-4	1.01E-1	1.72E-4	6.84E-4	7.91E-5	2.77E-2	1.30E-1
EP-fw	kg P eq	5.29E-4	3.77E-6	4.32E-6	5.37E-4	2.48E-7	8.12E-7	1.37E-7	1.45E-4	6.83E-4
EP-m	kg N eq	1.55E-2	7.64E-4	1.17E-4	1.64E-2	6.15E-5	3.00E-4	4.70E-5	3.70E-3	2.05E-2
EP-T	mol N eq	1.75E-1	8.42E-3	1.14E-3	1.84E-1	6.78E-4	3.39E-3	3.20E-4	4.00E-2	2.29E-1
POCP	kg NMVOC eq	5.67E-2	2.40E-3	3.71E-4	5.94E-2	1.94E-4	9.12E-4	1.11E-4	1.20E-2	7.27E-2
ADP-mm	kg Sb eq	1.05E-4	9.47E-6	7.50E-6	1.22E-4	7.81E-7	5.56E-7	7.87E-8	-1.05E-3	-9.21E-4
ADP-f	MJ	2.67E+2	5.64E+0	1.07E+0	2.74E+2	4.63E-1	5.03E-1	2.39E-1	1.04E+0	2.76E+2
WDP	m3 depriv.	5.37E+0	2.02E-2	3.10E-2	5.42E+0	1.42E-3	2.79E-3	1.22E-3	2.73E-1	5.70E+0
PM	disease inc.	1.14E-6	3.36E-8	6.02E-9	1.18E-6	2.72E-9	7.04E-9	1.54E-9	3.44E-7	1.54E-6
IR	kBq U-235 eq	3.27E-1	2.36E-2	1.45E-3	3.52E-1	2.02E-3	1.80E-3	1.31E-3	4.51E-2	4.03E-1
ETP-fw	CTUe	3.63E+2	5.03E+0	5.42E+0	3.74E+2	3.76E-1	1.81E+0	1.79E+2	9.97E+1	6.55E+2
HTP-c	CTUh	1.87E-8	1.63E-10	2.83E-10	1.91E-8	1.34E-11	6.65E-10	1.15E-11	6.18E-9	2.60E-8
HTP-nc	CTUh	3.49E-7	5.50E-9	6.82E-9	3.61E-7	4.48E-10	4.69E-9	2.41E-10	1.03E-7	4.70E-7
SQP	Pt	1.85E+2	4.89E+0	1.05E+0	1.91E+2	3.96E-1	3.83E-1	5.50E-1	-2.70E+1	1.65E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.04E+1	0	8.70E+0	4.91E+1	6.65E-3	2.01E-2	1.91E-2	-1.02E+0	4.81E+1
PERM	MJ	0	7.06E-2	0	7.06E-2	0	0	0	0	7.06E-2
PERT	MJ	4.04E+1	7.06E-2	8.70E+0	4.92E+1	6.65E-3	2.01E-2	1.91E-2	-1.02E+0	4.82E+1
PENRE	MJ	2.85E+2	0	1.15E+0	2.87E+2	4.92E-1	5.37E-1	2.53E-1	-8.83E-1	2.87E+2
PENRM	MJ	0	5.98E+0	0	5.98E+0	0	0	0	0	5.98E+0
PENRT	MJ	2.85E+2	5.98E+0	1.15E+0	2.93E+2	4.92E-1	5.37E-1	2.53E-1	-8.83E-1	2.93E+2
PET	MJ	3.26E+2	6.06E+0	9.85E+0	3.42E+2	4.98E-1	5.57E-1	2.72E-1	-1.90E+0	3.41E+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	1.43E-1	6.87E-4	8.57E-4	1.45E-1	5.24E-5	8.23E-4	3.02E-4	2.33E-2	1.69E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.32E-3	1.43E-5	1.04E-6	5.33E-3	1.18E-6	1.86E-6	2.83E-7	-2.16E-3	3.17E-3
NHWD	kg	2.73E+0	3.58E-1	1.71E-2	3.11E+0	2.87E-2	7.31E-2	9.22E-1	8.48E-1	4.98E+0
RWD	kg	3.44E-4	3.70E-5	1.52E-6	3.82E-4	3.15E-6	2.39E-6	1.60E-6	4.93E-5	4.39E-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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