Environmental Profile

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

Ecochain v3.5.80

Product:	3079731 - PEXc/EVOH Pipe IV 15x2.5 L=600
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	1.32E+2	7.26E+0	1.11E+1	1.50E+2	6.38E-1	1.29E+2	2.80E+0	-7.17E+1	2.11E+2
GWP-f	kg CO2 eq	1.41E+2	7.25E+0	9.74E+0	1.58E+2	6.37E-1	1.16E+2	2.80E+0	-7.58E+1	2.02E+2
GWP-b	kg CO2 eq	-9.43E+0	3.07E-3	1.39E+0	-8.04E+0	3.87E-4	1.29E+1	2.12E-3	4.18E+0	9.09E+0
GWP-luluc	kg CO2 eq	9.74E-2	2.77E-3	8.51E-3	1.09E-1	2.25E-4	3.89E-4	4.08E-5	-3.68E-2	7.25E-2
ODP	kg CFC11 eq	5.34E-6	1.59E-6	5.55E-7	7.48E-6	1.47E-7	1.77E-7	6.03E-8	-8.00E-6	-1.34E-7
AP	mol H+ eq	5.22E-1	5.25E-2	8.32E-2	6.57E-1	3.63E-3	1.59E-2	1.44E-3	-8.09E-2	5.97E-1
EP-fw	kg P eq	4.41E-3	7.07E-5	4.76E-4	4.96E-3	5.24E-6	1.85E-5	1.88E-6	-5.18E-4	4.46E-3
EP-m	kg N eq	9.83E-2	1.72E-2	9.68E-3	1.25E-1	1.30E-3	7.02E-3	1.08E-3	-2.42E-2	1.10E-1
EP-T	mol N eq	1.12E+0	1.90E-1	1.10E-1	1.42E+0	1.43E-2	7.94E-2	5.84E-3	-2.70E-1	1.25E+0
POCP	kg NMVOC eq	4.67E-1	5.32E-2	3.71E-2	5.57E-1	4.09E-3	2.14E-2	2.28E-3	-8.52E-2	5.00E-1
ADP-mm	kg Sb eq	1.61E-3	1.77E-4	1.08E-3	2.86E-3	1.65E-5	1.47E-5	1.45E-6	-7.14E-5	2.83E-3
ADP-f	MJ	4.46E+3	1.08E+2	8.56E+1	4.65E+3	9.78E+0	1.03E+1	4.40E+0	-1.27E+3	3.41E+3
WDP	m3 depriv.	9.68E+1	3.77E-1	3.09E+0	1.00E+2	3.00E-2	2.63E-1	2.09E-2	-8.90E+0	9.17E+1
PM	disease inc.	4.64E-6	6.28E-7	5.50E-7	5.82E-6	5.75E-8	1.42E-7	3.02E-8	-7.61E-7	5.29E-6
IR	kBq U-235 eq	3.85E+0	4.55E-1	7.73E-2	4.38E+0	4.27E-2	3.76E-2	2.05E-2	-6.53E-1	3.83E+0
ETP-fw	CTUe	1.46E+3	9.54E+1	6.80E+2	2.24E+3	7.94E+0	4.39E+1	4.07E+0	-4.53E+2	1.84E+3
HTP-c	CTUh	4.47E-8	3.20E-9	3.48E-8	8.27E-8	2.83E-10	1.53E-8	1.08E-10	-1.13E-8	8.71E-8
HTP-nc	CTUh	1.02E-6	1.03E-7	8.76E-7	2.00E-6	9.47E-9	1.20E-7	2.51E-9	-1.82E-7	1.95E-6
SQP	Pt	1.34E+3	9.04E+1	1.27E+2	1.56E+3	8.37E+0	4.99E+0	1.13E+1	-1.56E+3	1.93E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.62E+2	3.21E-2	1.31E+3	1.57E+3	1.40E-1	4.75E-1	1.75E-1	-2.56E+2	1.32E+3
PERM	MJ	0	1.30E+0	0	1.30E+0	0	0	0	0	1.30E+0
PERT	MJ	2.62E+2	1.33E+0	1.31E+3	1.57E+3	1.40E-1	4.75E-1	1.75E-1	-2.56E+2	1.32E+3
PENRE	MJ	4.78E+3	5.26E+0	9.14E+1	4.88E+3	1.04E+1	1.10E+1	4.67E+0	-1.40E+3	3.51E+3
PENRM	MJ	0	1.10E+2	0	1.10E+2	0	0	0	0	1.10E+2
PENRT	MJ	4.78E+3	1.15E+2	9.14E+1	4.99E+3	1.04E+1	1.10E+1	4.67E+0	-1.40E+3	3.62E+3
PET	MJ	5.05E+3	1.16E+2	1.40E+3	6.56E+3	1.05E+1	1.14E+1	4.84E+0	-1.66E+3	4.93E+3
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	1.64E+0	1.29E-2	8.61E-2	1.74E+0	1.11E-3	2.38E-2	5.44E-3	-2.37E-1	1.54E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	9.44E-4	2.67E-4	2.09E-5	1.23E-3	2.50E-5	4.46E-5	5.29E-6	-1.57E-3	-2.61E-4
NHWD	kg	1.04E+1	6.58E+0	3.95E-1	1.74E+1	6.06E-1	8.31E-1	1.94E+1	-1.21E+0	3.70E+1
RWD	kg	3.91E-3	7.14E-4	3.06E-5	4.65E-3	6.65E-5	4.81E-5	2.88E-5	-7.87E-4	4.01E-3
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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