Environmental Profile

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

Ecochain v3.5.80

Product:	3087920 - PEXc/EVOH Pipe RD 20x2.0 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	1.49E+2	8.57E+0	6.33E+0	1.64E+2	7.63E-1	1.54E+2	3.34E+0	-8.81E+1	2.34E+2
GWP-f	kg CO2 eq	1.63E+2	8.56E+0	4.67E+0	1.76E+2	7.62E-1	1.38E+2	3.35E+0	-8.82E+1	2.30E+2
GWP-b	kg CO2 eq	-1.38E+1	3.61E-3	1.65E+0	-1.22E+1	4.63E-4	1.56E+1	2.54E-3	1.20E-1	3.56E+0
GWP-luluc	kg CO2 eq	8.54E-2	3.27E-3	3.13E-3	9.18E-2	2.70E-4	3.53E-4	4.91E-5	-1.11E-2	8.14E-2
ODP	kg CFC11 eq	5.79E-6	1.88E-6	2.70E-7	7.93E-6	1.76E-7	1.50E-7	7.21E-8	-9.24E-6	-9.04E-7
AP	mol H+ eq	5.98E-1	6.24E-2	3.00E-2	6.90E-1	4.34E-3	1.69E-2	1.72E-3	-7.58E-2	6.38E-1
EP-fw	kg P eq	4.62E-3	8.34E-5	1.80E-4	4.89E-3	6.27E-6	1.76E-5	2.25E-6	-2.12E-4	4.70E-3
EP-m	kg N eq	1.09E-1	2.04E-2	4.22E-3	1.33E-1	1.55E-3	7.59E-3	1.30E-3	-2.41E-2	1.20E-1
EP-T	mol N eq	1.25E+0	2.25E-1	4.44E-2	1.52E+0	1.71E-2	8.62E-2	6.99E-3	-2.68E-1	1.36E+0
POCP	kg NMVOC eq	5.41E-1	6.31E-2	1.47E-2	6.19E-1	4.89E-3	2.30E-2	2.73E-3	-8.91E-2	5.61E-1
ADP-mm	kg Sb eq	1.91E-3	2.08E-4	3.65E-4	2.48E-3	1.97E-5	8.06E-6	1.73E-6	-5.84E-5	2.45E-3
ADP-f	MJ	5.24E+3	1.28E+2	3.80E+1	5.40E+3	1.17E+1	8.20E+0	5.27E+0	-1.47E+3	3.96E+3
WDP	m3 depriv.	1.14E+2	4.44E-1	1.22E+0	1.16E+2	3.59E-2	2.83E-1	2.60E-2	-3.74E+0	1.13E+2
PM	disease inc.	5.22E-6	7.40E-7	2.27E-7	6.18E-6	6.88E-8	1.37E-7	3.62E-8	-4.91E-7	5.93E-6
IR	kBq U-235 eq	4.31E+0	5.37E-1	4.34E-2	4.89E+0	5.11E-2	2.69E-2	2.45E-2	-4.95E-1	4.50E+0
ETP-fw	CTUe	1.14E+3	1.13E+2	2.43E+2	1.50E+3	9.50E+0	4.52E+1	4.89E+0	-1.81E+2	1.38E+3
HTP-c	CTUh	5.20E-8	3.78E-9	1.25E-8	6.83E-8	3.38E-10	1.83E-8	1.30E-10	-1.15E-8	7.56E-8
HTP-nc	CTUh	1.15E-6	1.22E-7	3.10E-7	1.58E-6	1.13E-8	1.39E-7	3.02E-9	-1.28E-7	1.60E-6
SQP	Pt	1.59E+3	1.07E+2	4.61E+1	1.74E+3	1.00E+1	3.71E+0	1.35E+1	-1.15E+3	6.17E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.96E+2	3.92E-2	4.35E+2	7.32E+2	1.68E-1	4.49E-1	2.09E-1	-1.71E+2	5.62E+2
PERM	MJ	0	1.53E+0	0	1.53E+0	0	0	0	0	1.53E+0
PERT	MJ	2.96E+2	1.57E+0	4.35E+2	7.33E+2	1.68E-1	4.49E-1	2.09E-1	-1.71E+2	5.63E+2
PENRE	MJ	5.62E+3	6.45E+0	4.07E+1	5.66E+3	1.24E+1	8.78E+0	5.59E+0	-1.63E+3	4.06E+3
PENRM	MJ	0	1.29E+2	0	1.29E+2	0	0	0	0	1.29E+2
PENRT	MJ	5.62E+3	1.36E+2	4.07E+1	5.79E+3	1.24E+1	8.78E+0	5.59E+0	-1.63E+3	4.19E+3
PET	MJ	5.91E+3	1.37E+2	4.76E+2	6.53E+3	1.26E+1	9.23E+0	5.80E+0	-1.80E+3	4.75E+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	1.90E+0	1.51E-2	3.40E-2	1.95E+0	1.32E-3	2.69E-2	6.50E-3	-1.03E-1	1.89E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.05E-3	3.14E-4	2.39E-5	1.38E-3	2.99E-5	4.28E-5	6.34E-6	-1.82E-3	-3.59E-4
NHWD	kg	1.15E+1	7.75E+0	4.05E-1	1.96E+1	7.25E-1	8.42E-1	2.32E+1	-1.15E+0	4.32E+1
RWD	kg	4.34E-3	8.43E-4	3.50E-5	5.22E-3	7.95E-5	3.11E-5	3.44E-5	-6.71E-4	4.69E-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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