Environmental Profile

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

Ecochain v3.5.80

Product:	4005875 - PVC Branch 87°3 GY 110 S/S/SP
Unit:	1 Piece
Manufacturer:	Wavin - FR - Varennes

The Wavin range of PVC pipes and fittings to be glued covers all the usual diameters and allows you to create networks that are 100% compatible, homogeneous and meet the requirements of the French market.

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	24-11-2022
End of validity:	24-11-2027
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 - FR - Varennes (2020). (☑ = 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	8.62E-1	3.43E-2	4.17E-2	9.38E-1	1.30E-2	5.97E-1	4.02E-3	-5.27E-1	1.03E+0
GWP-f	kg CO2 eq	1.06E+0	3.43E-2	3.31E-2	1.12E+0	1.30E-2	3.57E-1	4.02E-3	-5.99E-1	8.98E-1
GWP-b	kg CO2 eq	-1.95E-1	2.08E-5	8.56E-3	-1.87E-1	7.90E-6	2.39E-1	5.06E-6	7.34E-2	1.26E-1
GWP-luluc	kg CO2 eq	1.42E-3	1.21E-5	2.85E-5	1.46E-3	4.60E-6	1.61E-4	1.08E-7	-9.83E-4	6.48E-4
ODP	kg CFC11 eq	5.43E-7	7.89E-9	4.28E-9	5.56E-7	3.00E-9	4.46E-8	1.52E-10	-2.79E-7	3.24E-7
AP	mol H+ eq	5.20E-3	1.95E-4	1.75E-4	5.57E-3	7.41E-5	7.76E-4	3.70E-6	-2.57E-3	3.85E-3
EP-fw	kg P eq	5.24E-5	2.82E-7	7.84E-7	5.35E-5	1.07E-7	5.40E-6	4.85E-9	-2.78E-5	3.12E-5
EP-m	kg N eq	9.76E-4	6.98E-5	5.20E-5	1.10E-3	2.65E-5	1.93E-4	2.26E-6	-4.84E-4	8.36E-4
EP-T	mol N eq	1.06E-2	7.69E-4	6.12E-4	1.20E-2	2.92E-4	2.13E-3	1.48E-5	-5.28E-3	9.11E-3
POCP	kg NMVOC eq	3.33E-3	2.20E-4	1.54E-4	3.70E-3	8.35E-5	6.37E-4	5.07E-6	-1.74E-3	2.69E-3
ADP-mm	kg Sb eq	1.28E-3	8.86E-7	5.75E-7	1.28E-3	3.36E-7	3.07E-6	3.72E-9	-1.20E-5	1.27E-3
ADP-f	MJ	2.56E+1	5.26E-1	4.64E-1	2.66E+1	2.00E-1	2.09E+0	1.11E-2	-1.41E+1	1.48E+1
WDP	m3 depriv.	1.65E+0	1.61E-3	9.54E-1	2.61E+0	6.13E-4	8.03E-2	7.73E-5	-8.94E-1	1.79E+0
PM	disease inc.	3.93E-8	3.09E-9	2.58E-9	4.50E-8	1.17E-9	9.72E-9	7.65E-11	-2.38E-8	3.21E-8
IR	kBq U-235 eq	6.04E-2	2.30E-3	1.35E-3	6.41E-2	8.72E-4	7.42E-3	5.09E-5	-3.11E-2	4.13E-2
ETP-fw	CTUe	3.74E+1	4.27E-1	4.08E-1	3.82E+1	1.62E-1	1.56E+1	1.72E-1	-1.41E+1	4.01E+1
HTP-c	CTUh	9.96E-10	1.52E-11	3.28E-11	1.04E-9	5.77E-12	2.38E-10	3.08E-13	-4.03E-10	8.86E-10
HTP-nc	CTUh	3.01E-8	5.09E-10	8.28E-10	3.15E-8	1.93E-10	5.53E-9	3.30E-11	-1.20E-8	2.52E-8
SQP	Pt	2.37E+1	4.50E-1	1.80E+0	2.59E+1	1.71E-1	1.29E+0	2.84E-2	-2.96E+1	-2.21E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.38E+0	7.54E-3	4.60E-1	4.85E+0	2.86E-3	1.48E-1	4.07E-4	-5.23E+0	-2.34E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.38E+0	7.54E-3	4.60E-1	4.85E+0	2.86E-3	1.48E-1	4.07E-4	-5.23E+0	-2.34E-1
PENRE	MJ	2.75E+1	5.58E-1	5.01E-1	2.85E+1	2.12E-1	2.22E+0	1.18E-2	-1.52E+1	1.58E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.75E+1	5.58E-1	5.01E-1	2.85E+1	2.12E-1	2.22E+0	1.18E-2	-1.52E+1	1.58E+1
PET	MJ	3.18E+1	5.66E-1	9.61E-1	3.34E+1	2.15E-1	2.37E+0	1.22E-2	-2.04E+1	1.55E+1
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	1.92E-2	5.95E-5	2.23E-2	4.16E-2	2.26E-5	2.21E-3	1.36E-5	-1.12E-2	3.27E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.81E-4	1.34E-6	6.99E-7	1.83E-4	5.10E-7	3.46E-6	1.36E-8	-1.28E-5	1.74E-4
NHWD	kg	1.23E-1	3.26E-2	5.12E-3	1.60E-1	1.24E-2	7.66E-2	4.95E-2	-5.54E-2	2.43E-1
RWD	kg	5.33E-5	3.58E-6	1.41E-6	5.83E-5	1.36E-6	8.05E-6	7.23E-8	-2.81E-5	3.97E-5
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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