Environmental Profile

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

Ecochain v3.5.80

Product:	4005881 - PVC Branch 87°3 GY 40 S/S/S
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	1.30E-1	4.16E-3	5.65E-3	1.40E-1	1.74E-3	8.40E-2	5.40E-4	-7.42E-2	1.52E-1
GWP-f	kg CO2 eq	1.52E-1	4.15E-3	4.45E-3	1.60E-1	1.74E-3	5.59E-2	5.40E-4	-8.57E-2	1.33E-1
GWP-b	kg CO2 eq	-2.17E-2	2.52E-6	1.20E-3	-2.05E-2	1.05E-6	2.81E-2	6.77E-7	1.16E-2	1.92E-2
GWP-luluc	kg CO2 eq	2.02E-4	1.47E-6	4.30E-6	2.07E-4	6.15E-7	2.16E-5	1.45E-8	-1.42E-4	8.77E-5
ODP	kg CFC11 eq	7.38E-8	9.58E-10	5.80E-10	7.53E-8	4.00E-10	5.99E-9	2.04E-11	-3.79E-8	4.38E-8
AP	mol H+ eq	7.38E-4	2.37E-5	2.54E-5	7.87E-4	9.90E-6	1.06E-4	4.95E-7	-3.53E-4	5.50E-4
EP-fw	kg P eq	7.26E-6	3.42E-8	1.06E-7	7.40E-6	1.43E-8	7.24E-7	6.51E-10	-3.86E-6	4.28E-6
EP-m	kg N eq	1.39E-4	8.47E-6	7.42E-6	1.54E-4	3.54E-6	2.66E-5	3.02E-7	-6.68E-5	1.18E-4
EP-T	mol N eq	1.49E-3	9.33E-5	8.97E-5	1.68E-3	3.90E-5	2.93E-4	1.97E-6	-7.30E-4	1.28E-3
POCP	kg NMVOC eq	4.81E-4	2.67E-5	2.20E-5	5.30E-4	1.12E-5	8.76E-5	6.78E-7	-2.39E-4	3.90E-4
ADP-mm	kg Sb eq	1.48E-4	1.07E-7	8.82E-8	1.48E-4	4.49E-8	4.15E-7	4.98E-10	-1.61E-6	1.47E-4
ADP-f	MJ	3.73E+0	6.38E-2	6.20E-2	3.86E+0	2.67E-2	2.82E-1	1.49E-3	-1.98E+0	2.18E+0
WDP	m3 depriv.	2.26E-1	1.96E-4	1.24E-1	3.51E-1	8.18E-5	1.08E-2	1.06E-5	-1.22E-1	2.39E-1
PM	disease inc.	5.81E-9	3.75E-10	3.69E-10	6.56E-9	1.57E-10	1.32E-9	1.02E-11	-3.29E-9	4.76E-9
IR	kBq U-235 eq	8.53E-3	2.79E-4	1.77E-4	8.99E-3	1.17E-4	1.00E-3	6.81E-6	-4.27E-3	5.84E-3
ETP-fw	CTUe	5.13E+0	5.18E-2	5.96E-2	5.24E+0	2.17E-2	2.09E+0	2.29E-2	-2.01E+0	5.37E+0
HTP-c	CTUh	1.30E-10	1.84E-12	4.56E-12	1.36E-10	7.71E-13	3.32E-11	4.14E-14	-5.36E-11	1.16E-10
HTP-nc	CTUh	3.96E-9	6.17E-11	1.18E-10	4.14E-9	2.58E-11	7.50E-10	4.41E-12	-1.63E-9	3.29E-9
SQP	Pt	2.89E+0	5.46E-2	3.04E-1	3.25E+0	2.28E-2	1.74E-1	3.80E-3	-3.96E+0	-5.13E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.52E-1	9.15E-4	7.74E-2	6.31E-1	3.83E-4	1.99E-2	5.44E-5	-7.09E-1	-5.84E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.52E-1	9.15E-4	7.74E-2	6.31E-1	3.83E-4	1.99E-2	5.44E-5	-7.09E-1	-5.84E-2
PENRE	MJ	4.00E+0	6.77E-2	6.70E-2	4.14E+0	2.83E-2	3.00E-1	1.58E-3	-2.14E+0	2.33E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.00E+0	6.77E-2	6.70E-2	4.14E+0	2.83E-2	3.00E-1	1.58E-3	-2.14E+0	2.33E+0
PET	MJ	4.55E+0	6.86E-2	1.44E-1	4.77E+0	2.87E-2	3.20E-1	1.63E-3	-2.85E+0	2.27E+0
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	2.70E-3	7.22E-6	2.92E-3	5.63E-3	3.02E-6	2.97E-4	1.82E-6	-1.57E-3	4.36E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.13E-5	1.63E-7	9.11E-8	2.16E-5	6.82E-8	4.70E-7	1.82E-9	-1.81E-6	2.03E-5
NHWD	kg	1.70E-2	3.95E-3	6.68E-4	2.16E-2	1.65E-3	1.07E-2	6.61E-3	-7.41E-3	3.32E-2
RWD	kg	7.74E-6	4.34E-7	1.84E-7	8.36E-6	1.81E-7	1.09E-6	9.67E-9	-3.87E-6	5.77E-6
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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