Environmental Profile

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

Ecochain v3.5.80

Product:	3026143 - PVC Bend 87°30 GY 200 SN4 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	3.23E+0	1.17E-1	1.40E-1	3.49E+0	4.55E-2	2.09E+0	1.46E-2	-1.89E+0	3.74E+0
GWP-f	kg CO2 eq	3.76E+0	1.17E-1	1.13E-1	3.99E+0	4.54E-2	1.42E+0	1.46E-2	-2.09E+0	3.39E+0
GWP-b	kg CO2 eq	-5.40E-1	7.10E-5	2.70E-2	-5.13E-1	2.76E-5	6.64E-1	1.82E-5	2.01E-1	3.53E-1
GWP-luluc	kg CO2 eq	4.70E-3	4.14E-5	7.62E-5	4.82E-3	1.61E-5	5.52E-4	3.85E-7	-2.96E-3	2.42E-3
ODP	kg CFC11 eq	1.90E-6	2.70E-8	1.44E-8	1.94E-6	1.05E-8	1.52E-7	5.45E-10	-9.59E-7	1.15E-6
AP	mol H+ eq	1.86E-2	6.66E-4	5.09E-4	1.98E-2	2.59E-4	2.66E-3	1.32E-5	-8.55E-3	1.42E-2
EP-fw	kg P eq	1.83E-4	9.63E-7	2.63E-6	1.86E-4	3.74E-7	1.85E-5	1.73E-8	-9.03E-5	1.15E-4
EP-m	kg N eq	3.41E-3	2.38E-4	1.58E-4	3.81E-3	9.26E-5	6.62E-4	8.86E-6	-1.59E-3	2.98E-3
EP-T	mol N eq	3.72E-2	2.63E-3	1.75E-3	4.16E-2	1.02E-3	7.30E-3	5.28E-5	-1.73E-2	3.26E-2
POCP	kg NMVOC eq	1.21E-2	7.51E-4	4.68E-4	1.33E-2	2.92E-4	2.18E-3	1.82E-5	-5.77E-3	1.00E-2
ADP-mm	kg Sb eq	4.46E-3	3.03E-6	1.46E-6	4.46E-3	1.18E-6	1.04E-5	1.33E-8	-4.31E-5	4.43E-3
ADP-f	MJ	9.26E+1	1.80E+0	1.59E+0	9.60E+1	6.98E-1	7.14E+0	3.98E-2	-4.91E+1	5.48E+1
WDP	m3 depriv.	5.77E+0	5.51E-3	3.42E+0	9.19E+0	2.14E-3	2.77E-1	2.70E-4	-2.99E+0	6.49E+0
PM	disease inc.	1.42E-7	1.06E-8	7.81E-9	1.61E-7	4.10E-9	3.30E-8	2.73E-10	-7.50E-8	1.23E-7
IR	kBq U-235 eq	2.22E-1	7.85E-3	4.78E-3	2.34E-1	3.05E-3	2.52E-2	1.83E-4	-1.03E-1	1.59E-1
ETP-fw	CTUe	1.26E+2	1.46E+0	1.17E+0	1.29E+2	5.66E-1	5.39E+1	5.92E-1	-4.42E+1	1.39E+2
HTP-c	CTUh	3.45E-9	5.19E-11	1.05E-10	3.60E-9	2.02E-11	8.08E-10	1.10E-12	-1.31E-9	3.12E-9
HTP-nc	CTUh	1.05E-7	1.74E-9	2.50E-9	1.09E-7	6.75E-10	1.90E-8	1.15E-10	-3.98E-8	8.90E-8
SQP	Pt	6.93E+1	1.54E+0	3.33E+0	7.42E+1	5.97E-1	4.39E+0	1.01E-1	-8.33E+1	-4.05E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.32E+1	2.58E-2	8.58E-1	1.41E+1	1.00E-2	5.08E-1	1.47E-3	-1.49E+1	-2.92E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.32E+1	2.58E-2	8.58E-1	1.41E+1	1.00E-2	5.08E-1	1.47E-3	-1.49E+1	-2.92E-1
PENRE	MJ	9.92E+1	1.91E+0	1.72E+0	1.03E+2	7.41E-1	7.59E+0	4.22E-2	-5.28E+1	5.84E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.92E+1	1.91E+0	1.72E+0	1.03E+2	7.41E-1	7.59E+0	4.22E-2	-5.28E+1	5.84E+1
PET	MJ	1.12E+2	1.93E+0	2.58E+0	1.17E+2	7.51E-1	8.10E+0	4.37E-2	-6.77E+1	5.81E+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	6.85E-2	2.03E-4	8.01E-2	1.49E-1	7.89E-5	7.82E-3	4.86E-5	-3.65E-2	1.20E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.20E-4	4.59E-6	2.51E-6	6.27E-4	1.78E-6	1.19E-5	4.85E-8	-4.42E-5	5.97E-4
NHWD	kg	4.27E-1	1.11E-1	1.83E-2	5.57E-1	4.32E-2	2.65E-1	1.77E-1	-1.81E-1	8.60E-1
RWD	kg	2.03E-4	1.22E-5	5.07E-6	2.20E-4	4.74E-6	2.73E-5	2.59E-7	-9.36E-5	1.59E-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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