Environmental Profile

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

Ecochain v3.5.80

Product:	4005644 - PVC Elbow 87°3 GY 250 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	5.66E+0	2.26E-1	2.59E-1	6.14E+0	8.32E-2	4.08E+0	2.57E-2	-3.27E+0	7.06E+0
GWP-f	kg CO2 eq	7.02E+0	2.26E-1	2.07E-1	7.45E+0	8.31E-2	2.31E+0	2.57E-2	-4.00E+0	5.87E+0
GWP-b	kg CO2 eq	-1.37E+0	1.37E-4	5.16E-2	-1.32E+0	5.05E-5	1.77E+0	3.24E-5	7.38E-1	1.19E+0
GWP-luluc	kg CO2 eq	1.07E-2	8.01E-5	1.59E-4	1.09E-2	2.94E-5	1.04E-3	6.89E-7	-8.22E-3	3.77E-3
ODP	kg CFC11 eq	3.51E-6	5.21E-8	2.66E-8	3.59E-6	1.92E-8	2.89E-7	9.75E-10	-1.81E-6	2.09E-6
AP	mol H+ eq	3.47E-2	1.29E-3	1.01E-3	3.70E-2	4.73E-4	5.10E-3	2.37E-5	-1.78E-2	2.47E-2
EP-fw	kg P eq	3.53E-4	1.86E-6	4.87E-6	3.60E-4	6.84E-7	3.49E-5	3.10E-8	-2.02E-4	1.94E-4
EP-m	kg N eq	6.73E-3	4.61E-4	3.08E-4	7.50E-3	1.69E-4	1.29E-3	1.45E-5	-3.42E-3	5.56E-3
EP-T	mol N eq	7.23E-2	5.08E-3	3.52E-3	8.09E-2	1.87E-3	1.42E-2	9.44E-5	-3.75E-2	5.95E-2
POCP	kg NMVOC eq	2.24E-2	1.45E-3	9.12E-4	2.47E-2	5.34E-4	4.24E-3	3.24E-5	-1.21E-2	1.74E-2
ADP-mm	kg Sb eq	8.21E-3	5.85E-6	3.14E-6	8.22E-3	2.15E-6	2.02E-5	2.38E-8	-7.88E-5	8.17E-3
ADP-f	MJ	1.68E+2	3.47E+0	2.91E+0	1.74E+2	1.28E+0	1.36E+1	7.11E-2	-9.31E+1	9.59E+1
WDP	m3 depriv.	1.07E+1	1.07E-2	6.13E+0	1.68E+1	3.91E-3	5.17E-1	4.90E-4	-6.11E+0	1.12E+1
PM	disease inc.	2.73E-7	2.04E-8	1.53E-8	3.09E-7	7.50E-9	6.42E-8	4.89E-10	-1.80E-7	2.01E-7
IR	kBq U-235 eq	3.98E-1	1.52E-2	8.62E-3	4.22E-1	5.58E-3	4.86E-2	3.26E-4	-2.16E-1	2.60E-1
ETP-fw	CTUe	2.73E+2	2.82E+0	2.35E+0	2.79E+2	1.04E+0	1.01E+2	1.10E+0	-1.11E+2	2.70E+2
HTP-c	CTUh	6.57E-9	1.00E-10	1.99E-10	6.87E-9	3.69E-11	1.56E-9	1.97E-12	-2.78E-9	5.69E-9
HTP-nc	CTUh	1.97E-7	3.36E-9	4.89E-9	2.05E-7	1.23E-9	3.58E-8	2.12E-10	-8.24E-8	1.60E-7
SQP	Pt	1.73E+2	2.97E+0	8.69E+0	1.84E+2	1.09E+0	8.38E+0	1.81E-1	-2.47E+2	-5.25E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.18E+1	4.98E-2	2.23E+0	3.41E+1	1.83E-2	9.57E-1	2.61E-3	-4.35E+1	-8.49E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.18E+1	4.98E-2	2.23E+0	3.41E+1	1.83E-2	9.57E-1	2.61E-3	-4.35E+1	-8.49E+0
PENRE	MJ	1.80E+2	3.69E+0	3.15E+0	1.87E+2	1.35E+0	1.45E+1	7.54E-2	-1.00E+2	1.02E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.80E+2	3.69E+0	3.15E+0	1.87E+2	1.35E+0	1.45E+1	7.54E-2	-1.00E+2	1.02E+2
PET	MJ	2.12E+2	3.74E+0	5.38E+0	2.21E+2	1.37E+0	1.55E+1	7.81E-2	-1.44E+2	9.40E+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	1.27E-1	3.93E-4	1.43E-1	2.70E-1	1.44E-4	1.43E-2	8.69E-5	-8.19E-2	2.03E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.17E-3	8.88E-6	4.49E-6	1.18E-3	3.26E-6	2.28E-5	8.67E-8	-8.60E-5	1.12E-3
NHWD	kg	8.37E-1	2.15E-1	3.29E-2	1.08E+0	7.91E-2	5.00E-1	3.16E-1	-3.80E-1	1.60E+0
RWD	kg	3.52E-4	2.36E-5	9.08E-6	3.85E-4	8.67E-6	5.31E-5	4.62E-7	-1.97E-4	2.51E-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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