Environmental Profile

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

Ecochain v3.5.80

Product:	3025817 - PVC Elbow 87°3 GY 140 S/SP BC
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	1.06E+0	4.10E-2	4.97E-2	1.15E+0	1.57E-2	6.70E-1	4.87E-3	-6.39E-1	1.21E+0
GWP-f	kg CO2 eq	1.26E+0	4.09E-2	3.96E-2	1.34E+0	1.57E-2	4.31E-1	4.87E-3	-7.10E-1	1.08E+0
GWP-b	kg CO2 eq	-1.93E-1	2.49E-5	1.01E-2	-1.83E-1	9.54E-6	2.39E-1	6.12E-6	7.26E-2	1.29E-1
GWP-luluc	kg CO2 eq	1.61E-3	1.45E-5	3.26E-5	1.66E-3	5.56E-6	1.95E-4	1.31E-7	-1.06E-3	8.04E-4
ODP	kg CFC11 eq	6.54E-7	9.43E-9	5.11E-9	6.69E-7	3.62E-9	5.36E-8	1.84E-10	-3.36E-7	3.90E-7
AP	mol H+ eq	6.17E-3	2.33E-4	2.03E-4	6.60E-3	8.95E-5	9.29E-4	4.48E-6	-3.00E-3	4.63E-3
EP-fw	kg P eq	6.22E-5	3.37E-7	9.35E-7	6.34E-5	1.29E-7	6.50E-6	5.87E-9	-3.20E-5	3.81E-5
EP-m	kg N eq	1.14E-3	8.34E-5	6.09E-5	1.29E-3	3.20E-5	2.30E-4	2.73E-6	-5.57E-4	9.95E-4
EP-T	mol N eq	1.24E-2	9.20E-4	7.09E-4	1.40E-2	3.53E-4	2.53E-3	1.78E-5	-6.06E-3	1.09E-2
POCP	kg NMVOC eq	3.92E-3	2.63E-4	1.80E-4	4.37E-3	1.01E-4	7.59E-4	6.13E-6	-2.01E-3	3.22E-3
ADP-mm	kg Sb eq	1.57E-3	1.06E-6	6.52E-7	1.57E-3	4.07E-7	3.68E-6	4.50E-9	-1.43E-5	1.56E-3
ADP-f	MJ	3.06E+1	6.28E-1	5.56E-1	3.18E+1	2.41E-1	2.51E+0	1.34E-2	-1.68E+1	1.77E+1
WDP	m3 depriv.	1.99E+0	1.93E-3	1.15E+0	3.15E+0	7.40E-4	9.70E-2	9.36E-5	-1.06E+0	2.19E+0
PM	disease inc.	4.53E-8	3.70E-9	3.02E-9	5.21E-8	1.42E-9	1.16E-8	9.24E-11	-2.65E-8	3.87E-8
IR	kBq U-235 eq	7.20E-2	2.75E-3	1.63E-3	7.64E-2	1.05E-3	8.89E-3	6.16E-5	-3.63E-2	5.01E-2
ETP-fw	CTUe	4.33E+1	5.10E-1	4.72E-1	4.43E+1	1.96E-1	1.89E+1	2.08E-1	-1.57E+1	4.79E+1
HTP-c	CTUh	1.18E-9	1.82E-11	3.88E-11	1.24E-9	6.97E-12	2.85E-10	3.72E-13	-4.62E-10	1.07E-9
HTP-nc	CTUh	3.62E-8	6.08E-10	9.68E-10	3.78E-8	2.34E-10	6.66E-9	3.99E-11	-1.40E-8	3.07E-8
SQP	Pt	2.44E+1	5.38E-1	1.95E+0	2.69E+1	2.06E-1	1.55E+0	3.43E-2	-2.99E+1	-1.24E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.64E+0	9.02E-3	4.99E-1	5.15E+0	3.46E-3	1.79E-1	4.92E-4	-5.35E+0	-1.73E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.64E+0	9.02E-3	4.99E-1	5.15E+0	3.46E-3	1.79E-1	4.92E-4	-5.35E+0	-1.73E-2
PENRE	MJ	3.28E+1	6.67E-1	6.01E-1	3.41E+1	2.56E-1	2.67E+0	1.43E-2	-1.81E+1	1.89E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.28E+1	6.67E-1	6.01E-1	3.41E+1	2.56E-1	2.67E+0	1.43E-2	-1.81E+1	1.89E+1
PET	MJ	3.75E+1	6.76E-1	1.10E+0	3.93E+1	2.60E-1	2.85E+0	1.48E-2	-2.35E+1	1.89E+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	2.30E-2	7.11E-5	2.70E-2	5.01E-2	2.73E-5	2.66E-3	1.64E-5	-1.29E-2	3.99E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.21E-4	1.61E-6	8.45E-7	2.24E-4	6.17E-7	4.13E-6	1.64E-8	-1.51E-5	2.13E-4
NHWD	kg	1.44E-1	3.89E-2	6.19E-3	1.89E-1	1.50E-2	9.17E-2	5.98E-2	-6.40E-2	2.91E-1
RWD	kg	6.33E-5	4.27E-6	1.71E-6	6.93E-5	1.64E-6	9.61E-6	8.74E-8	-3.27E-5	4.79E-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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