Environmental Profile

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

Ecochain v3.5.80

Product:	3025770 - PVC Bend 22°3 GY 125 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	5.12E-1	2.00E-2	2.50E-2	5.57E-1	7.46E-3	3.47E-1	2.31E-3	-2.94E-1	6.20E-1
GWP-f	kg CO2 eq	6.19E-1	2.00E-2	1.96E-2	6.59E-1	7.45E-3	2.06E-1	2.31E-3	-3.52E-1	5.23E-1
GWP-b	kg CO2 eq	-1.08E-1	1.21E-5	5.36E-3	-1.03E-1	4.52E-6	1.41E-1	2.90E-6	5.83E-2	9.63E-2
GWP-luluc	kg CO2 eq	9.05E-4	7.08E-6	1.96E-5	9.32E-4	2.64E-6	9.27E-5	6.21E-8	-6.75E-4	3.52E-4
ODP	kg CFC11 eq	3.13E-7	4.61E-9	2.57E-9	3.20E-7	1.72E-9	2.57E-8	8.74E-11	-1.61E-7	1.86E-7
AP	mol H+ eq	3.06E-3	1.14E-4	1.15E-4	3.29E-3	4.24E-5	4.52E-4	2.12E-6	-1.55E-3	2.24E-3
EP-fw	kg P eq	3.10E-5	1.65E-7	4.70E-7	3.16E-5	6.13E-8	3.10E-6	2.79E-9	-1.73E-5	1.75E-5
EP-m	kg N eq	5.86E-4	4.08E-5	3.33E-5	6.60E-4	1.52E-5	1.13E-4	1.29E-6	-2.94E-4	4.96E-4
EP-T	mol N eq	6.32E-3	4.49E-4	4.05E-4	7.17E-3	1.67E-4	1.25E-3	8.46E-6	-3.22E-3	5.38E-3
POCP	kg NMVOC eq	1.96E-3	1.28E-4	9.86E-5	2.19E-3	4.78E-5	3.74E-4	2.91E-6	-1.05E-3	1.57E-3
ADP-mm	kg Sb eq	7.38E-4	5.17E-7	4.04E-7	7.38E-4	1.93E-7	1.79E-6	2.14E-9	-6.97E-6	7.34E-4
ADP-f	MJ	1.49E+1	3.07E-1	2.73E-1	1.55E+1	1.14E-1	1.21E+0	6.37E-3	-8.23E+0	8.55E+0
WDP	m3 depriv.	9.49E-1	9.42E-4	5.45E-1	1.49E+0	3.51E-4	4.60E-2	4.52E-5	-5.36E-1	1.01E+0
PM	disease inc.	2.38E-8	1.80E-9	1.66E-9	2.73E-8	6.72E-10	5.68E-9	4.38E-11	-1.51E-8	1.86E-8
IR	kBq U-235 eq	3.54E-2	1.34E-3	7.78E-4	3.75E-2	5.00E-4	4.31E-3	2.92E-5	-1.88E-2	2.35E-2
ETP-fw	CTUe	2.35E+1	2.49E-1	2.69E-1	2.40E+1	9.29E-2	8.97E+0	9.81E-2	-9.30E+0	2.39E+1
HTP-c	CTUh	5.78E-10	8.87E-12	2.03E-11	6.07E-10	3.30E-12	1.39E-10	1.77E-13	-2.39E-10	5.11E-10
HTP-nc	CTUh	1.75E-8	2.97E-10	5.32E-10	1.83E-8	1.11E-10	3.19E-9	1.89E-11	-7.18E-9	1.45E-8
SQP	Pt	1.39E+1	2.63E-1	1.42E+0	1.56E+1	9.78E-2	7.45E-1	1.63E-2	-1.97E+1	-3.18E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.60E+0	4.40E-3	3.62E-1	2.97E+0	1.64E-3	8.52E-2	2.33E-4	-3.49E+0	-4.36E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.60E+0	4.40E-3	3.62E-1	2.97E+0	1.64E-3	8.52E-2	2.33E-4	-3.49E+0	-4.36E-1
PENRE	MJ	1.60E+1	3.26E-1	2.95E-1	1.66E+1	1.21E-1	1.29E+0	6.76E-3	-8.85E+0	9.14E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.60E+1	3.26E-1	2.95E-1	1.66E+1	1.21E-1	1.29E+0	6.76E-3	-8.85E+0	9.14E+0
PET	MJ	1.86E+1	3.30E-1	6.57E-1	1.95E+1	1.23E-1	1.37E+0	7.00E-3	-1.23E+1	8.70E+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	1.12E-2	3.47E-5	1.28E-2	2.40E-2	1.29E-5	1.27E-3	7.78E-6	-7.03E-3	1.83E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.04E-4	7.85E-7	3.98E-7	1.06E-4	2.92E-7	2.02E-6	7.79E-9	-7.52E-6	1.00E-4
NHWD	kg	7.29E-2	1.90E-2	2.92E-3	9.48E-2	7.09E-3	4.45E-2	2.83E-2	-3.29E-2	1.42E-1
RWD	kg	3.14E-5	2.09E-6	8.06E-7	3.43E-5	7.78E-7	4.70E-6	4.14E-8	-1.70E-5	2.28E-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

Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
https://www.ecochain.com
+31 20 3035 777