Environmental Profile

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

Ecochain v3.5.80

Product:	3025871 - Gutter Branch 45° LGY 80 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	6.08E-1	2.22E-2	2.62E-2	6.56E-1	7.93E-3	4.10E-1	2.50E-3	-2.94E-1	7.83E-1
GWP-f	kg CO2 eq	7.36E-1	2.22E-2	2.06E-2	7.79E-1	7.92E-3	2.24E-1	2.50E-3	-4.03E-1	6.10E-1
GWP-b	kg CO2 eq	-1.29E-1	1.35E-5	5.52E-3	-1.24E-1	4.81E-6	1.86E-1	3.08E-6	1.11E-1	1.73E-1
GWP-luluc	kg CO2 eq	1.26E-3	7.86E-6	1.95E-5	1.29E-3	2.80E-6	9.87E-5	6.85E-8	-1.06E-3	3.27E-4
ODP	kg CFC11 eq	3.35E-7	5.12E-9	2.69E-9	3.43E-7	1.83E-9	2.75E-8	9.32E-11	-1.76E-7	1.96E-7
AP	mol H+ eq	4.34E-3	1.27E-4	1.16E-4	4.59E-3	4.51E-5	5.00E-4	2.28E-6	-1.89E-3	3.24E-3
EP-fw	kg P eq	3.78E-5	1.83E-7	4.92E-7	3.85E-5	6.52E-8	3.31E-6	3.04E-9	-2.28E-5	1.91E-5
EP-m	kg N eq	7.53E-4	4.53E-5	3.40E-5	8.33E-4	1.61E-5	1.29E-4	1.37E-6	-3.70E-4	6.09E-4
EP-T	mol N eq	7.97E-3	4.99E-4	4.09E-4	8.87E-3	1.78E-4	1.42E-3	9.05E-6	-4.09E-3	6.39E-3
POCP	kg NMVOC eq	2.43E-3	1.43E-4	1.01E-4	2.68E-3	5.09E-5	4.24E-4	3.11E-6	-1.28E-3	1.87E-3
ADP-mm	kg Sb eq	7.88E-4	5.75E-7	3.99E-7	7.89E-4	2.05E-7	1.99E-6	2.31E-9	-7.81E-6	7.83E-4
ADP-f	MJ	1.67E+1	3.41E-1	2.88E-1	1.73E+1	1.22E-1	1.32E+0	6.81E-3	-9.26E+0	9.48E+0
WDP	m3 depriv.	1.06E+0	1.05E-3	5.81E-1	1.64E+0	3.73E-4	4.85E-2	5.59E-5	-6.42E-1	1.05E+0
PM	disease inc.	3.22E-8	2.00E-9	1.69E-9	3.58E-8	7.15E-10	6.36E-9	4.69E-11	-2.10E-8	2.20E-8
IR	kBq U-235 eq	4.09E-2	1.49E-3	8.27E-4	4.32E-2	5.32E-4	4.74E-3	3.11E-5	-2.32E-2	2.54E-2
ETP-fw	CTUe	3.22E+1	2.77E-1	2.72E-1	3.27E+1	9.88E-2	9.43E+0	1.02E-1	-1.36E+1	2.87E+1
HTP-c	CTUh	7.75E-10	9.85E-12	2.10E-11	8.06E-10	3.51E-12	1.59E-10	1.95E-13	-2.89E-10	6.79E-10
HTP-nc	CTUh	2.05E-8	3.30E-10	5.43E-10	2.14E-8	1.18E-10	3.44E-9	1.98E-11	-8.67E-9	1.63E-8
SQP	Pt	1.84E+1	2.92E-1	1.35E+0	2.00E+1	1.04E-1	8.15E-1	1.73E-2	-3.07E+1	-9.77E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.41E+0	4.89E-3	3.44E-1	3.76E+0	1.74E-3	9.08E-2	2.45E-4	-5.46E+0	-1.60E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.41E+0	4.89E-3	3.44E-1	3.76E+0	1.74E-3	9.08E-2	2.45E-4	-5.46E+0	-1.60E+0
PENRE	MJ	1.79E+1	3.62E-1	3.11E-1	1.85E+1	1.29E-1	1.41E+0	7.23E-3	-9.95E+0	1.01E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.79E+1	3.62E-1	3.11E-1	1.85E+1	1.29E-1	1.41E+0	7.23E-3	-9.95E+0	1.01E+1
PET	MJ	2.13E+1	3.67E-1	6.56E-1	2.23E+1	1.31E-1	1.50E+0	7.47E-3	-1.54E+1	8.54E+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	1.37E-2	3.86E-5	1.36E-2	2.74E-2	1.38E-5	1.35E-3	8.28E-6	-9.34E-3	1.94E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.13E-4	8.72E-7	4.25E-7	1.14E-4	3.11E-7	2.26E-6	8.39E-9	-8.71E-6	1.08E-4
NHWD	kg	1.20E-1	2.11E-2	3.12E-3	1.44E-1	7.54E-3	4.91E-2	3.01E-2	-3.95E-2	1.91E-1
RWD	kg	3.67E-5	2.32E-6	8.61E-7	3.99E-5	8.27E-7	5.25E-6	4.42E-8	-2.12E-5	2.49E-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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