Environmental Profile

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

Ecochain v3.5.80

Product:	3025449 - Gutter Elbow 87°3 Sand 50 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	1.58E-1	5.34E-3	7.52E-3	1.71E-1	2.05E-3	9.04E-2	6.42E-4	-8.40E-2	1.80E-1
GWP-f	kg CO2 eq	1.79E-1	5.34E-3	5.78E-3	1.90E-1	2.05E-3	6.17E-2	6.41E-4	-9.67E-2	1.58E-1
GWP-b	kg CO2 eq	-2.13E-2	3.24E-6	1.73E-3	-1.96E-2	1.25E-6	2.87E-2	7.89E-7	1.28E-2	2.20E-2
GWP-luluc	kg CO2 eq	2.35E-4	1.89E-6	7.24E-6	2.44E-4	7.27E-7	2.50E-5	1.77E-8	-1.59E-4	1.11E-4
ODP	kg CFC11 eq	8.36E-8	1.23E-9	7.70E-10	8.56E-8	4.73E-10	6.83E-9	2.41E-11	-4.41E-8	4.88E-8
AP	mol H+ eq	1.05E-3	3.04E-5	3.98E-5	1.12E-3	1.17E-5	1.21E-4	5.87E-7	-4.05E-4	8.49E-4
EP-fw	kg P eq	8.81E-6	4.39E-8	1.41E-7	9.00E-6	1.69E-8	8.33E-7	7.85E-10	-4.43E-6	5.42E-6
EP-m	kg N eq	1.68E-4	1.09E-5	1.12E-5	1.91E-4	4.18E-6	3.05E-5	3.51E-7	-7.59E-5	1.50E-4
EP-T	mol N eq	1.81E-3	1.20E-4	1.43E-4	2.08E-3	4.61E-5	3.36E-4	2.33E-6	-8.27E-4	1.63E-3
POCP	kg NMVOC eq	5.80E-4	3.43E-5	3.31E-5	6.47E-4	1.32E-5	1.01E-4	8.02E-7	-2.71E-4	4.91E-4
ADP-mm	kg Sb eq	1.97E-4	1.38E-7	1.54E-7	1.97E-4	5.31E-8	4.79E-7	5.96E-10	-1.87E-6	1.96E-4
ADP-f	MJ	4.19E+0	8.19E-2	7.95E-2	4.35E+0	3.15E-2	3.27E-1	1.76E-3	-2.26E+0	2.45E+0
WDP	m3 depriv.	2.70E-1	2.51E-4	1.48E-1	4.18E-1	9.67E-5	1.23E-2	1.47E-5	-1.42E-1	2.88E-1
PM	disease inc.	7.05E-9	4.82E-10	5.57E-10	8.09E-9	1.85E-10	1.53E-9	1.21E-11	-3.70E-9	6.12E-9
IR	kBq U-235 eq	9.85E-3	3.58E-4	2.16E-4	1.04E-2	1.38E-4	1.15E-3	8.00E-6	-4.92E-3	6.81E-3
ETP-fw	CTUe	6.33E+0	6.65E-2	9.45E-2	6.49E+0	2.56E-2	2.38E+0	2.60E-2	-2.28E+0	6.64E+0
HTP-c	CTUh	1.86E-10	2.37E-12	6.46E-12	1.95E-10	9.11E-13	3.95E-11	5.02E-14	-6.08E-11	1.74E-10
HTP-nc	CTUh	5.01E-9	7.93E-11	1.79E-10	5.27E-9	3.05E-11	8.62E-10	5.04E-12	-1.88E-9	4.28E-9
SQP	Pt	3.08E+0	7.01E-2	6.17E-1	3.77E+0	2.70E-2	2.03E-1	4.47E-3	-4.23E+0	-2.28E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.02E-1	1.18E-3	1.57E-1	7.60E-1	4.52E-4	2.29E-2	6.28E-5	-7.66E-1	1.78E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.02E-1	1.18E-3	1.57E-1	7.60E-1	4.52E-4	2.29E-2	6.28E-5	-7.66E-1	1.78E-2
PENRE	MJ	4.50E+0	8.70E-2	8.58E-2	4.67E+0	3.35E-2	3.47E-1	1.86E-3	-2.43E+0	2.62E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.50E+0	8.70E-2	8.58E-2	4.67E+0	3.35E-2	3.47E-1	1.86E-3	-2.43E+0	2.62E+0
PET	MJ	5.10E+0	8.81E-2	2.43E-1	5.43E+0	3.39E-2	3.70E-1	1.93E-3	-3.20E+0	2.63E+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	3.41E-3	9.27E-6	3.47E-3	6.89E-3	3.57E-6	3.40E-4	2.14E-6	-1.80E-3	5.43E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.79E-5	2.09E-7	1.08E-7	2.83E-5	8.06E-8	5.44E-7	2.17E-9	-2.04E-6	2.68E-5
NHWD	kg	2.78E-2	5.08E-3	7.95E-4	3.36E-2	1.95E-3	1.23E-2	7.81E-3	-8.45E-3	4.73E-2
RWD	kg	8.72E-6	5.57E-7	2.19E-7	9.49E-6	2.14E-7	1.26E-6	1.14E-8	-4.44E-6	6.54E-6
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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