Environmental Profile

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

Ecochain v3.5.80

Product:	3025577 - Gutter Elbow 87°3 WT 80 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	3.90E-1	1.24E-2	1.56E-2	4.18E-1	4.82E-3	2.22E-1	1.54E-3	-1.89E-1	4.58E-1
GWP-f	kg CO2 eq	4.54E-1	1.24E-2	1.23E-2	4.79E-1	4.82E-3	1.36E-1	1.54E-3	-2.28E-1	3.94E-1
GWP-b	kg CO2 eq	-6.42E-2	7.53E-6	3.27E-3	-6.10E-2	2.93E-6	8.61E-2	1.85E-6	3.89E-2	6.41E-2
GWP-luluc	kg CO2 eq	6.17E-4	4.39E-6	1.13E-5	6.32E-4	1.70E-6	5.77E-5	4.35E-8	-4.42E-4	2.50E-4
ODP	kg CFC11 eq	1.95E-7	2.86E-9	1.60E-9	2.00E-7	1.11E-9	1.57E-8	5.67E-11	-1.04E-7	1.13E-7
AP	mol H+ eq	3.41E-3	7.06E-5	6.80E-5	3.54E-3	2.74E-5	2.84E-4	1.39E-6	-1.00E-3	2.85E-3
EP-fw	kg P eq	2.28E-5	1.02E-7	2.93E-7	2.32E-5	3.96E-8	1.92E-6	1.91E-9	-1.13E-5	1.39E-5
EP-m	kg N eq	4.52E-4	2.53E-5	2.00E-5	4.97E-4	9.82E-6	7.19E-5	8.16E-7	-1.90E-4	3.89E-4
EP-T	mol N eq	4.76E-3	2.78E-4	2.39E-4	5.28E-3	1.08E-4	7.91E-4	5.51E-6	-2.08E-3	4.10E-3
POCP	kg NMVOC eq	1.54E-3	7.96E-5	5.94E-5	1.68E-3	3.09E-5	2.38E-4	1.90E-6	-6.74E-4	1.28E-3
ADP-mm	kg Sb eq	4.44E-4	3.21E-7	2.31E-7	4.44E-4	1.25E-7	1.13E-6	1.43E-9	-4.50E-6	4.41E-4
ADP-f	MJ	9.97E+0	1.90E-1	1.72E-1	1.03E+1	7.39E-2	7.64E-1	4.15E-3	-5.33E+0	5.85E+0
WDP	m3 depriv.	6.66E-1	5.84E-4	3.50E-1	1.02E+0	2.27E-4	2.83E-2	4.09E-5	-3.48E-1	6.98E-1
PM	disease inc.	2.04E-8	1.12E-9	9.96E-10	2.25E-8	4.35E-10	3.61E-9	2.85E-11	-9.79E-9	1.68E-8
IR	kBq U-235 eq	2.48E-2	8.32E-4	4.97E-4	2.62E-2	3.23E-4	2.70E-3	1.88E-5	-1.22E-2	1.70E-2
ETP-fw	CTUe	1.68E+1	1.54E-1	1.59E-1	1.71E+1	6.00E-2	5.42E+0	5.90E-2	-6.08E+0	1.66E+1
HTP-c	CTUh	5.86E-10	5.50E-12	1.24E-11	6.04E-10	2.14E-12	9.59E-11	1.23E-13	-1.53E-10	5.49E-10
HTP-nc	CTUh	1.30E-8	1.84E-10	3.20E-10	1.35E-8	7.16E-11	2.00E-9	1.15E-11	-4.65E-9	1.09E-8
SQP	Pt	9.10E+0	1.63E-1	7.65E-1	1.00E+1	6.33E-2	4.77E-1	1.05E-2	-1.26E+1	-1.97E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.71E+0	2.73E-3	1.95E-1	1.91E+0	1.06E-3	5.29E-2	1.45E-4	-2.24E+0	-2.78E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.71E+0	2.73E-3	1.95E-1	1.91E+0	1.06E-3	5.29E-2	1.45E-4	-2.24E+0	-2.78E-1
PENRE	MJ	1.07E+1	2.02E-1	1.86E-1	1.11E+1	7.85E-2	8.13E-1	4.40E-3	-5.73E+0	6.25E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.07E+1	2.02E-1	1.86E-1	1.11E+1	7.85E-2	8.13E-1	4.40E-3	-5.73E+0	6.25E+0
PET	MJ	1.24E+1	2.05E-1	3.81E-1	1.30E+1	7.96E-2	8.66E-1	4.55E-3	-7.97E+0	5.97E+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	9.18E-3	2.15E-5	8.20E-3	1.74E-2	8.37E-6	7.81E-4	5.01E-6	-4.58E-3	1.36E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.38E-5	4.87E-7	2.56E-7	6.45E-5	1.89E-7	1.28E-6	5.16E-9	-4.86E-6	6.11E-5
NHWD	kg	1.04E-1	1.18E-2	1.88E-3	1.18E-1	4.58E-3	2.87E-2	1.83E-2	-2.11E-2	1.48E-1
RWD	kg	2.25E-5	1.29E-6	5.18E-7	2.43E-5	5.03E-7	2.97E-6	2.68E-8	-1.10E-5	1.67E-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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