Environmental Profile

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

Ecochain v3.5.80

Product:	3025576 - Gutter Elbow 87°3 WT 80 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	3.81E-1	1.28E-2	1.58E-2	4.10E-1	4.79E-3	2.51E-1	1.53E-3	-1.85E-1	4.83E-1
GWP-f	kg CO2 eq	4.68E-1	1.27E-2	1.24E-2	4.93E-1	4.79E-3	1.37E-1	1.53E-3	-2.37E-1	3.99E-1
GWP-b	kg CO2 eq	-8.69E-2	7.74E-6	3.35E-3	-8.36E-2	2.91E-6	1.15E-1	1.84E-6	5.24E-2	8.37E-2
GWP-luluc	kg CO2 eq	7.02E-4	4.51E-6	1.20E-5	7.19E-4	1.70E-6	5.78E-5	4.33E-8	-5.46E-4	2.32E-4
ODP	kg CFC11 eq	1.96E-7	2.94E-9	1.62E-9	2.01E-7	1.10E-9	1.58E-8	5.64E-11	-1.05E-7	1.13E-7
AP	mol H+ eq	3.49E-3	7.26E-5	7.10E-5	3.63E-3	2.73E-5	2.89E-4	1.38E-6	-1.08E-3	2.87E-3
EP-fw	kg P eq	2.37E-5	1.05E-7	2.97E-7	2.41E-5	3.94E-8	1.93E-6	1.90E-9	-1.25E-5	1.36E-5
EP-m	kg N eq	4.79E-4	2.60E-5	2.07E-5	5.26E-4	9.76E-6	7.43E-5	8.11E-7	-2.09E-4	4.01E-4
EP-T	mol N eq	5.03E-3	2.86E-4	2.51E-4	5.56E-3	1.08E-4	8.17E-4	5.48E-6	-2.31E-3	4.19E-3
POCP	kg NMVOC eq	1.61E-3	8.18E-5	6.14E-5	1.75E-3	3.08E-5	2.45E-4	1.89E-6	-7.36E-4	1.29E-3
ADP-mm	kg Sb eq	4.44E-4	3.30E-7	2.46E-7	4.44E-4	1.24E-7	1.15E-6	1.42E-9	-4.62E-6	4.41E-4
ADP-f	MJ	1.02E+1	1.96E-1	1.73E-1	1.05E+1	7.35E-2	7.74E-1	4.12E-3	-5.47E+0	5.90E+0
WDP	m3 depriv.	6.68E-1	6.00E-4	3.48E-1	1.02E+0	2.26E-4	2.82E-2	4.08E-5	-3.66E-1	6.79E-1
PM	disease inc.	2.18E-8	1.15E-9	1.03E-9	2.40E-8	4.32E-10	3.70E-9	2.84E-11	-1.14E-8	1.67E-8
IR	kBq U-235 eq	2.55E-2	8.55E-4	4.96E-4	2.68E-2	3.21E-4	2.75E-3	1.87E-5	-1.31E-2	1.68E-2
ETP-fw	CTUe	1.86E+1	1.59E-1	1.66E-1	1.89E+1	5.97E-2	5.41E+0	5.86E-2	-7.17E+0	1.72E+1
HTP-c	CTUh	6.01E-10	5.65E-12	1.27E-11	6.19E-10	2.12E-12	9.76E-11	1.22E-13	-1.69E-10	5.51E-10
HTP-nc	CTUh	1.32E-8	1.89E-10	3.31E-10	1.37E-8	7.12E-11	2.01E-9	1.15E-11	-4.96E-9	1.08E-8
SQP	Pt	1.15E+1	1.67E-1	8.48E-1	1.26E+1	6.29E-2	4.82E-1	1.05E-2	-1.66E+1	-3.45E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.10E+0	2.81E-3	2.16E-1	2.32E+0	1.06E-3	5.30E-2	1.44E-4	-2.92E+0	-5.47E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.10E+0	2.81E-3	2.16E-1	2.32E+0	1.06E-3	5.30E-2	1.44E-4	-2.92E+0	-5.47E-1
PENRE	MJ	1.09E+1	2.08E-1	1.87E-1	1.13E+1	7.81E-2	8.24E-1	4.38E-3	-5.88E+0	6.31E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.09E+1	2.08E-1	1.87E-1	1.13E+1	7.81E-2	8.24E-1	4.38E-3	-5.88E+0	6.31E+0
PET	MJ	1.30E+1	2.10E-1	4.03E-1	1.36E+1	7.91E-2	8.77E-1	4.52E-3	-8.80E+0	5.76E+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	9.34E-3	2.21E-5	8.15E-3	1.75E-2	8.32E-6	7.82E-4	4.98E-6	-5.10E-3	1.32E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.41E-5	5.00E-7	2.55E-7	6.49E-5	1.88E-7	1.31E-6	5.14E-9	-5.12E-6	6.12E-5
NHWD	kg	1.07E-1	1.21E-2	1.87E-3	1.21E-1	4.56E-3	2.92E-2	1.82E-2	-2.30E-2	1.50E-1
RWD	kg	2.32E-5	1.33E-6	5.15E-7	2.50E-5	5.00E-7	3.05E-6	2.66E-8	-1.20E-5	1.66E-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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