Environmental Profile

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

Ecochain v3.5.80

Product:	3026062 - PVC Bend 45° GY 160 S/S 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

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	9.75E-1	4.04E-2	4.63E-2	1.06E+0	1.46E-2	7.72E-1	4.52E-3	-5.67E-1	1.29E+0
GWP-f	kg CO2 eq	1.26E+0	4.04E-2	3.68E-2	1.33E+0	1.46E-2	4.06E-1	4.51E-3	-7.18E-1	1.04E+0
GWP-b	kg CO2 eq	-2.84E-1	2.45E-5	9.44E-3	-2.75E-1	8.84E-6	3.66E-1	5.67E-6	1.53E-1	2.44E-1
GWP-luluc	kg CO2 eq	2.03E-3	1.43E-5	3.09E-5	2.08E-3	5.15E-6	1.83E-4	1.21E-7	-1.63E-3	6.38E-4
ODP	kg CFC11 eq	6.18E-7	9.31E-9	4.76E-9	6.32E-7	3.35E-9	5.10E-8	1.71E-10	-3.19E-7	3.68E-7
AP	mol H+ eq	6.25E-3	2.30E-4	1.91E-4	6.67E-3	8.29E-5	9.06E-4	4.15E-6	-3.28E-3	4.39E-3
EP-fw	kg P eq	6.37E-5	3.33E-7	8.71E-7	6.49E-5	1.20E-7	6.12E-6	5.44E-9	-3.77E-5	3.35E-5
EP-m	kg N eq	1.23E-3	8.24E-5	5.71E-5	1.37E-3	2.97E-5	2.30E-4	2.53E-6	-6.35E-4	1.00E-3
EP-T	mol N eq	1.32E-2	9.08E-4	6.68E-4	1.48E-2	3.27E-4	2.53E-3	1.65E-5	-6.99E-3	1.07E-2
POCP	kg NMVOC eq	4.06E-3	2.59E-4	1.69E-4	4.49E-3	9.35E-5	7.58E-4	5.68E-6	-2.24E-3	3.11E-3
ADP-mm	kg Sb eq	1.47E-3	1.05E-6	6.19E-7	1.48E-3	3.77E-7	3.59E-6	4.17E-9	-1.41E-5	1.47E-3
ADP-f	MJ	2.98E+1	6.20E-1	5.16E-1	3.09E+1	2.23E-1	2.41E+0	1.25E-2	-1.66E+1	1.69E+1
WDP	m3 depriv.	1.88E+0	1.90E-3	1.07E+0	2.95E+0	6.86E-4	9.05E-2	8.73E-5	-1.11E+0	1.93E+0
PM	disease inc.	5.08E-8	3.65E-9	2.84E-9	5.73E-8	1.31E-9	1.14E-8	8.57E-11	-3.45E-8	3.56E-8
IR	kBq U-235 eq	7.13E-2	2.71E-3	1.51E-3	7.56E-2	9.77E-4	8.61E-3	5.71E-5	-3.96E-2	4.56E-2
ETP-fw	CTUe	5.13E+1	5.04E-1	4.45E-1	5.23E+1	1.81E-1	1.77E+1	1.92E-1	-2.14E+1	4.89E+1
HTP-c	CTUh	1.19E-9	1.79E-11	3.62E-11	1.24E-9	6.46E-12	2.78E-10	3.45E-13	-5.16E-10	1.01E-9
HTP-nc	CTUh	3.52E-8	6.01E-10	9.09E-10	3.67E-8	2.16E-10	6.31E-9	3.70E-11	-1.50E-8	2.83E-8
SQP	Pt	3.50E+1	5.31E-1	1.89E+0	3.74E+1	1.91E-1	1.48E+0	3.18E-2	-5.06E+1	-1.15E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.31E+0	8.90E-3	4.83E-1	6.80E+0	3.21E-3	1.68E-1	4.56E-4	-8.87E+0	-1.90E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.31E+0	8.90E-3	4.83E-1	6.80E+0	3.21E-3	1.68E-1	4.56E-4	-8.87E+0	-1.90E+0
PENRE	MJ	3.19E+1	6.59E-1	5.58E-1	3.32E+1	2.37E-1	2.56E+0	1.32E-2	-1.79E+1	1.81E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.19E+1	6.59E-1	5.58E-1	3.32E+1	2.37E-1	2.56E+0	1.32E-2	-1.79E+1	1.81E+1
PET	MJ	3.83E+1	6.68E-1	1.04E+0	4.00E+1	2.40E-1	2.73E+0	1.37E-2	-2.67E+1	1.62E+1
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	2.25E-2	7.02E-5	2.50E-2	4.76E-2	2.53E-5	2.50E-3	1.52E-5	-1.53E-2	3.49E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.09E-4	1.59E-6	7.83E-7	2.12E-4	5.71E-7	4.06E-6	1.52E-8	-1.56E-5	2.01E-4
NHWD	kg	1.53E-1	3.84E-2	5.73E-3	1.97E-1	1.38E-2	8.87E-2	5.54E-2	-7.02E-2	2.85E-1
RWD	kg	6.35E-5	4.22E-6	1.58E-6	6.93E-5	1.52E-6	9.46E-6	8.10E-8	-3.62E-5	4.42E-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