Environmental Profile

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

Ecochain v3.5.80

Product:	4005938 - PVC Reducer GY 110x100
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	2.74E-1	9.22E-3	1.55E-2	2.99E-1	3.77E-3	1.67E-1	1.16E-3	-1.44E-1	3.27E-1
GWP-f	kg CO2 eq	3.16E-1	9.21E-3	1.17E-2	3.37E-1	3.76E-3	1.05E-1	1.16E-3	-1.80E-1	2.67E-1
GWP-b	kg CO2 eq	-4.25E-2	5.59E-6	3.80E-3	-3.87E-2	2.29E-6	6.21E-2	1.46E-6	3.65E-2	5.99E-2
GWP-luluc	kg CO2 eq	4.80E-4	3.26E-6	1.75E-5	5.01E-4	1.33E-6	4.72E-5	3.09E-8	-3.84E-4	1.65E-4
ODP	kg CFC11 eq	1.60E-7	2.12E-9	1.58E-9	1.64E-7	8.67E-10	1.32E-8	4.41E-11	-8.15E-8	9.65E-8
AP	mol H+ eq	1.54E-3	5.25E-5	9.23E-5	1.69E-3	2.14E-5	2.32E-4	1.07E-6	-8.03E-4	1.14E-3
EP-fw	kg P eq	1.57E-5	7.58E-8	2.89E-7	1.61E-5	3.10E-8	1.58E-6	1.39E-9	-9.27E-6	8.42E-6
EP-m	kg N eq	2.99E-4	1.88E-5	2.52E-5	3.43E-4	7.67E-6	5.86E-5	6.55E-7	-1.53E-4	2.57E-4
EP-T	mol N eq	3.19E-3	2.07E-4	3.35E-4	3.74E-3	8.45E-5	6.45E-4	4.26E-6	-1.68E-3	2.79E-3
POCP	kg NMVOC eq	9.88E-4	5.91E-5	7.46E-5	1.12E-3	2.42E-5	1.93E-4	1.46E-6	-5.37E-4	8.04E-4
ADP-mm	kg Sb eq	2.97E-4	2.38E-7	3.80E-7	2.97E-4	9.74E-8	9.22E-7	1.07E-9	-3.53E-6	2.95E-4
ADP-f	MJ	7.62E+0	1.41E-1	1.59E-1	7.92E+0	5.78E-2	6.19E-1	3.21E-3	-4.19E+0	4.41E+0
WDP	m3 depriv.	4.81E-1	4.34E-4	2.75E-1	7.57E-1	1.77E-4	2.35E-2	2.13E-5	-2.80E-1	5.01E-1
PM	disease inc.	1.23E-8	8.31E-10	1.26E-9	1.44E-8	3.40E-10	2.92E-9	2.21E-11	-8.07E-9	9.61E-9
IR	kBq U-235 eq	1.80E-2	6.18E-4	4.10E-4	1.90E-2	2.53E-4	2.21E-3	1.47E-5	-9.83E-3	1.17E-2
ETP-fw	CTUe	1.20E+1	1.15E-1	2.21E-1	1.23E+1	4.69E-2	4.58E+0	5.00E-2	-5.18E+0	1.18E+1
HTP-c	CTUh	2.74E-10	4.08E-12	1.40E-11	2.92E-10	1.67E-12	7.04E-11	8.82E-14	-1.20E-10	2.44E-10
HTP-nc	CTUh	8.42E-9	1.37E-10	4.07E-10	8.97E-9	5.59E-11	1.63E-9	9.60E-12	-3.72E-9	6.94E-9
SQP	Pt	6.30E+0	1.21E-1	1.63E+0	8.05E+0	4.94E-2	3.80E-1	8.20E-3	-1.04E+1	-1.86E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.22E+0	2.03E-3	4.14E-1	1.64E+0	8.29E-4	4.34E-2	1.18E-4	-1.87E+0	-1.83E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.22E+0	2.03E-3	4.14E-1	1.64E+0	8.29E-4	4.34E-2	1.18E-4	-1.87E+0	-1.83E-1
PENRE	MJ	8.17E+0	1.50E-1	1.71E-1	8.49E+0	6.13E-2	6.59E-1	3.41E-3	-4.50E+0	4.71E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.17E+0	1.50E-1	1.71E-1	8.49E+0	6.13E-2	6.59E-1	3.41E-3	-4.50E+0	4.71E+0
PET	MJ	9.39E+0	1.52E-1	5.86E-1	1.01E+1	6.22E-2	7.02E-1	3.53E-3	-6.37E+0	4.53E+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	5.64E-3	1.60E-5	6.46E-3	1.21E-2	6.54E-6	6.47E-4	3.93E-6	-3.80E-3	8.98E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.32E-5	3.61E-7	2.01E-7	4.38E-5	1.48E-7	1.04E-6	3.91E-9	-3.82E-6	4.11E-5
NHWD	kg	3.69E-2	8.76E-3	1.48E-3	4.72E-2	3.58E-3	2.27E-2	1.43E-2	-1.67E-2	7.11E-2
RWD	kg	1.62E-5	9.61E-7	4.06E-7	1.76E-5	3.93E-7	2.42E-6	2.09E-8	-8.91E-6	1.15E-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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