Environmental Profile

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

Ecochain v3.5.80

Product:	3025549 - PVC Reducer GY 93x40 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

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.69E-1	6.14E-3	1.06E-2	1.86E-1	2.50E-3	1.26E-1	7.73E-4	-9.81E-2	2.17E-1
GWP-f	kg CO2 eq	2.12E-1	6.13E-3	7.96E-3	2.27E-1	2.50E-3	6.97E-2	7.73E-4	-1.21E-1	1.78E-1
GWP-b	kg CO2 eq	-4.36E-2	3.72E-6	2.66E-3	-4.10E-2	1.52E-6	5.63E-2	9.74E-7	2.35E-2	3.88E-2
GWP-luluc	kg CO2 eq	3.23E-4	2.17E-6	1.26E-5	3.38E-4	8.85E-7	3.14E-5	2.07E-8	-2.57E-4	1.13E-4
ODP	kg CFC11 eq	1.07E-7	1.41E-9	1.08E-9	1.10E-7	5.76E-10	8.74E-9	2.93E-11	-5.45E-8	6.44E-8
AP	mol H+ eq	1.04E-3	3.49E-5	6.57E-5	1.14E-3	1.42E-5	1.54E-4	7.12E-7	-5.45E-4	7.66E-4
EP-fw	kg P eq	1.05E-5	5.05E-8	1.98E-7	1.08E-5	2.06E-8	1.05E-6	9.30E-10	-6.20E-6	5.63E-6
EP-m	kg N eq	2.02E-4	1.25E-5	1.78E-5	2.33E-4	5.10E-6	3.90E-5	4.36E-7	-1.05E-4	1.72E-4
EP-T	mol N eq	2.16E-3	1.38E-4	2.39E-4	2.54E-3	5.62E-5	4.30E-4	2.84E-6	-1.15E-3	1.88E-3
POCP	kg NMVOC eq	6.74E-4	3.94E-5	5.27E-5	7.66E-4	1.61E-5	1.29E-4	9.74E-7	-3.70E-4	5.41E-4
ADP-mm	kg Sb eq	1.98E-4	1.59E-7	2.76E-7	1.98E-4	6.47E-8	6.12E-7	7.14E-10	-2.38E-6	1.97E-4
ADP-f	MJ	5.12E+0	9.41E-2	1.08E-1	5.32E+0	3.84E-2	4.12E-1	2.14E-3	-2.82E+0	2.95E+0
WDP	m3 depriv.	3.20E-1	2.89E-4	1.82E-1	5.02E-1	1.18E-4	1.56E-2	1.45E-5	-1.86E-1	3.32E-1
PM	disease inc.	8.53E-9	5.54E-10	8.92E-10	9.98E-9	2.26E-10	1.94E-9	1.47E-11	-5.57E-9	6.59E-9
IR	kBq U-235 eq	1.22E-2	4.11E-4	2.73E-4	1.28E-2	1.68E-4	1.47E-3	9.80E-6	-6.60E-3	7.90E-3
ETP-fw	CTUe	7.96E+0	7.64E-2	1.58E-1	8.19E+0	3.12E-2	3.04E+0	3.32E-2	-3.44E+0	7.85E+0
HTP-c	CTUh	1.89E-10	2.72E-12	9.74E-12	2.01E-10	1.11E-12	4.71E-11	5.90E-14	-8.51E-11	1.64E-10
HTP-nc	CTUh	5.64E-9	9.11E-11	2.88E-10	6.02E-9	3.72E-11	1.08E-9	6.38E-12	-2.51E-9	4.64E-9
SQP	Pt	5.44E+0	8.05E-2	1.21E+0	6.73E+0	3.28E-2	2.53E-1	5.46E-3	-7.81E+0	-7.95E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.92E-1	1.35E-3	3.06E-1	1.30E+0	5.51E-4	2.89E-2	7.85E-5	-1.38E+0	-4.69E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	9.92E-1	1.35E-3	3.06E-1	1.30E+0	5.51E-4	2.89E-2	7.85E-5	-1.38E+0	-4.69E-2
PENRE	MJ	5.49E+0	9.99E-2	1.16E-1	5.71E+0	4.08E-2	4.38E-1	2.27E-3	-3.03E+0	3.16E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.49E+0	9.99E-2	1.16E-1	5.71E+0	4.08E-2	4.38E-1	2.27E-3	-3.03E+0	3.16E+0
PET	MJ	6.48E+0	1.01E-1	4.22E-1	7.01E+0	4.13E-2	4.67E-1	2.35E-3	-4.41E+0	3.11E+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	3.76E-3	1.07E-5	4.27E-3	8.04E-3	4.34E-6	4.30E-4	2.61E-6	-2.51E-3	5.96E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.89E-5	2.41E-7	1.32E-7	2.92E-5	9.82E-8	6.90E-7	2.61E-9	-2.62E-6	2.74E-5
NHWD	kg	2.51E-2	5.84E-3	9.76E-4	3.19E-2	2.38E-3	1.51E-2	9.51E-3	-1.16E-2	4.73E-2
RWD	kg	1.10E-5	6.40E-7	2.68E-7	1.19E-5	2.61E-7	1.61E-6	1.39E-8	-6.01E-6	7.83E-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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