Environmental Profile

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

Ecochain v3.5.80

Product:	4005765 - Wadal PVC Branch 45° GY 110 S/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	1.10E+0	4.08E-2	5.06E-2	1.19E+0	1.59E-2	6.20E-1	4.92E-3	-6.47E-1	1.18E+0
GWP-f	kg CO2 eq	1.25E+0	4.07E-2	4.03E-2	1.33E+0	1.59E-2	4.33E-1	4.92E-3	-7.02E-1	1.08E+0
GWP-b	kg CO2 eq	-1.47E-1	2.47E-5	1.03E-2	-1.37E-1	9.64E-6	1.86E-1	6.18E-6	5.54E-2	1.04E-1
GWP-luluc	kg CO2 eq	1.50E-3	1.44E-5	3.39E-5	1.55E-3	5.62E-6	1.96E-4	1.32E-7	-9.19E-4	8.33E-4
ODP	kg CFC11 eq	6.58E-7	9.38E-9	5.21E-9	6.73E-7	3.66E-9	5.39E-8	1.86E-10	-3.37E-7	3.93E-7
AP	mol H+ eq	6.09E-3	2.32E-4	2.10E-4	6.53E-3	9.04E-5	9.28E-4	4.52E-6	-2.90E-3	4.65E-3
EP-fw	kg P eq	6.13E-5	3.35E-7	9.53E-7	6.26E-5	1.31E-7	6.55E-6	5.92E-9	-3.04E-5	3.88E-5
EP-m	kg N eq	1.11E-3	8.30E-5	6.27E-5	1.26E-3	3.24E-5	2.28E-4	2.76E-6	-5.32E-4	9.88E-4
EP-T	mol N eq	1.21E-2	9.15E-4	7.33E-4	1.37E-2	3.57E-4	2.52E-3	1.80E-5	-5.76E-3	1.09E-2
POCP	kg NMVOC eq	3.84E-3	2.61E-4	1.86E-4	4.29E-3	1.02E-4	7.54E-4	6.19E-6	-1.93E-3	3.22E-3
ADP-mm	kg Sb eq	1.57E-3	1.05E-6	6.81E-7	1.57E-3	4.11E-7	3.67E-6	4.54E-9	-1.42E-5	1.56E-3
ADP-f	MJ	3.06E+1	6.25E-1	5.65E-1	3.18E+1	2.44E-1	2.51E+0	1.36E-2	-1.67E+1	1.78E+1
WDP	m3 depriv.	2.00E+0	1.92E-3	1.17E+0	3.17E+0	7.48E-4	9.79E-2	9.43E-5	-1.04E+0	2.23E+0
PM	disease inc.	4.34E-8	3.68E-9	3.11E-9	5.02E-8	1.43E-9	1.16E-8	9.34E-11	-2.42E-8	3.91E-8
IR	kBq U-235 eq	7.16E-2	2.73E-3	1.65E-3	7.60E-2	1.06E-3	8.89E-3	6.22E-5	-3.53E-2	5.07E-2
ETP-fw	CTUe	4.12E+1	5.08E-1	4.88E-1	4.22E+1	1.98E-1	1.91E+1	2.10E-1	-1.43E+1	4.74E+1
HTP-c	CTUh	1.16E-9	1.81E-11	3.97E-11	1.22E-9	7.04E-12	2.85E-10	3.76E-13	-4.39E-10	1.07E-9
HTP-nc	CTUh	3.61E-8	6.05E-10	9.97E-10	3.77E-8	2.36E-10	6.69E-9	4.04E-11	-1.37E-8	3.10E-8
SQP	Pt	1.99E+1	5.35E-1	2.09E+0	2.26E+1	2.08E-1	1.55E+0	3.47E-2	-2.37E+1	6.92E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.96E+0	8.97E-3	5.34E-1	4.50E+0	3.50E-3	1.80E-1	4.97E-4	-4.32E+0	3.68E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.96E+0	8.97E-3	5.34E-1	4.50E+0	3.50E-3	1.80E-1	4.97E-4	-4.32E+0	3.68E-1
PENRE	MJ	3.28E+1	6.64E-1	6.11E-1	3.41E+1	2.59E-1	2.68E+0	1.44E-2	-1.80E+1	1.90E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.28E+1	6.64E-1	6.11E-1	3.41E+1	2.59E-1	2.68E+0	1.44E-2	-1.80E+1	1.90E+1
PET	MJ	3.68E+1	6.73E-1	1.14E+0	3.86E+1	2.62E-1	2.86E+0	1.49E-2	-2.23E+1	1.94E+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	2.29E-2	7.07E-5	2.73E-2	5.04E-2	2.76E-5	2.68E-3	1.66E-5	-1.23E-2	4.08E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.21E-4	1.60E-6	8.55E-7	2.23E-4	6.23E-7	4.12E-6	1.66E-8	-1.47E-5	2.13E-4
NHWD	kg	1.40E-1	3.87E-2	6.26E-3	1.85E-1	1.51E-2	9.18E-2	6.04E-2	-6.14E-2	2.91E-1
RWD	kg	6.27E-5	4.25E-6	1.73E-6	6.86E-5	1.66E-6	9.58E-6	8.83E-8	-3.16E-5	4.83E-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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