

Environmental Profile

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

Ecochain v3.5.80



Product:	3001251 - Wafix PVC Coupler GY 160 SN4
Unit:	1 piece
Manufacturer:	Wavin - NL - Hardenberg - Verified
Address:	J.C. Kellerlaan 3 7772 SG Hardenberg Netherlands

LCA standard:	NMD Bepalingsmethode 1.1 (2022)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	08-06-2023
End of validity:	08-06-2028
Verifier:	Martijn van Hövell - SGS Search



Wavin carries a complete PVC range of outdoor sewers. With PVC as a material, a smooth-walled, flexible and completely watertight piping system is obtained. Moreover, PVC is absolutely resistant to all substances that occur in domestic waste water. By working with a light material, large pipe lengths and plug connections, a very fast installation is guaranteed.

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 - NL - Hardenberg - Verified (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					Use stage							End-of-Life stage				
A1 Raw material supply A2 Transport A3 Manufacturing					B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment B6 Operational energy use B7 Operational water use							C1 De-construction demolition C2 Transport C3 Waste processing C4 Disposal				
Construction process stage					Benefits and loads beyond the system boundaries											
A4 Transport gate to site A5 Assembly / Construction installation process					D Reuse- Recovery- Recycling- potential											

Environmental impacts and parameters

ECI = Environmental Costs Indicator [euro]; **ADPE** = Abiotic depletion potential for non-fossil resources [kg Sb-eq]; **ADPF** = Abiotic depletion potential for fossil resources [kg Sb-eq]; **GWP** = Global warming potential [kg CO₂-eq]; **ODP** = Depletion potential of the stratospheric ozone layer [kg CFC-11-eq]; **POCP** = Formation potential of tropospheric ozone photochemical oxidants [kg ethene-eq]; **AP** = Acidification potential of land and water [kg SO₂-eq]; **EP** = Eutrophication potential [kg P₀₄ 3--eq]; **HTP** = Human toxicity potential [kg 1,4-DB-eq]; **FAETP** = Freshwater aquatic ecotoxicity potential [kg 1,4-DB-eq]; **MAETP** = Marine aquatic ecotoxicity potential [kg 1,4-DB-eq]; **TETP** = Terrestrial ecotoxicity potential [kg 1,4-DB-eq]; **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 [CTUh]; **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]

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Results

Environmental impact SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	0.14	0	0.01	0.15	0	0.05	0	-0.07	0.13
ADPE	kg Sb-eq	1.08E-3	4.85E-7	1.95E-6	1.09E-3	4.32E-7	3.53E-6	4.81E-9	-1.36E-5	1.08E-3
ADPF	kg Sb-eq	1.68E-2	1.40E-4	3.35E-4	1.73E-2	1.22E-4	1.24E-3	6.67E-6	-8.93E-3	9.73E-3
GWP	kg CO2-eq	1.30E+0	1.90E-2	6.35E-2	1.38E+0	1.66E-2	4.72E-1	4.97E-3	-7.30E-1	1.15E+0
ODP	kg CFC-11-eq	6.01E-7	3.37E-9	5.02E-9	6.09E-7	3.07E-9	4.69E-8	1.59E-10	-3.20E-7	3.40E-7
POCP	kg ethene-eq	8.70E-4	1.15E-5	2.76E-5	9.09E-4	9.93E-6	1.01E-4	1.25E-6	-3.94E-4	6.28E-4
AP	kg SO2-eq	5.15E-3	8.35E-5	2.73E-4	5.50E-3	7.12E-5	7.08E-4	3.59E-6	-2.38E-3	3.90E-3
EP	kg PO4 3--eq	6.38E-4	1.64E-5	3.51E-5	6.89E-4	1.42E-5	1.10E-4	1.64E-6	-3.11E-4	5.04E-4
HTP	kg 1,4-DB-eq	4.74E-1	8.00E-3	2.95E-2	5.11E-1	7.08E-3	1.96E-1	3.98E-4	-2.16E-1	4.99E-1
FAETP	kg 1,4-DB-eq	1.38E-2	2.33E-4	1.01E-3	1.51E-2	2.07E-4	3.09E-3	1.81E-4	-5.93E-3	1.26E-2
MAETP	kg 1,4-DB-eq	3.36E+1	8.40E-1	3.97E+0	3.84E+1	7.41E-1	9.94E+0	2.02E-1	-1.39E+1	3.53E+1
TETP	kg 1,4-DB-eq	3.23E-3	2.83E-5	2.19E-3	5.45E-3	2.51E-5	6.84E-4	1.22E-6	-1.95E-3	4.21E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.34E+0	1.92E-2	7.27E-2	1.43E+0	1.67E-2	4.99E-1	5.80E-3	-6.98E-1	1.26E+0
GWP-f	kg CO2 eq	1.33E+0	1.92E-2	5.58E-2	1.41E+0	1.67E-2	4.75E-1	5.80E-3	-7.47E-1	1.16E+0
GWP-b	kg CO2 eq	9.30E-3	8.84E-6	1.15E-2	2.08E-2	1.01E-5	2.35E-2	6.76E-6	5.04E-2	9.48E-2
GWP-luluc	kg CO2 eq	1.33E-3	7.02E-6	5.30E-3	6.63E-3	5.91E-6	1.86E-4	1.38E-7	-8.01E-4	6.02E-3
ODP	kg CFC11 eq	5.98E-7	4.23E-9	5.90E-9	6.08E-7	3.85E-9	4.87E-8	1.98E-10	-3.17E-7	3.44E-7
AP	mol H+ eq	6.24E-3	1.11E-4	3.40E-4	6.70E-3	9.51E-5	8.91E-4	4.80E-6	-2.88E-3	4.81E-3
EP-fw	kg P eq	5.75E-5	1.93E-7	9.78E-7	5.87E-5	1.37E-7	6.14E-6	6.28E-9	-2.86E-5	3.64E-5
EP-m	kg N eq	1.09E-3	3.91E-5	8.04E-5	1.21E-3	3.40E-5	2.23E-4	3.46E-6	-5.14E-4	9.56E-4
EP-T	mol N eq	1.19E-2	4.32E-4	8.87E-4	1.32E-2	3.75E-4	2.46E-3	1.92E-5	-5.54E-3	1.05E-2
POCP	kg NMVOC eq	4.14E-3	1.23E-4	2.52E-4	4.52E-3	1.07E-4	7.40E-4	6.72E-6	-1.92E-3	3.45E-3
ADP-mm	kg Sb eq	1.08E-3	4.85E-7	1.95E-6	1.09E-3	4.32E-7	3.53E-6	4.81E-9	-1.36E-5	1.08E-3
ADP-f	MJ	3.58E+1	2.89E-1	6.24E-1	3.67E+1	2.56E-1	2.46E+0	1.44E-2	-1.88E+1	2.07E+1
WDP	m3 depriv.	1.92E+0	1.03E-3	4.83E-1	2.40E+0	7.86E-4	9.06E-2	8.81E-5	-1.02E+0	1.47E+0
PM	disease inc.	4.68E-8	1.72E-9	4.20E-9	5.28E-8	1.51E-9	1.15E-8	9.93E-11	-2.24E-8	4.34E-8
IR	kBq U-235 eq	7.50E-2	1.21E-3	9.92E-4	7.72E-2	1.12E-3	8.52E-3	6.67E-5	-3.35E-2	5.34E-2
ETP-fw	CTUe	3.55E+1	2.58E-1	1.45E+0	3.72E+1	2.08E-1	1.68E+1	1.85E-1	-1.31E+1	4.13E+1
HTP-c	CTUh	9.64E-10	8.36E-12	5.02E-11	1.02E-9	7.40E-12	2.78E-10	3.91E-13	-3.74E-10	9.34E-10
HTP-nc	CTUh	3.11E-8	2.82E-10	1.57E-9	3.29E-8	2.48E-10	6.25E-9	3.67E-11	-1.28E-8	2.66E-8
SQP	Pt	6.50E+0	2.51E-1	4.67E-2	6.80E+0	2.19E-1	1.56E+0	3.70E-2	-1.15E+1	-2.91E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.00E+0	3.62E-3	3.04E+0	5.04E+0	3.68E-3	1.70E-1	5.52E-4	-2.47E+0	2.74E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.00E+0	3.62E-3	3.04E+0	5.04E+0	3.68E-3	1.70E-1	5.52E-4	-2.47E+0	2.74E+0
PENRE	MJ	3.84E+1	3.07E-1	6.75E-1	3.94E+1	2.72E-1	2.61E+0	1.53E-2	-2.02E+1	2.21E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.84E+1	3.07E-1	6.75E-1	3.94E+1	2.72E-1	2.61E+0	1.53E-2	-2.02E+1	2.21E+1
PET	MJ	4.04E+1	3.10E-1	3.71E+0	4.44E+1	2.76E-1	2.78E+0	1.59E-2	-2.27E+1	2.48E+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	2.33E-2	3.52E-5	1.14E-2	3.47E-2	2.90E-5	2.52E-3	1.77E-5	-1.22E-2	2.51E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.51E-4	7.32E-7	6.63E-7	1.53E-4	6.55E-7	4.03E-6	1.75E-8	-1.38E-5	1.44E-4
NHWD	kg	1.24E-1	1.83E-2	1.02E-3	1.43E-1	1.59E-2	9.35E-2	6.35E-2	-5.41E-2	2.62E-1
RWD	kg	7.05E-5	1.90E-6	1.23E-6	7.36E-5	1.74E-6	9.34E-6	9.41E-8	-2.98E-5	5.50E-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