Environmental Profile

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

Ecochain v3.5.80

Product:	3024586 - WfxPVC Coupler BR/GD 160 SN8
Unit:	1 piece
Manufacturer:	Wavin - NL - Hardenberg - Verified
Address:	J.C. Kellerlaan 3 7772 SG Hardenberg Netherlands

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.

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

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

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

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 PO4 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 [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 SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	0.15	0	0.01	0.16	0	0.05	0	-0.07	0.13
ADPE	kg Sb-eq	1.20E-3	4.88E-7	2.17E-6	1.20E-3	4.44E-7	3.77E-6	4.95E-9	-1.45E-5	1.19E-3
ADPF	kg Sb-eq	1.67E-2	1.41E-4	3.73E-4	1.73E-2	1.25E-4	1.31E-3	6.86E-6	-8.99E-3	9.71E-3
GWP	kg CO2-eq	1.33E+0	1.91E-2	7.08E-2	1.42E+0	1.70E-2	4.81E-1	4.95E-3	-7.47E-1	1.18E+0
ODP	kg CFC-11-eq	6.66E-7	3.39E-9	5.60E-9	6.75E-7	3.16E-9	5.20E-8	1.64E-10	-3.47E-7	3.84E-7
POCP	kg ethene-eq	8.44E-4	1.15E-5	3.08E-5	8.86E-4	1.02E-5	1.06E-4	1.26E-6	-3.97E-4	6.06E-4
AP	kg SO2-eq	5.30E-3	8.40E-5	3.05E-4	5.68E-3	7.33E-5	7.58E-4	3.69E-6	-2.48E-3	4.04E-3
EP	kg PO4 3−-eq	6.64E-4	1.65E-5	3.91E-5	7.20E-4	1.46E-5	1.16E-4	1.60E-6	-3.26E-4	5.26E-4
HTP	kg 1,4-DB-eq	4.98E-1	8.05E-3	3.29E-2	5.39E-1	7.28E-3	2.05E-1	4.02E-4	-2.29E-1	5.23E-1
FAETP	kg 1,4-DB-eq	1.47E-2	2.35E-4	1.12E-3	1.60E-2	2.13E-4	3.18E-3	1.61E-4	-6.29E-3	1.33E-2
MAETP	kg 1,4-DB-eq	3.53E+1	8.45E-1	4.43E+0	4.05E+1	7.62E-1	1.05E+1	1.85E-1	-1.48E+1	3.72E+1
TETP	kg 1,4-DB-eq	3.51E-3	2.84E-5	2.45E-3	5.98E-3	2.58E-5	7.21E-4	1.27E-6	-2.08E-3	4.65E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.37E+0	1.93E-2	8.11E-2	1.48E+0	1.72E-2	5.09E-1	5.78E-3	-7.12E-1	1.30E+0
GWP-f	kg CO2 eq	1.36E+0	1.93E-2	6.23E-2	1.44E+0	1.72E-2	4.84E-1	5.78E-3	-7.64E-1	1.19E+0
GWP-b	kg CO2 eq	1.10E-2	8.90E-6	1.29E-2	2.39E-2	1.04E-5	2.47E-2	6.93E-6	5.27E-2	1.01E-1
GWP-luluc	kg CO2 eq	1.41E-3	7.06E-6	5.91E-3	7.33E-3	6.07E-6	2.01E-4	1.43E-7	-8.48E-4	6.69E-3
ODP	kg CFC11 eq	6.60E-7	4.25E-9	6.58E-9	6.71E-7	3.96E-9	5.38E-8	2.03E-10	-3.43E-7	3.86E-7
AP	mol H+ eq	6.43E-3	1.12E-4	3.80E-4	6.92E-3	9.78E-5	9.53E-4	4.94E-6	-3.00E-3	4.98E-3
EP-fw	kg P eq	6.14E-5	1.94E-7	1.09E-6	6.27E-5	1.41E-7	6.66E-6	6.47E-9	-3.04E-5	3.91E-5
EP-m	kg N eq	1.13E-3	3.94E-5	8.97E-5	1.26E-3	3.50E-5	2.36E-4	3.37E-6	-5.34E-4	1.00E-3
EP-T	mol N eq	1.23E-2	4.34E-4	9.89E-4	1.37E-2	3.85E-4	2.60E-3	1.97E-5	-5.75E-3	1.10E-2
POCP	kg NMVOC eq	4.16E-3	1.24E-4	2.82E-4	4.56E-3	1.10E-4	7.82E-4	6.86E-6	-1.97E-3	3.49E-3
ADP-mm	kg Sb eq	1.20E-3	4.88E-7	2.17E-6	1.20E-3	4.44E-7	3.77E-6	4.95E-9	-1.45E-5	1.19E-3
ADP-f	MJ	3.56E+1	2.91E-1	6.96E-1	3.66E+1	2.63E-1	2.61E+0	1.48E-2	-1.89E+1	2.06E+1
WDP	m3 depriv.	2.07E+0	1.04E-3	5.39E-1	2.61E+0	8.08E-4	9.91E-2	9.29E-5	-1.09E+0	1.62E+0
PM	disease inc.	4.64E-8	1.73E-9	4.69E-9	5.28E-8	1.55E-9	1.21E-8	1.02E-10	-2.31E-8	4.34E-8
IR	kBq U-235 eq	7.71E-2	1.22E-3	1.11E-3	7.94E-2	1.15E-3	9.11E-3	6.85E-5	-3.57E-2	5.41E-2
ETP-fw	CTUe	3.80E+1	2.59E-1	1.62E+0	3.99E+1	2.14E-1	1.88E+1	2.08E-1	-1.39E+1	4.53E+1
HTP-c	CTUh	1.04E-9	8.41E-12	5.60E-11	1.11E-9	7.61E-12	2.93E-10	4.05E-13	-3.99E-10	1.01E-9
HTP-nc	CTUh	3.39E-8	2.83E-10	1.75E-9	3.59E-8	2.55E-10	6.79E-9	4.06E-11	-1.37E-8	2.93E-8
SQP	Pt	6.73E+0	2.52E-1	5.21E-2	7.04E+0	2.25E-1	1.63E+0	3.80E-2	-1.21E+1	-3.18E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.10E+0	3.64E-3	3.39E+0	5.49E+0	3.78E-3	1.84E-1	5.62E-4	-2.60E+0	3.08E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.10E+0	3.64E-3	3.39E+0	5.49E+0	3.78E-3	1.84E-1	5.62E-4	-2.60E+0	3.08E+0
PENRE	MJ	3.82E+1	3.09E-1	7.53E-1	3.93E+1	2.80E-1	2.77E+0	1.58E-2	-2.03E+1	2.20E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.82E+1	3.09E-1	7.53E-1	3.93E+1	2.80E-1	2.77E+0	1.58E-2	-2.03E+1	2.20E+1
PET	MJ	4.03E+1	3.12E-1	4.14E+0	4.47E+1	2.83E-1	2.96E+0	1.63E-2	-2.29E+1	2.51E+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	2.43E-2	3.54E-5	1.27E-2	3.71E-2	2.98E-5	2.74E-3	1.82E-5	-1.28E-2	2.71E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.70E-4	7.37E-7	7.40E-7	1.71E-4	6.74E-7	4.27E-6	1.80E-8	-1.46E-5	1.62E-4
NHWD	kg	1.33E-1	1.84E-2	1.14E-3	1.52E-1	1.63E-2	9.71E-2	6.53E-2	-5.76E-2	2.73E-1
RWD	kg	7.04E-5	1.91E-6	1.37E-6	7.36E-5	1.79E-6	9.89E-6	9.67E-8	-3.17E-5	5.37E-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