

Environmental Profile

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

Ecochain v3.5.80



Product:	3004229 - PVC RWA Tee 87.3° WT 80 S/RSP
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					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	0.04	0	0	0.04	0	0.01	0	-0.02	0.03
ADPE	kg Sb-eq	4.23E-4	1.17E-7	5.01E-7	4.24E-4	1.06E-7	9.75E-7	1.21E-9	-3.78E-6	4.21E-4
ADPF	kg Sb-eq	3.94E-3	3.37E-5	8.61E-5	4.06E-3	2.99E-5	3.34E-4	1.65E-6	-2.12E-3	2.31E-3
GWP	kg CO2-eq	3.47E-1	4.59E-3	1.63E-2	3.68E-1	4.07E-3	1.15E-1	1.13E-3	-1.84E-1	3.03E-1
ODP	kg CFC-11-eq	1.71E-7	8.14E-10	1.29E-9	1.73E-7	7.55E-10	1.37E-8	3.92E-11	-9.12E-8	9.65E-8
POCP	kg ethene-eq	2.10E-4	2.77E-6	7.10E-6	2.20E-4	2.44E-6	2.70E-5	2.93E-7	-9.76E-5	1.52E-4
AP	kg SO2-eq	1.44E-3	2.02E-5	7.03E-5	1.53E-3	1.75E-5	1.95E-4	8.91E-7	-6.54E-4	1.09E-3
EP	kg PO4 3--eq	1.90E-4	3.96E-6	9.03E-6	2.03E-4	3.50E-6	3.00E-5	3.45E-7	-9.52E-5	1.42E-4
HTP	kg 1,4-DB-eq	1.30E-1	1.93E-3	7.59E-3	1.40E-1	1.74E-3	5.11E-2	9.29E-5	-6.15E-2	1.31E-1
FAETP	kg 1,4-DB-eq	4.47E-3	5.64E-5	2.59E-4	4.79E-3	5.10E-5	7.86E-4	2.89E-5	-1.98E-3	3.67E-3
MAETP	kg 1,4-DB-eq	9.43E+0	2.03E-1	1.02E+0	1.07E+1	1.82E-1	2.75E+0	3.55E-2	-3.99E+0	9.64E+0
TETP	kg 1,4-DB-eq	9.50E-4	6.82E-6	5.65E-4	1.52E-3	6.17E-6	1.80E-4	3.13E-7	-6.62E-4	1.05E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	3.59E-1	4.63E-3	1.87E-2	3.82E-1	4.11E-3	1.28E-1	1.32E-3	-1.62E-1	3.53E-1
GWP-f	kg CO2 eq	3.55E-1	4.62E-3	1.44E-2	3.74E-1	4.11E-3	1.16E-1	1.32E-3	-1.88E-1	3.06E-1
GWP-b	kg CO2 eq	3.52E-3	2.13E-6	2.97E-3	6.49E-3	2.49E-6	1.22E-2	1.64E-6	2.69E-2	4.55E-2
GWP-luluc	kg CO2 eq	4.39E-4	1.69E-6	1.36E-3	1.81E-3	1.45E-6	5.12E-5	3.56E-8	-3.09E-4	1.55E-3
ODP	kg CFC11 eq	1.69E-7	1.02E-9	1.52E-9	1.71E-7	9.46E-10	1.42E-8	4.87E-11	-9.02E-8	9.64E-8
AP	mol H+ eq	1.76E-3	2.68E-5	8.76E-5	1.88E-3	2.34E-5	2.46E-4	1.19E-6	-7.94E-4	1.35E-3
EP-fw	kg P eq	1.72E-5	4.67E-8	2.52E-7	1.75E-5	3.38E-8	1.72E-6	1.59E-9	-8.90E-6	1.03E-5
EP-m	kg N eq	3.26E-4	9.45E-6	2.07E-5	3.56E-4	8.37E-6	6.10E-5	7.25E-7	-1.45E-4	2.81E-4
EP-T	mol N eq	3.43E-3	1.04E-4	2.28E-4	3.76E-3	9.22E-5	6.72E-4	4.74E-6	-1.57E-3	2.96E-3
POCP	kg NMVOC eq	1.10E-3	2.97E-5	6.50E-5	1.19E-3	2.64E-5	2.01E-4	1.63E-6	-5.09E-4	9.11E-4
ADP-mm	kg Sb eq	4.23E-4	1.17E-7	5.01E-7	4.24E-4	1.06E-7	9.75E-7	1.21E-9	-3.78E-6	4.21E-4
ADP-f	MJ	8.36E+0	6.97E-2	1.61E-1	8.59E+0	6.30E-2	6.61E-1	3.56E-3	-4.48E+0	4.84E+0
WDP	m3 depriv.	5.23E-1	2.49E-4	1.24E-1	6.48E-1	1.93E-4	2.56E-2	2.80E-5	-2.93E-1	3.80E-1
PM	disease inc.	1.26E-8	4.15E-10	1.08E-9	1.40E-8	3.71E-10	3.07E-9	2.45E-11	-6.84E-9	1.07E-8
IR	kBq U-235 eq	1.86E-2	2.92E-4	2.55E-4	1.92E-2	2.76E-4	2.34E-3	1.63E-5	-9.88E-3	1.19E-2
ETP-fw	CTUe	1.23E+1	6.22E-2	3.73E-1	1.27E+1	5.12E-2	5.00E+0	5.49E-2	-4.56E+0	1.33E+1
HTP-c	CTUh	2.97E-10	2.02E-12	1.29E-11	3.12E-10	1.82E-12	7.72E-11	1.02E-13	-1.09E-10	2.82E-10
HTP-nc	CTUh	9.52E-9	6.80E-11	4.03E-10	9.99E-9	6.10E-11	1.76E-9	1.06E-11	-3.77E-9	8.06E-9
SQP	Pt	2.18E+0	6.05E-2	1.20E-2	2.26E+0	5.39E-2	4.05E-1	9.11E-3	-5.48E+0	-2.76E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.31E-1	8.73E-4	7.81E-1	1.41E+0	9.04E-4	4.71E-2	1.30E-4	-1.10E+0	3.64E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.31E-1	8.73E-4	7.81E-1	1.41E+0	9.04E-4	4.71E-2	1.30E-4	-1.10E+0	3.64E-1
PENRE	MJ	8.98E+0	7.41E-2	1.74E-1	9.22E+0	6.69E-2	7.03E-1	3.78E-3	-4.82E+0	5.18E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.98E+0	7.41E-2	1.74E-1	9.22E+0	6.69E-2	7.03E-1	3.78E-3	-4.82E+0	5.18E+0
PET	MJ	9.61E+0	7.49E-2	9.55E-1	1.06E+1	6.78E-2	7.50E-1	3.91E-3	-5.92E+0	5.54E+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	6.20E-3	8.49E-6	2.94E-3	9.15E-3	7.13E-6	7.03E-4	4.34E-6	-3.69E-3	6.17E-3
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.91E-5	1.77E-7	1.71E-7	5.95E-5	1.61E-7	1.10E-6	4.38E-9	-3.85E-6	5.69E-5
NHWD	kg	3.61E-2	4.42E-3	2.63E-4	4.08E-2	3.91E-3	2.41E-2	1.56E-2	-1.57E-2	6.88E-2
RWD	kg	1.63E-5	4.58E-7	3.16E-7	1.70E-5	4.29E-7	2.54E-6	2.31E-8	-8.83E-6	1.12E-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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