

Environmental Profile

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

Ecochain v3.5.80



Product: 3001735 - KG Branch 87° DN200xDN200
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



The Wavin KG sewer pipes and fittings are suitable for drain and underground sewer applications. This easy push-fit rubber ring jointing system is durable, corrosion free and light weight.

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 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	0.61	0.01	0.03	0.65	0.01	0.17	0	-0.33	0.5
ADPE	kg Sb-eq	4.33E-3	2.70E-6	6.46E-6	4.34E-3	1.42E-6	1.28E-5	1.65E-8	-5.85E-5	4.30E-3
ADPF	kg Sb-eq	5.78E-2	7.77E-4	1.11E-3	5.96E-2	4.00E-4	4.45E-3	2.28E-5	-3.12E-2	3.33E-2
GWP	kg CO2-eq	4.85E+0	1.06E-1	2.11E-1	5.17E+0	5.45E-2	1.89E+0	1.59E-2	-2.79E+0	4.35E+0
ODP	kg CFC-11-eq	2.42E-6	1.88E-8	1.67E-8	2.45E-6	1.01E-8	1.84E-7	5.44E-10	-1.21E-6	1.44E-6
POCP	kg ethene-eq	3.51E-3	6.38E-5	9.15E-5	3.67E-3	3.27E-5	3.52E-4	4.09E-6	-1.80E-3	2.25E-3
AP	kg SO2-eq	2.02E-2	4.65E-4	9.05E-4	2.16E-2	2.35E-4	2.65E-3	1.23E-5	-9.48E-3	1.50E-2
EP	kg PO4 3--eq	2.56E-3	9.13E-5	1.16E-4	2.77E-3	4.69E-5	4.15E-4	5.52E-6	-1.30E-3	1.94E-3
HTP	kg 1,4-DB-eq	2.57E+0	4.45E-2	9.79E-2	2.72E+0	2.33E-2	6.59E-1	1.29E-3	-1.41E+0	1.99E+0
FAETP	kg 1,4-DB-eq	6.26E-2	1.30E-3	3.34E-3	6.72E-2	6.83E-4	1.01E-2	3.95E-4	-2.99E-2	4.85E-2
MAETP	kg 1,4-DB-eq	1.40E+2	4.67E+0	1.32E+1	1.58E+2	2.44E+0	3.38E+1	4.82E-1	-5.96E+1	1.35E+2
TETP	kg 1,4-DB-eq	1.58E-2	1.57E-4	7.28E-3	2.32E-2	8.27E-5	2.38E-3	4.35E-6	-8.53E-3	1.71E-2
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	3.00E+0	1.07E-1	2.41E-1	3.35E+0	5.50E-2	3.91E+0	1.86E-2	-2.87E+0	4.46E+0
GWP-f	kg CO2 eq	4.97E+0	1.07E-1	1.85E-1	5.26E+0	5.50E-2	1.91E+0	1.86E-2	-2.85E+0	4.39E+0
GWP-b	kg CO2 eq	-1.97E+0	4.92E-5	3.82E-2	-1.93E+0	3.34E-5	2.00E+0	2.30E-5	-1.56E-2	5.23E-2
GWP-luluc	kg CO2 eq	5.19E-3	3.91E-5	1.76E-2	2.28E-2	1.95E-5	6.81E-4	4.75E-7	-2.75E-3	2.08E-2
ODP	kg CFC11 eq	2.41E-6	2.35E-8	1.96E-8	2.45E-6	1.27E-8	1.90E-7	6.75E-10	-1.21E-6	1.45E-6
AP	mol H+ eq	2.45E-2	6.18E-4	1.13E-3	2.62E-2	3.13E-4	3.34E-3	1.64E-5	-1.16E-2	1.83E-2
EP-fw	kg P eq	2.32E-4	1.08E-6	3.24E-6	2.37E-4	4.52E-7	2.28E-5	2.15E-8	-1.08E-4	1.52E-4
EP-m	kg N eq	4.36E-3	2.18E-4	2.67E-4	4.84E-3	1.12E-4	8.43E-4	1.17E-5	-2.25E-3	3.57E-3
EP-T	mol N eq	4.80E-2	2.40E-3	2.94E-3	5.33E-2	1.24E-3	9.31E-3	6.55E-5	-2.50E-2	3.90E-2
POCP	kg NMVOC eq	1.68E-2	6.86E-4	8.37E-4	1.84E-2	3.53E-4	2.75E-3	2.27E-5	-8.62E-3	1.29E-2
ADP-mm	kg Sb eq	4.33E-3	2.70E-6	6.46E-6	4.34E-3	1.42E-6	1.28E-5	1.65E-8	-5.85E-5	4.30E-3
ADP-f	MJ	1.22E+2	1.61E+0	2.07E+0	1.26E+2	8.44E-1	8.82E+0	4.93E-2	-6.46E+1	7.07E+1
WDP	m3 depriv.	7.25E+0	5.75E-3	1.60E+0	8.85E+0	2.59E-3	3.43E-1	3.14E-4	-3.40E+0	5.80E+0
PM	disease inc.	2.06E-7	9.57E-9	1.39E-8	2.30E-7	4.96E-9	4.06E-8	3.39E-10	-1.07E-7	1.69E-7
IR	kBq U-235 eq	2.95E-1	6.74E-3	3.29E-3	3.05E-1	3.69E-3	3.15E-2	2.27E-4	-1.31E-1	2.09E-1
ETP-fw	CTUe	1.27E+2	1.43E+0	4.81E+0	1.33E+2	6.85E-1	6.69E+1	7.38E-1	-4.79E+1	1.53E+2
HTP-c	CTUh	5.74E-9	4.65E-11	1.66E-10	5.95E-9	2.44E-11	1.01E-9	1.36E-12	-2.97E-9	4.01E-9
HTP-nc	CTUh	1.39E-7	1.57E-9	5.20E-9	1.46E-7	8.17E-10	2.35E-8	1.43E-10	-6.11E-8	1.09E-7
SQP	Pt	1.84E+2	1.39E+0	1.55E-1	1.86E+2	7.22E-1	5.45E+0	1.26E-1	-1.59E+2	3.35E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.03E+1	2.01E-2	1.01E+1	4.03E+1	1.21E-2	6.26E-1	1.87E-3	-2.66E+1	1.44E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.03E+1	2.01E-2	1.01E+1	4.03E+1	1.21E-2	6.26E-1	1.87E-3	-2.66E+1	1.44E+1
PENRE	MJ	1.31E+2	1.71E+0	2.24E+0	1.35E+2	8.96E-1	9.38E+0	5.23E-2	-6.95E+1	7.54E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.31E+2	1.71E+0	2.24E+0	1.35E+2	8.96E-1	9.38E+0	5.23E-2	-6.95E+1	7.54E+1
PET	MJ	1.61E+2	1.73E+0	1.23E+1	1.75E+2	9.08E-1	1.00E+1	5.42E-2	-9.61E+1	8.98E+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	8.68E-2	1.96E-4	3.79E-2	1.25E-1	9.55E-5	9.89E-3	6.05E-5	-3.85E-2	9.64E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.25E-4	4.07E-6	2.20E-6	6.31E-4	2.16E-6	1.48E-5	6.00E-8	-6.75E-5	5.81E-4
NHWD	kg	5.99E-1	1.02E-1	3.39E-3	7.04E-1	5.23E-2	3.34E-1	2.17E-1	-3.08E-1	1.00E+0
RWD	kg	2.78E-4	1.06E-5	4.08E-6	2.92E-4	5.74E-6	3.42E-5	3.21E-7	-1.21E-4	2.12E-4
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