

Environmental Profile

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

Ecochain v3.5.80



Product: 3001611 - KG Branch 87° BR DN100xDN100 EXP
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	0.13	0	0.01	0.14	0	0.04	0	-0.06	0.12
ADPE	kg Sb-eq	1.12E-3	3.92E-7	1.70E-6	1.12E-3	3.67E-7	3.23E-6	4.23E-9	-1.36E-5	1.11E-3
ADPF	kg Sb-eq	1.40E-2	1.13E-4	2.92E-4	1.44E-2	1.03E-4	1.12E-3	5.87E-6	-7.27E-3	8.31E-3
GWP	kg CO2-eq	1.15E+0	1.53E-2	5.53E-2	1.22E+0	1.41E-2	4.75E-1	4.09E-3	-6.29E-1	1.09E+0
ODP	kg CFC-11-eq	6.16E-7	2.72E-9	4.37E-9	6.24E-7	2.61E-9	4.68E-8	1.40E-10	-3.05E-7	3.68E-7
POCP	kg ethene-eq	7.19E-4	9.26E-6	2.40E-5	7.52E-4	8.45E-6	8.79E-5	1.05E-6	-3.14E-4	5.36E-4
AP	kg SO2-eq	4.70E-3	6.75E-5	2.38E-4	5.00E-3	6.06E-5	6.57E-4	3.16E-6	-2.03E-3	3.69E-3
EP	kg PO4 3--eq	5.93E-4	1.33E-5	3.06E-5	6.37E-4	1.21E-5	1.01E-4	1.40E-6	-2.70E-4	4.82E-4
HTP	kg 1,4-DB-eq	4.56E-1	6.46E-3	2.57E-2	4.89E-1	6.03E-3	1.69E-1	3.31E-4	-1.95E-1	4.69E-1
FAETP	kg 1,4-DB-eq	1.32E-2	1.89E-4	8.78E-4	1.43E-2	1.76E-4	2.58E-3	1.02E-4	-5.23E-3	1.19E-2
MAETP	kg 1,4-DB-eq	3.27E+1	6.78E-1	3.46E+0	3.68E+1	6.30E-1	8.83E+0	1.24E-1	-1.26E+1	3.38E+1
TETP	kg 1,4-DB-eq	3.18E-3	2.28E-5	1.91E-3	5.11E-3	2.13E-5	6.09E-4	1.12E-6	-1.74E-3	4.01E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.19E+0	1.55E-2	6.33E-2	1.27E+0	1.42E-2	4.97E-1	4.77E-3	-6.04E-1	1.18E+0
GWP-f	kg CO2 eq	1.18E+0	1.55E-2	4.87E-2	1.24E+0	1.42E-2	4.78E-1	4.76E-3	-6.43E-1	1.10E+0
GWP-b	kg CO2 eq	8.91E-3	7.14E-6	1.00E-2	1.90E-2	8.62E-6	1.87E-2	5.92E-6	3.96E-2	7.73E-2
GWP-luluc	kg CO2 eq	1.25E-3	5.67E-6	4.62E-3	5.87E-3	5.03E-6	1.74E-4	1.22E-7	-6.87E-4	5.37E-3
ODP	kg CFC11 eq	6.13E-7	3.42E-9	5.14E-9	6.21E-7	3.27E-9	4.82E-8	1.74E-10	-3.02E-7	3.70E-7
AP	mol H+ eq	5.70E-3	8.98E-5	2.97E-4	6.09E-3	8.09E-5	8.25E-4	4.23E-6	-2.46E-3	4.54E-3
EP-fw	kg P eq	5.53E-5	1.56E-7	8.52E-7	5.63E-5	1.17E-7	5.83E-6	5.54E-9	-2.56E-5	3.67E-5
EP-m	kg N eq	1.00E-3	3.16E-5	7.01E-5	1.10E-3	2.89E-5	2.03E-4	2.98E-6	-4.40E-4	8.97E-4
EP-T	mol N eq	1.09E-2	3.49E-4	7.73E-4	1.20E-2	3.19E-4	2.24E-3	1.69E-5	-4.73E-3	9.83E-3
POCP	kg NMVOC eq	3.62E-3	9.96E-5	2.20E-4	3.94E-3	9.12E-5	6.66E-4	5.83E-6	-1.59E-3	3.12E-3
ADP-mm	kg Sb eq	1.12E-3	3.92E-7	1.70E-6	1.12E-3	3.67E-7	3.23E-6	4.23E-9	-1.36E-5	1.11E-3
ADP-f	MJ	2.96E+1	2.33E-1	5.44E-1	3.04E+1	2.18E-1	2.21E+0	1.27E-2	-1.52E+1	1.76E+1
WDP	m3 depriv.	1.85E+0	8.35E-4	4.21E-1	2.27E+0	6.69E-4	8.84E-2	8.09E-5	-9.11E-1	1.45E+0
PM	disease inc.	4.12E-8	1.39E-9	3.66E-9	4.62E-8	1.28E-9	1.01E-8	8.73E-11	-1.84E-8	3.93E-8
IR	kBq U-235 eq	7.00E-2	9.78E-4	8.65E-4	7.19E-2	9.53E-4	7.80E-3	5.85E-5	-3.04E-2	5.03E-2
ETP-fw	CTUe	3.42E+1	2.08E-1	1.26E+0	3.56E+1	1.77E-1	1.73E+1	1.91E-1	-1.15E+1	4.18E+1
HTP-c	CTUh	9.47E-10	6.75E-12	4.37E-11	9.98E-10	6.30E-12	2.45E-10	3.50E-13	-3.39E-10	9.10E-10
HTP-nc	CTUh	3.09E-8	2.28E-10	1.37E-9	3.25E-8	2.11E-10	5.99E-9	3.70E-11	-1.17E-8	2.70E-8
SQP	Pt	5.85E+0	2.02E-1	4.07E-2	6.10E+0	1.86E-1	1.35E+0	3.25E-2	-9.37E+0	-1.71E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.82E+0	2.92E-3	2.64E+0	4.47E+0	3.13E-3	1.60E-1	4.81E-4	-2.04E+0	2.59E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.82E+0	2.92E-3	2.64E+0	4.47E+0	3.13E-3	1.60E-1	4.81E-4	-2.04E+0	2.59E+0
PENRE	MJ	3.18E+1	2.48E-1	5.88E-1	3.26E+1	2.31E-1	2.35E+0	1.35E-2	-1.64E+1	1.88E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.18E+1	2.48E-1	5.88E-1	3.26E+1	2.31E-1	2.35E+0	1.35E-2	-1.64E+1	1.88E+1
PET	MJ	3.36E+1	2.51E-1	3.23E+0	3.71E+1	2.35E-1	2.51E+0	1.39E-2	-1.85E+1	2.14E+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	2.16E-2	2.84E-5	9.95E-3	3.15E-2	2.47E-5	2.51E-3	1.56E-5	-1.05E-2	2.35E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.57E-4	5.91E-7	5.78E-7	1.58E-4	5.57E-7	3.66E-6	1.54E-8	-1.31E-5	1.49E-4
NHWD	kg	1.21E-1	1.48E-2	8.92E-4	1.37E-1	1.35E-2	8.14E-2	5.58E-2	-4.89E-2	2.39E-1
RWD	kg	6.49E-5	1.53E-6	1.07E-6	6.75E-5	1.48E-6	8.35E-6	8.26E-8	-2.72E-5	5.02E-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