

Environmental Profile

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

Ecochain v3.5.80



Product: 3001648 - KG Reducer DN200xDN150 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	0.26	0	0.01	0.27	0	0.09	0	-0.13	0.24
ADPE	kg Sb-eq	2.26E-3	7.84E-7	3.44E-6	2.26E-3	7.42E-7	6.56E-6	8.46E-9	-2.67E-5	2.24E-3
ADPF	kg Sb-eq	2.74E-2	2.26E-4	5.92E-4	2.83E-2	2.09E-4	2.28E-3	1.17E-5	-1.46E-2	1.62E-2
GWP	kg CO2-eq	2.27E+0	3.07E-2	1.12E-1	2.41E+0	2.85E-2	8.97E-1	8.09E-3	-1.25E+0	2.09E+0
ODP	kg CFC-11-eq	1.25E-6	5.44E-9	8.88E-9	1.26E-6	5.28E-9	9.55E-8	2.79E-10	-6.20E-7	7.40E-7
POCP	kg ethene-eq	1.38E-3	1.85E-5	4.88E-5	1.45E-3	1.71E-5	1.79E-4	2.09E-6	-6.32E-4	1.01E-3
AP	kg SO2-eq	9.21E-3	1.35E-4	4.83E-4	9.83E-3	1.22E-4	1.33E-3	6.31E-6	-4.10E-3	7.19E-3
EP	kg PO4 3--eq	1.16E-3	2.65E-5	6.21E-5	1.25E-3	2.45E-5	2.04E-4	2.69E-6	-5.40E-4	9.41E-4
HTP	kg 1,4-DB-eq	8.97E-1	1.29E-2	5.22E-2	9.62E-1	1.22E-2	3.45E-1	6.62E-4	-3.94E-1	9.26E-1
FAETP	kg 1,4-DB-eq	2.59E-2	3.77E-4	1.78E-3	2.81E-2	3.56E-4	5.24E-3	2.03E-4	-1.04E-2	2.35E-2
MAETP	kg 1,4-DB-eq	6.39E+1	1.36E+0	7.02E+0	7.22E+1	1.27E+0	1.79E+1	2.48E-1	-2.54E+1	6.63E+1
TETP	kg 1,4-DB-eq	6.36E-3	4.56E-5	3.88E-3	1.03E-2	4.31E-5	1.24E-3	2.23E-6	-3.47E-3	8.10E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.34E+0	3.10E-2	1.29E-1	2.50E+0	2.87E-2	9.38E-1	9.44E-3	-1.21E+0	2.27E+0
GWP-f	kg CO2 eq	2.32E+0	3.09E-2	9.88E-2	2.45E+0	2.87E-2	9.03E-1	9.43E-3	-1.28E+0	2.11E+0
GWP-b	kg CO2 eq	1.95E-2	1.43E-5	2.04E-2	3.99E-2	1.74E-5	3.44E-2	1.18E-5	7.22E-2	1.47E-1
GWP-luluc	kg CO2 eq	2.45E-3	1.13E-5	9.38E-3	1.18E-2	1.02E-5	3.55E-4	2.44E-7	-1.34E-3	1.09E-2
ODP	kg CFC11 eq	1.23E-6	6.83E-9	1.04E-8	1.25E-6	6.61E-9	9.83E-8	3.47E-10	-6.15E-7	7.42E-7
AP	mol H+ eq	1.12E-2	1.79E-4	6.02E-4	1.20E-2	1.63E-4	1.67E-3	8.44E-6	-4.96E-3	8.85E-3
EP-fw	kg P eq	1.10E-4	3.12E-7	1.73E-6	1.12E-4	2.36E-7	1.19E-5	1.11E-8	-5.14E-5	7.28E-5
EP-m	kg N eq	1.96E-3	6.32E-5	1.42E-4	2.17E-3	5.85E-5	4.09E-4	5.69E-6	-8.83E-4	1.76E-3
EP-T	mol N eq	2.13E-2	6.97E-4	1.57E-3	2.36E-2	6.44E-4	4.51E-3	3.37E-5	-9.48E-3	1.93E-2
POCP	kg NMVOC eq	7.03E-3	1.99E-4	4.46E-4	7.67E-3	1.84E-4	1.35E-3	1.16E-5	-3.19E-3	6.02E-3
ADP-mm	kg Sb eq	2.26E-3	7.84E-7	3.44E-6	2.26E-3	7.42E-7	6.56E-6	8.46E-9	-2.67E-5	2.24E-3
ADP-f	MJ	5.83E+1	4.67E-1	1.10E+0	5.99E+1	4.40E-1	4.50E+0	2.53E-2	-3.06E+1	3.43E+1
WDP	m3 depriv.	3.73E+0	1.67E-3	8.55E-1	4.58E+0	1.35E-3	1.80E-1	1.63E-4	-1.85E+0	2.92E+0
PM	disease inc.	7.82E-8	2.78E-9	7.44E-9	8.85E-8	2.59E-9	2.05E-8	1.74E-10	-3.66E-8	7.51E-8
IR	kBq U-235 eq	1.36E-1	1.95E-3	1.76E-3	1.40E-1	1.92E-3	1.59E-2	1.17E-4	-6.13E-2	9.65E-2
ETP-fw	CTUe	6.71E+1	4.16E-1	2.56E+0	7.01E+1	3.57E-1	3.52E+1	3.90E-1	-2.28E+1	8.33E+1
HTP-c	CTUh	1.89E-9	1.35E-11	8.88E-11	2.00E-9	1.27E-11	4.98E-10	6.99E-13	-6.85E-10	1.82E-9
HTP-nc	CTUh	6.21E-8	4.55E-10	2.77E-9	6.53E-8	4.26E-10	1.22E-8	7.52E-11	-2.36E-8	5.43E-8
SQP	Pt	1.12E+1	4.05E-1	8.26E-2	1.17E+1	3.77E-1	2.74E+0	6.49E-2	-1.76E+1	-2.72E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.56E+0	5.84E-3	5.37E+0	8.94E+0	6.32E-3	3.26E-1	9.55E-4	-3.88E+0	5.39E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.56E+0	5.84E-3	5.37E+0	8.94E+0	6.32E-3	3.26E-1	9.55E-4	-3.88E+0	5.39E+0
PENRE	MJ	6.26E+1	4.95E-1	1.19E+0	6.42E+1	4.67E-1	4.79E+0	2.69E-2	-3.29E+1	3.66E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.26E+1	4.95E-1	1.19E+0	6.42E+1	4.67E-1	4.79E+0	2.69E-2	-3.29E+1	3.66E+1
PET	MJ	6.61E+1	5.01E-1	6.56E+0	7.32E+1	4.74E-1	5.11E+0	2.78E-2	-3.68E+1	4.20E+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	4.27E-2	5.68E-5	2.02E-2	6.30E-2	4.98E-5	5.04E-3	3.11E-5	-2.12E-2	4.69E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.19E-4	1.18E-6	1.17E-6	3.21E-4	1.13E-6	7.40E-6	3.08E-8	-2.60E-5	3.04E-4
NHWD	kg	2.39E-1	2.96E-2	1.81E-3	2.70E-1	2.73E-2	1.64E-1	1.11E-1	-9.90E-2	4.74E-1
RWD	kg	1.23E-4	3.06E-6	2.17E-6	1.29E-4	2.99E-6	1.70E-5	1.65E-7	-5.47E-5	9.41E-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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