Environmental Profile

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

Ecochain v3.5.80

Product:	3031694 - KG Repair Coupler DN125 GY
Unit:	1 piece
Manufacturer:	Wavin - NL - Hardenberg - Verified
Address:	J.C. Kellerlaan 3 7772 SG Hardenberg Netherlands

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.

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

Results

Environmental impact SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	0.08	0	0	0.09	0	0.03	0	-0.04	0.08
ADPE	kg Sb-eq	6.09E-4	2.25E-7	8.51E-7	6.10E-4	2.00E-7	1.69E-6	2.44E-9	-8.31E-6	6.04E-4
ADPF	kg Sb-eq	8.63E-3	6.48E-5	1.46E-4	8.84E-3	5.63E-5	5.85E-4	3.38E-6	-4.14E-3	5.34E-3
GWP	kg CO2-eq	7.01E-1	8.81E-3	2.78E-2	7.37E-1	7.67E-3	3.45E-1	2.45E-3	-3.68E-1	7.24E-1
ODP	kg CFC-11-eq	3.36E-7	1.56E-9	2.20E-9	3.39E-7	1.42E-9	2.42E-8	8.07E-11	-1.60E-7	2.05E-7
POCP	kg ethene-eq	4.93E-4	5.31E-6	1.21E-5	5.11E-4	4.60E-6	4.65E-5	6.20E-7	-1.74E-4	3.88E-4
AP	kg SO2-eq	2.94E-3	3.87E-5	1.19E-4	3.10E-3	3.30E-5	3.51E-4	1.83E-6	-1.12E-3	2.37E-3
EP	kg PO4 3−-eq	3.74E-4	7.61E-6	1.53E-5	3.97E-4	6.59E-6	5.61E-5	9.65E-7	-1.56E-4	3.05E-4
HTP	kg 1,4-DB-eq	2.83E-1	3.71E-3	1.29E-2	3.00E-1	3.28E-3	8.81E-2	1.91E-4	-1.06E-1	2.85E-1
FAETP	kg 1,4-DB-eq	8.22E-3	1.08E-4	4.41E-4	8.77E-3	9.61E-5	1.36E-3	5.82E-5	-3.07E-3	7.21E-3
MAETP	kg 1,4-DB-eq	2.07E+1	3.89E-1	1.74E+0	2.28E+1	3.43E-1	4.68E+0	7.06E-2	-6.82E+0	2.11E+1
TETP	kg 1,4-DB-eq	1.82E-3	1.31E-5	9.59E-4	2.79E-3	1.16E-5	3.19E-4	6.50E-7	-1.02E-3	2.10E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	7.20E-1	8.89E-3	3.18E-2	7.60E-1	7.74E-3	3.61E-1	2.85E-3	-3.43E-1	7.89E-1
GWP-f	kg CO2 eq	7.16E-1	8.88E-3	2.44E-2	7.49E-1	7.73E-3	3.46E-1	2.85E-3	-3.76E-1	7.31E-1
GWP-b	kg CO2 eq	2.85E-3	4.10E-6	5.04E-3	7.90E-3	4.69E-6	1.51E-2	3.44E-6	3.29E-2	5.59E-2
GWP-luluc	kg CO2 eq	7.90E-4	3.25E-6	2.32E-3	3.11E-3	2.74E-6	8.96E-5	7.06E-8	-4.41E-4	2.76E-3
ODP	kg CFC11 eq	3.38E-7	1.96E-9	2.58E-9	3.43E-7	1.78E-9	2.50E-8	1.00E-10	-1.60E-7	2.10E-7
AP	mol H+ eq	3.57E-3	5.15E-5	1.49E-4	3.77E-3	4.40E-5	4.43E-4	2.44E-6	-1.36E-3	2.90E-3
EP-fw	kg P eq	3.25E-5	8.96E-8	4.28E-7	3.30E-5	6.36E-8	3.01E-6	3.20E-9	-1.43E-5	2.18E-5
EP-m	kg N eq	6.25E-4	1.82E-5	3.52E-5	6.78E-4	1.58E-5	1.12E-4	2.07E-6	-2.49E-4	5.58E-4
EP-T	mol N eq	6.81E-3	2.00E-4	3.88E-4	7.40E-3	1.74E-4	1.23E-3	9.74E-6	-2.69E-3	6.12E-3
POCP	kg NMVOC eq	2.37E-3	5.71E-5	1.10E-4	2.54E-3	4.96E-5	3.64E-4	3.39E-6	-8.95E-4	2.06E-3
ADP-mm	kg Sb eq	6.09E-4	2.25E-7	8.51E-7	6.10E-4	2.00E-7	1.69E-6	2.44E-9	-8.31E-6	6.04E-4
ADP-f	MJ	1.82E+1	1.34E-1	2.73E-1	1.86E+1	1.19E-1	1.16E+0	7.32E-3	-8.61E+0	1.13E+1
WDP	m3 depriv.	1.01E+0	4.79E-4	2.11E-1	1.22E+0	3.64E-4	4.64E-2	4.51E-5	-4.85E-1	7.83E-1
PM	disease inc.	2.92E-8	7.98E-10	1.84E-9	3.19E-8	6.98E-10	5.33E-9	5.03E-11	-1.09E-8	2.71E-8
IR	kBq U-235 eq	4.53E-2	5.61E-4	4.34E-4	4.63E-2	5.19E-4	4.08E-3	3.39E-5	-1.68E-2	3.42E-2
ETP-fw	CTUe	2.12E+1	1.19E-1	6.34E-1	2.20E+1	9.64E-2	9.00E+0	9.91E-2	-6.94E+0	2.42E+1
HTP-c	CTUh	5.43E-10	3.87E-12	2.19E-11	5.69E-10	3.43E-12	1.28E-10	2.01E-13	-1.84E-10	5.16E-10
HTP-nc	CTUh	1.72E-8	1.31E-10	6.85E-10	1.80E-8	1.15E-10	3.15E-9	1.96E-11	-6.26E-9	1.51E-8
SQP	Pt	4.10E+0	1.16E-1	2.04E-2	4.24E+0	1.02E-1	7.02E-1	1.87E-2	-7.08E+0	-2.02E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.15E+0	1.68E-3	1.33E+0	2.48E+0	1.70E-3	8.27E-2	2.85E-4	-1.46E+0	1.11E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.15E+0	1.68E-3	1.33E+0	2.48E+0	1.70E-3	8.27E-2	2.85E-4	-1.46E+0	1.11E+0
PENRE	MJ	1.95E+1	1.42E-1	2.95E-1	1.99E+1	1.26E-1	1.23E+0	7.77E-3	-9.29E+0	1.20E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.95E+1	1.42E-1	2.95E-1	1.99E+1	1.26E-1	1.23E+0	7.77E-3	-9.29E+0	1.20E+1
PET	MJ	2.07E+1	1.44E-1	1.62E+0	2.24E+1	1.28E-1	1.31E+0	8.05E-3	-1.07E+1	1.31E+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	1.28E-2	1.63E-5	4.99E-3	1.78E-2	1.34E-5	1.42E-3	9.00E-6	-5.93E-3	1.34E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.17E-5	3.39E-7	2.90E-7	8.23E-5	3.03E-7	1.99E-6	8.88E-9	-7.63E-6	7.70E-5
NHWD	kg	7.38E-2	8.50E-3	4.48E-4	8.28E-2	7.36E-3	4.46E-2	3.21E-2	-2.63E-2	1.41E-1
RWD	kg	4.59E-5	8.80E-7	5.37E-7	4.73E-5	8.07E-7	4.40E-6	4.77E-8	-1.53E-5	3.73E-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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