Environmental Profile

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

Ecochain v3.5.80

Product:	3001699 - KG Double Socket Coupler BR DN125 SN4
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	0.09	0	0	0.1	0	0.03	0	-0.04	0.08
ADPE	kg Sb-eq	6.34E-4	3.40E-7	8.90E-7	6.35E-4	2.08E-7	1.75E-6	2.53E-9	-9.02E-6	6.28E-4
ADPF	kg Sb-eq	9.19E-3	9.79E-5	1.53E-4	9.44E-3	5.86E-5	6.15E-4	3.51E-6	-4.54E-3	5.57E-3
GWP	kg CO2-eq	7.49E-1	1.33E-2	2.90E-2	7.91E-1	7.98E-3	3.58E-1	2.53E-3	-4.07E-1	7.53E-1
ODP	kg CFC-11-eq	3.50E-7	2.36E-9	2.29E-9	3.55E-7	1.48E-9	2.53E-8	8.37E-11	-1.69E-7	2.13E-7
POCP	kg ethene-eq	5.72E-4	8.03E-6	1.26E-5	5.93E-4	4.79E-6	4.83E-5	6.43E-7	-2.30E-4	4.16E-4
AP	kg SO2-eq	3.17E-3	5.85E-5	1.25E-4	3.36E-3	3.44E-5	3.70E-4	1.89E-6	-1.25E-3	2.51E-3
EP	kg PO4 3−-eq	3.93E-4	1.15E-5	1.60E-5	4.20E-4	6.86E-6	5.93E-5	9.92E-7	-1.66E-4	3.21E-4
HTP	kg 1,4-DB-eq	3.65E-1	5.60E-3	1.35E-2	3.85E-1	3.41E-3	9.13E-2	1.98E-4	-1.69E-1	3.11E-1
FAETP	kg 1,4-DB-eq	8.92E-3	1.64E-4	4.61E-4	9.54E-3	1.00E-4	1.43E-3	6.04E-5	-3.58E-3	7.55E-3
MAETP	kg 1,4-DB-eq	2.23E+1	5.89E-1	1.81E+0	2.47E+1	3.57E-1	4.71E+0	7.33E-2	-7.83E+0	2.20E+1
TETP	kg 1,4-DB-eq	2.15E-3	1.98E-5	1.00E-3	3.18E-3	1.21E-5	3.34E-4	6.74E-7	-1.05E-3	2.48E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	5.74E-1	1.34E-2	3.32E-2	6.21E-1	8.05E-3	5.55E-1	2.96E-3	-4.19E-1	7.69E-1
GWP-f	kg CO2 eq	7.67E-1	1.34E-2	2.55E-2	8.06E-1	8.05E-3	3.60E-1	2.95E-3	-4.16E-1	7.61E-1
GWP-b	kg CO2 eq	-1.93E-1	6.20E-6	5.27E-3	-1.88E-1	4.89E-6	1.95E-1	3.57E-6	-2.11E-3	5.39E-3
GWP-luluc	kg CO2 eq	7.46E-4	4.92E-6	2.42E-3	3.17E-3	2.85E-6	9.40E-5	7.33E-8	-3.31E-4	2.94E-3
ODP	kg CFC11 eq	3.53E-7	2.96E-9	2.70E-9	3.59E-7	1.85E-9	2.62E-8	1.04E-10	-1.69E-7	2.18E-7
AP	mol H+ eq	3.83E-3	7.79E-5	1.56E-4	4.07E-3	4.58E-5	4.67E-4	2.53E-6	-1.53E-3	3.05E-3
EP-fw	kg P eq	3.44E-5	1.35E-7	4.47E-7	3.50E-5	6.62E-8	3.15E-6	3.32E-9	-1.41E-5	2.41E-5
EP-m	kg N eq	6.62E-4	2.74E-5	3.68E-5	7.27E-4	1.64E-5	1.19E-4	2.12E-6	-2.92E-4	5.72E-4
EP-T	mol N eq	7.33E-3	3.02E-4	4.05E-4	8.03E-3	1.81E-4	1.31E-3	1.01E-5	-3.21E-3	6.32E-3
POCP	kg NMVOC eq	2.66E-3	8.64E-5	1.15E-4	2.86E-3	5.17E-5	3.85E-4	3.51E-6	-1.11E-3	2.19E-3
ADP-mm	kg Sb eq	6.34E-4	3.40E-7	8.90E-7	6.35E-4	2.08E-7	1.75E-6	2.53E-9	-9.02E-6	6.28E-4
ADP-f	MJ	1.93E+1	2.02E-1	2.85E-1	1.98E+1	1.24E-1	1.22E+0	7.59E-3	-9.35E+0	1.18E+1
WDP	m3 depriv.	1.06E+0	7.24E-4	2.21E-1	1.28E+0	3.79E-4	4.84E-2	4.69E-5	-4.67E-1	8.61E-1
PM	disease inc.	3.31E-8	1.21E-9	1.92E-9	3.62E-8	7.26E-10	5.59E-9	5.22E-11	-1.29E-8	2.97E-8
IR	kBq U-235 eq	4.81E-2	8.48E-4	4.54E-4	4.94E-2	5.40E-4	4.32E-3	3.52E-5	-1.76E-2	3.67E-2
ETP-fw	CTUe	1.90E+1	1.81E-1	6.63E-1	1.99E+1	1.00E-1	9.36E+0	1.03E-1	-6.06E+0	2.34E+1
HTP-c	CTUh	7.57E-10	5.86E-12	2.29E-11	7.86E-10	3.57E-12	1.38E-10	2.08E-13	-3.43E-10	5.84E-10
HTP-nc	CTUh	1.96E-8	1.97E-10	7.16E-10	2.05E-8	1.20E-10	3.29E-9	2.04E-11	-7.71E-9	1.62E-8
SQP	Pt	1.92E+1	1.76E-1	2.13E-2	1.94E+1	1.06E-1	7.48E-1	1.94E-2	-1.58E+1	4.54E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.29E+0	2.53E-3	1.39E+0	4.68E+0	1.77E-3	8.68E-2	2.95E-4	-2.69E+0	2.08E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.29E+0	2.53E-3	1.39E+0	4.68E+0	1.77E-3	8.68E-2	2.95E-4	-2.69E+0	2.08E+0
PENRE	MJ	2.07E+1	2.15E-1	3.08E-1	2.12E+1	1.31E-1	1.30E+0	8.06E-3	-1.01E+1	1.26E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.07E+1	2.15E-1	3.08E-1	2.12E+1	1.31E-1	1.30E+0	8.06E-3	-1.01E+1	1.26E+1
PET	MJ	2.40E+1	2.17E-1	1.70E+0	2.59E+1	1.33E-1	1.38E+0	8.35E-3	-1.28E+1	1.47E+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	1.34E-2	2.47E-5	5.22E-3	1.87E-2	1.40E-5	1.48E-3	9.33E-6	-5.23E-3	1.50E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.68E-5	5.13E-7	3.03E-7	8.77E-5	3.16E-7	2.09E-6	9.22E-9	-9.36E-6	8.07E-5
NHWD	kg	8.60E-2	1.28E-2	4.68E-4	9.93E-2	7.66E-3	4.77E-2	3.33E-2	-3.75E-2	1.50E-1
RWD	kg	4.85E-5	1.33E-6	5.62E-7	5.04E-5	8.40E-7	4.67E-6	4.95E-8	-1.63E-5	3.97E-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

Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
https://www.ecochain.com
+31 20 3035 777