

Environmental Profile

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

Ecochain v3.5.80



Product: 3003119 - Wadal PVC Bend 88° GY 110 S/SP
Unit: 1 piece
Manufacturer: Wavin - NL - Hardenberg - Verified
Address: J.C. Kellerlaan 3
7772 SG Hardenberg
Netherlands

With Wadal you opt for a tensile-resistant system whose connections cannot slide apart. There is a solution for every indoor drainage situation, thanks to the very extensive range of PVC adhesive fittings and pipes. KOMO certified.

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					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]

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Results

Environmental impact SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	0.09	0	0.01	0.1	0	0.03	0	-0.05	0.08
ADPE	kg Sb-eq	8.46E-4	2.97E-7	1.29E-6	8.47E-4	2.78E-7	2.53E-6	3.10E-9	-9.68E-6	8.41E-4
ADPF	kg Sb-eq	9.91E-3	8.56E-5	2.21E-4	1.02E-2	7.82E-5	8.72E-4	4.30E-6	-5.44E-3	5.73E-3
GWP	kg CO2-eq	8.31E-1	1.16E-2	4.19E-2	8.85E-1	1.07E-2	2.97E-1	2.92E-3	-4.67E-1	7.28E-1
ODP	kg CFC-11-eq	4.69E-7	2.06E-9	3.31E-9	4.74E-7	1.98E-9	3.66E-8	1.02E-10	-2.36E-7	2.76E-7
POCP	kg ethene-eq	4.75E-4	7.02E-6	1.82E-5	5.01E-4	6.39E-6	6.90E-5	7.59E-7	-2.43E-4	3.34E-4
AP	kg SO2-eq	3.33E-3	5.12E-5	1.80E-4	3.56E-3	4.58E-5	5.09E-4	2.31E-6	-1.60E-3	2.52E-3
EP	kg PO4 3--eq	4.30E-4	1.01E-5	2.32E-5	4.63E-4	9.16E-6	7.72E-5	9.12E-7	-2.18E-4	3.33E-4
HTP	kg 1,4-DB-eq	3.25E-1	4.90E-3	1.95E-2	3.49E-1	4.56E-3	1.32E-1	2.43E-4	-1.53E-1	3.34E-1
FAETP	kg 1,4-DB-eq	9.90E-3	1.43E-4	6.65E-4	1.07E-2	1.33E-4	2.01E-3	7.48E-5	-4.32E-3	8.60E-3
MAETP	kg 1,4-DB-eq	2.30E+1	5.14E-1	2.62E+0	2.61E+1	4.77E-1	6.96E+0	9.15E-2	-9.88E+0	2.38E+1
TETP	kg 1,4-DB-eq	2.41E-3	1.73E-5	1.45E-3	3.88E-3	1.61E-5	4.72E-4	8.17E-7	-1.45E-3	2.92E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	8.60E-1	1.17E-2	4.80E-2	9.19E-1	1.07E-2	3.18E-1	3.41E-3	-4.38E-1	8.14E-1
GWP-f	kg CO2 eq	8.50E-1	1.17E-2	3.69E-2	8.99E-1	1.07E-2	2.99E-1	3.41E-3	-4.78E-1	7.35E-1
GWP-b	kg CO2 eq	8.52E-3	5.42E-6	7.61E-3	1.61E-2	6.52E-6	1.88E-2	4.31E-6	4.05E-2	7.54E-2
GWP-luluc	kg CO2 eq	9.69E-4	4.30E-6	3.50E-3	4.47E-3	3.80E-6	1.36E-4	8.95E-8	-6.01E-4	4.01E-3
ODP	kg CFC11 eq	4.62E-7	2.59E-9	3.90E-9	4.69E-7	2.47E-9	3.77E-8	1.27E-10	-2.34E-7	2.75E-7
AP	mol H+ eq	4.06E-3	6.80E-5	2.25E-4	4.35E-3	6.12E-5	6.39E-4	3.09E-6	-1.94E-3	3.12E-3
EP-fw	kg P eq	4.12E-5	1.18E-7	6.46E-7	4.20E-5	8.84E-8	4.55E-6	4.05E-9	-2.07E-5	2.59E-5
EP-m	kg N eq	7.29E-4	2.40E-5	5.31E-5	8.06E-4	2.19E-5	1.56E-4	1.92E-6	-3.47E-4	6.40E-4
EP-T	mol N eq	7.85E-3	2.64E-4	5.85E-4	8.70E-3	2.41E-4	1.72E-3	1.23E-5	-3.73E-3	6.94E-3
POCP	kg NMVOC eq	2.51E-3	7.55E-5	1.67E-4	2.75E-3	6.90E-5	5.15E-4	4.25E-6	-1.24E-3	2.10E-3
ADP-mm	kg Sb eq	8.46E-4	2.97E-7	1.29E-6	8.47E-4	2.78E-7	2.53E-6	3.10E-9	-9.68E-6	8.41E-4
ADP-f	MJ	2.11E+1	1.77E-1	4.12E-1	2.17E+1	1.65E-1	1.72E+0	9.29E-3	-1.15E+1	1.21E+1
WDP	m3 depriv.	1.40E+0	6.33E-4	3.19E-1	1.72E+0	5.06E-4	6.83E-2	6.02E-5	-7.25E-1	1.06E+0
PM	disease inc.	2.75E-8	1.05E-9	2.77E-9	3.13E-8	9.69E-10	7.89E-9	6.40E-11	-1.51E-8	2.51E-8
IR	kBq U-235 eq	4.84E-2	7.41E-4	6.55E-4	4.98E-2	7.21E-4	6.11E-3	4.27E-5	-2.40E-2	3.27E-2
ETP-fw	CTUe	2.62E+1	1.58E-1	9.57E-1	2.73E+1	1.34E-1	1.34E+1	1.48E-1	-9.66E+0	3.14E+1
HTP-c	CTUh	7.05E-10	5.12E-12	3.31E-11	7.43E-10	4.76E-12	1.92E-10	2.57E-13	-2.68E-10	6.72E-10
HTP-nc	CTUh	2.33E-8	1.73E-10	1.03E-9	2.45E-8	1.60E-10	4.64E-9	2.84E-11	-9.26E-9	2.01E-8
SQP	Pt	4.50E+0	1.54E-1	3.08E-2	4.68E+0	1.41E-1	1.05E+0	2.38E-2	-9.01E+0	-3.11E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.42E+0	2.22E-3	2.00E+0	3.42E+0	2.37E-3	1.25E-1	3.47E-4	-1.90E+0	1.65E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.42E+0	2.22E-3	2.00E+0	3.42E+0	2.37E-3	1.25E-1	3.47E-4	-1.90E+0	1.65E+0
PENRE	MJ	2.27E+1	1.88E-1	4.45E-1	2.33E+1	1.75E-1	1.83E+0	9.86E-3	-1.23E+1	1.30E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.27E+1	1.88E-1	4.45E-1	2.33E+1	1.75E-1	1.83E+0	9.86E-3	-1.23E+1	1.30E+1
PET	MJ	2.41E+1	1.90E-1	2.45E+0	2.67E+1	1.77E-1	1.96E+0	1.02E-2	-1.42E+1	1.46E+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	1.57E-2	2.16E-5	7.54E-3	2.33E-2	1.87E-5	1.87E-3	1.14E-5	-8.54E-3	1.66E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.22E-4	4.48E-7	4.38E-7	1.22E-4	4.22E-7	2.82E-6	1.13E-8	-9.72E-6	1.16E-4
NHWD	kg	8.87E-2	1.12E-2	6.76E-4	1.01E-1	1.02E-2	6.21E-2	4.08E-2	-3.87E-2	1.75E-1
RWD	kg	4.21E-5	1.16E-6	8.11E-7	4.40E-5	1.12E-6	6.54E-6	6.04E-8	-2.14E-5	3.04E-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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