

Environmental Profile

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

Ecochain v3.5.80



Product: 3003122 - Wadal PVC Bend 45° GY 160 S/SP
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



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.

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	0.19	0	0.01	0.21	0	0.06	0	-0.1	0.17
ADPE	kg Sb-eq	1.72E-3	6.17E-7	2.66E-6	1.72E-3	5.64E-7	5.19E-6	6.30E-9	-1.98E-5	1.71E-3
ADPF	kg Sb-eq	2.03E-2	1.78E-4	4.57E-4	2.09E-2	1.59E-4	1.78E-3	8.72E-6	-1.11E-2	1.17E-2
GWP	kg CO2-eq	1.71E+0	2.42E-2	8.68E-2	1.82E+0	2.16E-2	6.05E-1	5.93E-3	-9.64E-1	1.49E+0
ODP	kg CFC-11-eq	9.54E-7	4.28E-9	6.86E-9	9.65E-7	4.01E-9	7.46E-8	2.08E-10	-4.82E-7	5.62E-7
POCP	kg ethene-eq	9.77E-4	1.46E-5	3.77E-5	1.03E-3	1.30E-5	1.42E-4	1.54E-6	-5.05E-4	6.81E-4
AP	kg SO2-eq	6.86E-3	1.06E-4	3.73E-4	7.34E-3	9.30E-5	1.04E-3	4.69E-6	-3.35E-3	5.13E-3
EP	kg PO4 3--eq	9.02E-4	2.09E-5	4.79E-5	9.71E-4	1.86E-5	1.59E-4	1.85E-6	-4.71E-4	6.79E-4
HTP	kg 1,4-DB-eq	6.68E-1	1.02E-2	4.03E-2	7.19E-1	9.25E-3	2.71E-1	4.93E-4	-3.18E-1	6.82E-1
FAETP	kg 1,4-DB-eq	2.11E-2	2.97E-4	1.38E-3	2.28E-2	2.71E-4	4.13E-3	1.52E-4	-9.57E-3	1.78E-2
MAETP	kg 1,4-DB-eq	4.73E+1	1.07E+0	5.42E+0	5.38E+1	9.68E-1	1.44E+1	1.86E-1	-2.06E+1	4.88E+1
TETP	kg 1,4-DB-eq	5.01E-3	3.59E-5	3.00E-3	8.04E-3	3.28E-5	9.60E-4	1.66E-6	-3.20E-3	5.83E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.77E+0	2.44E-2	9.93E-2	1.89E+0	2.18E-2	6.60E-1	6.92E-3	-8.76E-1	1.71E+0
GWP-f	kg CO2 eq	1.75E+0	2.44E-2	7.63E-2	1.85E+0	2.18E-2	6.10E-1	6.92E-3	-9.84E-1	1.51E+0
GWP-b	kg CO2 eq	1.77E-2	1.12E-5	1.57E-2	3.34E-2	1.32E-5	5.03E-2	8.75E-6	1.10E-1	1.94E-1
GWP-luluc	kg CO2 eq	2.12E-3	8.92E-6	7.24E-3	9.37E-3	7.71E-6	2.76E-4	1.82E-7	-1.41E-3	8.24E-3
ODP	kg CFC11 eq	9.41E-7	5.38E-9	8.06E-9	9.55E-7	5.02E-9	7.69E-8	2.58E-10	-4.77E-7	5.60E-7
AP	mol H+ eq	8.38E-3	1.41E-4	4.65E-4	8.99E-3	1.24E-4	1.31E-3	6.28E-6	-4.07E-3	6.36E-3
EP-fw	kg P eq	8.54E-5	2.46E-7	1.34E-6	8.70E-5	1.79E-7	9.26E-6	8.22E-9	-4.44E-5	5.20E-5
EP-m	kg N eq	1.53E-3	4.98E-5	1.10E-4	1.69E-3	4.44E-5	3.22E-4	3.89E-6	-7.34E-4	1.32E-3
EP-T	mol N eq	1.64E-2	5.49E-4	1.21E-3	1.81E-2	4.90E-4	3.55E-3	2.50E-5	-7.92E-3	1.43E-2
POCP	kg NMVOC eq	5.19E-3	1.57E-4	3.45E-4	5.69E-3	1.40E-4	1.06E-3	8.62E-6	-2.60E-3	4.30E-3
ADP-mm	kg Sb eq	1.72E-3	6.17E-7	2.66E-6	1.72E-3	5.64E-7	5.19E-6	6.30E-9	-1.98E-5	1.71E-3
ADP-f	MJ	4.32E+1	3.67E-1	8.53E-1	4.45E+1	3.35E-1	3.52E+0	1.89E-2	-2.35E+1	2.48E+1
WDP	m3 depriv.	2.85E+0	1.31E-3	6.60E-1	3.51E+0	1.03E-3	1.39E-1	1.22E-4	-1.51E+0	2.14E+0
PM	disease inc.	5.79E-8	2.19E-9	5.74E-9	6.58E-8	1.97E-9	1.62E-8	1.30E-10	-3.32E-8	5.09E-8
IR	kBq U-235 eq	9.95E-2	1.54E-3	1.36E-3	1.02E-1	1.46E-3	1.25E-2	8.67E-5	-5.05E-2	6.59E-2
ETP-fw	CTUe	5.67E+1	3.28E-1	1.98E+0	5.90E+1	2.72E-1	2.73E+1	3.01E-1	-2.17E+1	6.52E+1
HTP-c	CTUh	1.44E-9	1.06E-11	6.86E-11	1.52E-9	9.67E-12	3.93E-10	5.21E-13	-5.60E-10	1.37E-9
HTP-nc	CTUh	4.77E-8	3.58E-10	2.14E-9	5.02E-8	3.24E-10	9.47E-9	5.77E-11	-1.94E-8	4.07E-8
SQP	Pt	1.03E+1	3.19E-1	6.38E-2	1.06E+1	2.86E-1	2.15E+0	4.83E-2	-2.33E+1	-1.02E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.11E+0	4.60E-3	4.15E+0	7.26E+0	4.80E-3	2.54E-1	7.04E-4	-4.77E+0	2.75E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.11E+0	4.60E-3	4.15E+0	7.26E+0	4.80E-3	2.54E-1	7.04E-4	-4.77E+0	2.75E+0
PENRE	MJ	4.64E+1	3.90E-1	9.22E-1	4.77E+1	3.55E-1	3.75E+0	2.00E-2	-2.53E+1	2.65E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.64E+1	3.90E-1	9.22E-1	4.77E+1	3.55E-1	3.75E+0	2.00E-2	-2.53E+1	2.65E+1
PET	MJ	4.95E+1	3.95E-1	5.07E+0	5.50E+1	3.60E-1	4.00E+0	2.07E-2	-3.01E+1	2.93E+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	3.22E-2	4.47E-5	1.56E-2	4.79E-2	3.79E-5	3.81E-3	2.31E-5	-1.84E-2	3.34E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.47E-4	9.31E-7	9.06E-7	2.49E-4	8.56E-7	5.79E-6	2.30E-8	-2.01E-5	2.36E-4
NHWD	kg	1.85E-1	2.33E-2	1.40E-3	2.10E-1	2.07E-2	1.27E-1	8.29E-2	-8.07E-2	3.60E-1
RWD	kg	8.67E-5	2.41E-6	1.68E-6	9.07E-5	2.28E-6	1.34E-5	1.23E-7	-4.50E-5	6.16E-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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