

Environmental Profile

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

Ecochain v3.5.80



Product: 3003142 - Wadal PVC Bend 45° GY 160 S/S
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	0.18	0	0.01	0.19	0	0.06	0	-0.09	0.16
ADPE	kg Sb-eq	1.62E-3	5.85E-7	2.51E-6	1.62E-3	5.31E-7	4.90E-6	5.93E-9	-1.87E-5	1.61E-3
ADPF	kg Sb-eq	1.92E-2	1.68E-4	4.31E-4	1.98E-2	1.50E-4	1.68E-3	8.22E-6	-1.05E-2	1.11E-2
GWP	kg CO2-eq	1.62E+0	2.29E-2	8.17E-2	1.72E+0	2.04E-2	5.71E-1	5.59E-3	-9.12E-1	1.41E+0
ODP	kg CFC-11-eq	8.99E-7	4.06E-9	6.46E-9	9.10E-7	3.78E-9	7.03E-8	1.96E-10	-4.54E-7	5.30E-7
POCP	kg ethene-eq	9.23E-4	1.38E-5	3.55E-5	9.72E-4	1.22E-5	1.34E-4	1.45E-6	-4.79E-4	6.42E-4
AP	kg SO2-eq	6.49E-3	1.01E-4	3.51E-4	6.94E-3	8.76E-5	9.85E-4	4.42E-6	-3.18E-3	4.83E-3
EP	kg PO4 3--eq	8.57E-4	1.98E-5	4.52E-5	9.22E-4	1.75E-5	1.50E-4	1.74E-6	-4.51E-4	6.40E-4
HTP	kg 1,4-DB-eq	6.31E-1	9.63E-3	3.80E-2	6.79E-1	8.71E-3	2.56E-1	4.64E-4	-3.01E-1	6.43E-1
FAETP	kg 1,4-DB-eq	2.01E-2	2.81E-4	1.30E-3	2.17E-2	2.55E-4	3.90E-3	1.43E-4	-9.21E-3	1.68E-2
MAETP	kg 1,4-DB-eq	4.48E+1	1.01E+0	5.11E+0	5.09E+1	9.12E-1	1.36E+1	1.75E-1	-1.95E+1	4.61E+1
TETP	kg 1,4-DB-eq	4.74E-3	3.40E-5	2.82E-3	7.60E-3	3.09E-5	9.05E-4	1.56E-6	-3.08E-3	5.45E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.67E+0	2.31E-2	9.35E-2	1.79E+0	2.05E-2	6.25E-1	6.52E-3	-8.22E-1	1.62E+0
GWP-f	kg CO2 eq	1.66E+0	2.31E-2	7.19E-2	1.75E+0	2.05E-2	5.75E-1	6.52E-3	-9.31E-1	1.42E+0
GWP-b	kg CO2 eq	1.68E-2	1.07E-5	1.48E-2	3.16E-2	1.25E-5	5.04E-2	8.24E-6	1.10E-1	1.92E-1
GWP-luluc	kg CO2 eq	2.04E-3	8.45E-6	6.82E-3	8.87E-3	7.27E-6	2.60E-4	1.71E-7	-1.38E-3	7.76E-3
ODP	kg CFC11 eq	8.88E-7	5.09E-9	7.60E-9	9.00E-7	4.73E-9	7.25E-8	2.43E-10	-4.50E-7	5.28E-7
AP	mol H+ eq	7.93E-3	1.34E-4	4.38E-4	8.50E-3	1.17E-4	1.24E-3	5.92E-6	-3.86E-3	6.00E-3
EP-fw	kg P eq	8.09E-5	2.33E-7	1.26E-6	8.24E-5	1.69E-7	8.73E-6	7.74E-9	-4.25E-5	4.89E-5
EP-m	kg N eq	1.45E-3	4.72E-5	1.04E-4	1.60E-3	4.18E-5	3.04E-4	3.67E-6	-6.98E-4	1.25E-3
EP-T	mol N eq	1.55E-2	5.20E-4	1.14E-3	1.72E-2	4.61E-4	3.35E-3	2.36E-5	-7.54E-3	1.35E-2
POCP	kg NMVOC eq	4.91E-3	1.48E-4	3.25E-4	5.38E-3	1.32E-4	1.00E-3	8.12E-6	-2.47E-3	4.06E-3
ADP-mm	kg Sb eq	1.62E-3	5.85E-7	2.51E-6	1.62E-3	5.31E-7	4.90E-6	5.93E-9	-1.87E-5	1.61E-3
ADP-f	MJ	4.08E+1	3.48E-1	8.03E-1	4.20E+1	3.15E-1	3.32E+0	1.78E-2	-2.22E+1	2.34E+1
WDP	m3 depriv.	2.69E+0	1.24E-3	6.22E-1	3.31E+0	9.67E-4	1.31E-1	1.15E-4	-1.43E+0	2.01E+0
PM	disease inc.	5.51E-8	2.07E-9	5.41E-9	6.25E-8	1.85E-9	1.53E-8	1.22E-10	-3.20E-8	4.79E-8
IR	kBq U-235 eq	9.40E-2	1.46E-3	1.28E-3	9.67E-2	1.38E-3	1.18E-2	8.16E-5	-4.80E-2	6.20E-2
ETP-fw	CTUe	5.43E+1	3.10E-1	1.87E+0	5.64E+1	2.56E-1	2.57E+1	2.84E-1	-2.10E+1	6.17E+1
HTP-c	CTUh	1.36E-9	1.01E-11	6.46E-11	1.44E-9	9.11E-12	3.71E-10	4.91E-13	-5.31E-10	1.29E-9
HTP-nc	CTUh	4.50E-8	3.39E-10	2.02E-9	4.74E-8	3.05E-10	8.93E-9	5.44E-11	-1.84E-8	3.83E-8
SQP	Pt	9.93E+0	3.02E-1	6.01E-2	1.03E+1	2.70E-1	2.02E+0	4.55E-2	-2.32E+1	-1.05E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.98E+0	4.36E-3	3.91E+0	6.89E+0	4.52E-3	2.39E-1	6.63E-4	-4.71E+0	2.43E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.98E+0	4.36E-3	3.91E+0	6.89E+0	4.52E-3	2.39E-1	6.63E-4	-4.71E+0	2.43E+0
PENRE	MJ	4.38E+1	3.69E-1	8.69E-1	4.50E+1	3.35E-1	3.54E+0	1.88E-2	-2.39E+1	2.50E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.38E+1	3.69E-1	8.69E-1	4.50E+1	3.35E-1	3.54E+0	1.88E-2	-2.39E+1	2.50E+1
PET	MJ	4.68E+1	3.74E-1	4.78E+0	5.19E+1	3.39E-1	3.78E+0	1.95E-2	-2.86E+1	2.74E+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	3.05E-2	4.24E-5	1.47E-2	4.52E-2	3.57E-5	3.59E-3	2.18E-5	-1.76E-2	3.13E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.33E-4	8.82E-7	8.53E-7	2.35E-4	8.06E-7	5.47E-6	2.16E-8	-1.90E-5	2.22E-4
NHWD	kg	1.75E-1	2.21E-2	1.32E-3	1.99E-1	1.95E-2	1.20E-1	7.81E-2	-7.65E-2	3.40E-1
RWD	kg	8.19E-5	2.29E-6	1.58E-6	8.58E-5	2.14E-6	1.27E-5	1.16E-7	-4.28E-5	5.80E-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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