Environmental Profile

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

Ecochain v3.5.80

Product:	3003175 - Wadal PVC Tee 45° GY 110x40 S/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

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	0.08	0	0.03	0	-0.04	0.07
ADPE	kg Sb-eq	6.97E-4	2.45E-7	1.08E-6	6.98E-4	2.29E-7	2.08E-6	2.55E-9	-7.97E-6	6.92E-4
ADPF	kg Sb-eq	8.16E-3	7.04E-5	1.86E-4	8.42E-3	6.44E-5	7.18E-4	3.54E-6	-4.48E-3	4.72E-3
GWP	kg CO2-eq	6.84E-1	9.57E-3	3.52E-2	7.29E-1	8.77E-3	2.45E-1	2.41E-3	-3.85E-1	6.01E-1
ODP	kg CFC-11-eq	3.86E-7	1.70E-9	2.78E-9	3.90E-7	1.63E-9	3.01E-8	8.44E-11	-1.95E-7	2.27E-7
POCP	kg ethene-eq	3.92E-4	5.78E-6	1.53E-5	4.13E-4	5.26E-6	5.68E-5	6.25E-7	-2.00E-4	2.75E-4
AP	kg SO2-eq	2.74E-3	4.21E-5	1.51E-4	2.94E-3	3.78E-5	4.19E-4	1.90E-6	-1.32E-3	2.08E-3
EP	kg PO4 3−-eq	3.54E-4	8.27E-6	1.95E-5	3.81E-4	7.54E-6	6.35E-5	7.51E-7	-1.79E-4	2.74E-4
HTP	kg 1,4-DB-eq	2.68E-1	4.03E-3	1.64E-2	2.88E-1	3.75E-3	1.09E-1	2.00E-4	-1.26E-1	2.75E-1
FAETP	kg 1,4-DB-eq	8.13E-3	1.18E-4	5.59E-4	8.81E-3	1.10E-4	1.66E-3	6.16E-5	-3.54E-3	7.09E-3
MAETP	kg 1,4-DB-eq	1.89E+1	4.23E-1	2.20E+0	2.15E+1	3.93E-1	5.73E+0	7.53E-2	-8.13E+0	1.96E+1
TETP	kg 1,4-DB-eq	1.99E-3	1.42E-5	1.22E-3	3.22E-3	1.33E-5	3.88E-4	6.73E-7	-1.18E-3	2.43E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	7.08E-1	9.66E-3	4.03E-2	7.58E-1	8.85E-3	2.62E-1	2.81E-3	-3.61E-1	6.70E-1
GWP-f	kg CO2 eq	7.00E-1	9.65E-3	3.10E-2	7.41E-1	8.84E-3	2.46E-1	2.81E-3	-3.93E-1	6.06E-1
GWP-b	kg CO2 eq	7.00E-3	4.46E-6	6.39E-3	1.34E-2	5.37E-6	1.52E-2	3.55E-6	3.28E-2	6.14E-2
GWP-luluc	kg CO2 eq	7.95E-4	3.54E-6	2.94E-3	3.74E-3	3.13E-6	1.12E-4	7.37E-8	-4.91E-4	3.36E-3
ODP	kg CFC11 eq	3.81E-7	2.13E-9	3.27E-9	3.86E-7	2.04E-9	3.10E-8	1.05E-10	-1.93E-7	2.27E-7
AP	mol H+ eq	3.34E-3	5.60E-5	1.89E-4	3.59E-3	5.04E-5	5.26E-4	2.55E-6	-1.59E-3	2.57E-3
EP-fw	kg P eq	3.39E-5	9.74E-8	5.42E-7	3.46E-5	7.28E-8	3.75E-6	3.33E-9	-1.70E-5	2.14E-5
EP-m	kg N eq	6.00E-4	1.97E-5	4.46E-5	6.64E-4	1.80E-5	1.28E-4	1.58E-6	-2.85E-4	5.27E-4
EP-T	mol N eq	6.46E-3	2.17E-4	4.92E-4	7.17E-3	1.99E-4	1.42E-3	1.02E-5	-3.06E-3	5.73E-3
POCP	kg NMVOC eq	2.06E-3	6.21E-5	1.40E-4	2.27E-3	5.68E-5	4.23E-4	3.50E-6	-1.02E-3	1.73E-3
ADP-mm	kg Sb eq	6.97E-4	2.45E-7	1.08E-6	6.98E-4	2.29E-7	2.08E-6	2.55E-9	-7.97E-6	6.92E-4
ADP-f	MJ	1.74E+1	1.46E-1	3.46E-1	1.79E+1	1.36E-1	1.42E+0	7.65E-3	-9.44E+0	1.00E+1
WDP	m3 depriv.	1.15E+0	5.21E-4	2.68E-1	1.42E+0	4.17E-4	5.63E-2	4.96E-5	-5.96E-1	8.82E-1
PM	disease inc.	2.26E-8	8.67E-10	2.33E-9	2.58E-8	7.98E-10	6.50E-9	5.27E-11	-1.24E-8	2.08E-8
IR	kBq U-235 eq	3.99E-2	6.10E-4	5.50E-4	4.10E-2	5.93E-4	5.03E-3	3.52E-5	-1.97E-2	2.69E-2
ETP-fw	CTUe	2.15E+1	1.30E-1	8.04E-1	2.25E+1	1.10E-1	1.11E+1	1.22E-1	-7.92E+0	2.58E+1
HTP-c	CTUh	5.80E-10	4.21E-12	2.78E-11	6.12E-10	3.92E-12	1.58E-10	2.11E-13	-2.20E-10	5.54E-10
HTP-nc	CTUh	1.92E-8	1.42E-10	8.69E-10	2.02E-8	1.31E-10	3.82E-9	2.34E-11	-7.62E-9	1.66E-8
SQP	Pt	3.68E+0	1.26E-1	2.59E-2	3.84E+0	1.16E-1	8.65E-1	1.96E-2	-7.31E+0	-2.48E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.16E+0	1.82E-3	1.68E+0	2.85E+0	1.95E-3	1.03E-1	2.86E-4	-1.55E+0	1.41E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.16E+0	1.82E-3	1.68E+0	2.85E+0	1.95E-3	1.03E-1	2.86E-4	-1.55E+0	1.41E+0
PENRE	MJ	1.87E+1	1.55E-1	3.74E-1	1.92E+1	1.44E-1	1.51E+0	8.12E-3	-1.02E+1	1.07E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.87E+1	1.55E-1	3.74E-1	1.92E+1	1.44E-1	1.51E+0	8.12E-3	-1.02E+1	1.07E+1
PET	MJ	1.98E+1	1.56E-1	2.06E+0	2.20E+1	1.46E-1	1.61E+0	8.40E-3	-1.17E+1	1.21E+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	1.29E-2	1.77E-5	6.33E-3	1.93E-2	1.54E-5	1.54E-3	9.37E-6	-7.01E-3	1.38E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.00E-4	3.69E-7	3.68E-7	1.01E-4	3.47E-7	2.32E-6	9.32E-9	-8.00E-6	9.56E-5
NHWD	kg	7.30E-2	9.23E-3	5.67E-4	8.28E-2	8.41E-3	5.11E-2	3.36E-2	-3.18E-2	1.44E-1
RWD	kg	3.46E-5	9.56E-7	6.81E-7	3.63E-5	9.23E-7	5.39E-6	4.98E-8	-1.76E-5	2.51E-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