Environmental Profile

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

Ecochain v3.5.80

Product:	3003114 - Wadal PVC Bend 45° GY 75 S/SP
Unit:	1 piece
Manufacturer:	Wavin - PL -Buk - Extra products

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:	EN15804+A2 (2019)
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 - PL -Buk - Extra products (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

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	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	3.30E-1	4.67E-3	1.45E-4	3.35E-1	4.42E-3	2.11E-1	1.41E-3	-1.98E-1	3.54E-1
GWP-f	kg CO2 eq	3.93E-1	4.66E-3	1.46E-4	3.97E-1	4.42E-3	1.37E-1	1.41E-3	-2.13E-1	3.27E-1
GWP-b	kg CO2 eq	-6.27E-2	2.83E-6	-1.54E-6	-6.27E-2	2.68E-6	7.38E-2	1.77E-6	1.54E-2	2.64E-2
GWP-luluc	kg CO2 eq	4.47E-4	1.65E-6	1.49E-7	4.48E-4	1.56E-6	5.59E-5	3.72E-8	-2.70E-4	2.36E-4
ODP	kg CFC11 eq	1.93E-7	1.07E-9	8.26E-12	1.94E-7	1.02E-9	1.55E-8	5.23E-11	-9.81E-8	1.12E-7
AP	mol H+ eq	1.89E-3	2.66E-5	1.47E-6	1.91E-3	2.52E-5	2.66E-4	1.28E-6	-8.57E-4	1.35E-3
EP-fw	kg P eq	1.82E-5	3.84E-8	8.24E-9	1.83E-5	3.64E-8	1.87E-6	1.68E-9	-8.84E-6	1.14E-5
EP-m	kg N eq	3.40E-4	9.51E-6	1.55E-7	3.50E-4	9.01E-6	6.58E-5	7.87E-7	-1.59E-4	2.66E-4
EP-T	mol N eq	3.70E-3	1.05E-4	1.85E-6	3.80E-3	9.92E-5	7.25E-4	5.08E-6	-1.73E-3	2.90E-3
POCP	kg NMVOC eq	1.21E-3	2.99E-5	6.28E-7	1.24E-3	2.84E-5	2.17E-4	1.75E-6	-5.82E-4	9.07E-4
ADP-mm	kg Sb eq	3.47E-4	1.21E-7	1.97E-8	3.47E-4	1.14E-7	1.05E-6	1.28E-9	-4.13E-6	3.44E-4
ADP-f	MJ	9.46E+0	7.16E-2	1.36E-3	9.54E+0	6.78E-2	7.14E-1	3.82E-3	-5.00E+0	5.32E+0
WDP	m3 depriv.	5.91E-1	2.20E-4	5.22E-5	5.91E-1	2.08E-4	2.80E-2	2.60E-5	-2.99E-1	3.20E-1
PM	disease inc.	1.38E-8	4.21E-10	9.08E-12	1.43E-8	3.99E-10	3.29E-9	2.63E-11	-7.30E-9	1.07E-8
IR	kBq U-235 eq	2.11E-2	3.13E-4	1.02E-6	2.14E-2	2.96E-4	2.53E-3	1.76E-5	-1.03E-2	1.40E-2
ETP-fw	CTUe	1.16E+1	5.81E-2	1.21E-2	1.17E+1	5.51E-2	5.50E+0	6.06E-2	-4.15E+0	1.32E+1
HTP-c	CTUh	3.50E-10	2.07E-12	6.17E-13	3.53E-10	1.96E-12	8.19E-11	1.06E-13	-1.34E-10	3.03E-10
HTP-nc	CTUh	1.05E-8	6.93E-11	1.57E-11	1.06E-8	6.57E-11	1.92E-9	1.16E-11	-4.00E-9	8.64E-9
SQP	Pt	7.55E+0	6.13E-2	2.24E-3	7.61E+0	5.80E-2	4.37E-1	9.79E-3	-8.15E+0	-3.65E-2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.28E+0	1.03E-3	2.40E-2	2.31E+0	9.73E-4	5.13E-2	1.42E-4	-1.44E+0	9.20E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.28E+0	1.03E-3	2.40E-2	2.31E+0	9.73E-4	5.13E-2	1.42E-4	-1.44E+0	9.20E-1
PENRE	MJ	1.02E+1	7.60E-2	1.44E-3	1.02E+1	7.20E-2	7.60E-1	4.06E-3	-5.39E+0	5.68E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.02E+1	7.60E-2	1.44E-3	1.02E+1	7.20E-2	7.60E-1	4.06E-3	-5.39E+0	5.68E+0
PET	MJ	1.24E+1	7.70E-2	2.55E-2	1.25E+1	7.30E-2	8.11E-1	4.20E-3	-6.83E+0	6.60E+0
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	6.89E-3	8.10E-6	1.46E-6	6.90E-3	7.67E-6	7.71E-4	4.68E-6	-3.55E-3	4.13E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.05E-5	1.83E-7	2.73E-13	5.07E-5	1.73E-7	1.17E-6	4.67E-9	-4.51E-6	4.75E-5
NHWD	kg	4.19E-2	4.44E-3	1.05E-6	4.63E-2	4.20E-3	2.65E-2	1.68E-2	-1.85E-2	7.53E-2
RWD	kg	1.86E-5	4.87E-7	1.10E-13	1.91E-5	4.61E-7	2.73E-6	2.49E-8	-9.28E-6	1.30E-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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