Environmental Profile

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

Ecochain v3.5.80

Product:	3080474 - Wadal PVC Bend 45° WT 32 S/S
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

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.00E-1	1.31E-4	1.45E-4	1.00E-1	1.37E-3	8.59E-2	4.28E-4	-6.98E-2	1.18E-1
GWP-f	kg CO2 eq	1.32E-1	1.31E-4	1.46E-4	1.33E-1	1.36E-3	5.11E-2	4.28E-4	-7.26E-2	1.13E-1
GWP-b	kg CO2 eq	-3.25E-2	7.94E-8	-1.54E-6	-3.25E-2	8.29E-7	3.47E-2	5.51E-7	2.84E-3	5.04E-3
GWP-luluc	kg CO2 eq	1.31E-4	4.63E-8	1.49E-7	1.31E-4	4.83E-7	1.77E-5	1.10E-8	-7.64E-5	7.25E-5
ODP	kg CFC11 eq	6.18E-8	3.01E-11	8.26E-12	6.18E-8	3.15E-10	4.94E-9	1.61E-11	-3.10E-8	3.61E-8
AP	mol H+ eq	6.04E-4	7.45E-7	1.47E-6	6.06E-4	7.77E-6	8.49E-5	3.91E-7	-2.73E-4	4.26E-4
EP-fw	kg P eq	5.63E-6	1.08E-9	8.24E-9	5.64E-6	1.12E-8	5.93E-7	5.01E-10	-2.67E-6	3.57E-6
EP-m	kg N eq	1.08E-4	2.66E-7	1.55E-7	1.08E-4	2.78E-6	2.11E-5	2.46E-7	-5.19E-5	8.06E-5
EP-T	mol N eq	1.16E-3	2.94E-6	1.85E-6	1.17E-3	3.07E-5	2.33E-4	1.56E-6	-5.65E-4	8.68E-4
POCP	kg NMVOC eq	4.11E-4	8.39E-7	6.28E-7	4.12E-4	8.76E-6	6.93E-5	5.37E-7	-1.94E-4	2.97E-4
ADP-mm	kg Sb eq	3.38E-6	3.38E-9	1.97E-8	3.41E-6	3.53E-8	3.29E-7	3.88E-10	-1.30E-6	2.47E-6
ADP-f	MJ	3.26E+0	2.01E-3	1.36E-3	3.27E+0	2.10E-2	2.25E-1	1.18E-3	-1.66E+0	1.85E+0
WDP	m3 depriv.	1.92E-1	6.16E-6	5.22E-5	1.92E-1	6.43E-5	8.92E-3	6.20E-6	-9.07E-2	1.11E-1
PM	disease inc.	4.73E-9	1.18E-11	9.08E-12	4.75E-9	1.23E-10	1.04E-9	8.10E-12	-2.34E-9	3.58E-9
IR	kBq U-235 eq	6.60E-3	8.77E-6	1.02E-6	6.61E-3	9.16E-5	8.01E-4	5.44E-6	-3.17E-3	4.34E-3
ETP-fw	CTUe	2.60E+0	1.63E-3	1.21E-2	2.62E+0	1.70E-2	1.76E+0	1.94E-2	-1.20E+0	3.21E+0
HTP-c	CTUh	9.71E-11	5.80E-14	6.17E-13	9.78E-11	6.05E-13	2.56E-11	3.15E-14	-4.53E-11	7.87E-11
HTP-nc	CTUh	2.75E-9	1.94E-12	1.57E-11	2.76E-9	2.03E-11	6.14E-10	3.69E-12	-1.19E-9	2.21E-9
SQP	Pt	3.33E+0	1.72E-3	2.24E-3	3.33E+0	1.79E-2	1.38E-1	3.02E-3	-3.07E+0	4.17E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.49E-1	2.88E-5	2.40E-2	7.73E-1	3.01E-4	1.63E-2	4.47E-5	-5.17E-1	2.72E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.49E-1	2.88E-5	2.40E-2	7.73E-1	3.01E-4	1.63E-2	4.47E-5	-5.17E-1	2.72E-1
PENRE	MJ	3.50E+0	2.13E-3	1.44E-3	3.51E+0	2.22E-2	2.39E-1	1.25E-3	-1.79E+0	1.98E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.50E+0	2.13E-3	1.44E-3	3.51E+0	2.22E-2	2.39E-1	1.25E-3	-1.79E+0	1.98E+0
PET	MJ	4.25E+0	2.16E-3	2.55E-2	4.28E+0	2.25E-2	2.56E-1	1.29E-3	-2.31E+0	2.25E+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	2.24E-3	2.27E-7	1.46E-6	2.24E-3	2.37E-6	2.46E-4	1.45E-6	-1.05E-3	1.44E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.59E-6	5.13E-9	2.73E-13	2.59E-6	5.36E-8	3.70E-7	1.42E-9	-1.58E-6	1.44E-6
NHWD	kg	1.37E-2	1.24E-4	1.05E-6	1.38E-2	1.30E-3	8.68E-3	5.19E-3	-6.12E-3	2.29E-2
RWD	kg	5.91E-6	1.36E-8	1.10E-13	5.92E-6	1.42E-7	8.60E-7	7.68E-9	-2.89E-6	4.04E-6
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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