Environmental Profile

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

Ecochain v3.5.80

Product:	3080477 - Wadal PVC Bend 45° WT 40 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

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	9.27E-2	1.43E-4	1.45E-4	9.30E-2	1.26E-3	8.35E-2	3.95E-4	-6.46E-2	1.14E-1
GWP-f	kg CO2 eq	1.25E-1	1.43E-4	1.46E-4	1.25E-1	1.26E-3	4.83E-2	3.95E-4	-6.84E-2	1.07E-1
GWP-b	kg CO2 eq	-3.26E-2	8.70E-8	-1.54E-6	-3.26E-2	7.65E-7	3.51E-2	5.08E-7	3.87E-3	6.44E-3
GWP-luluc	kg CO2 eq	1.30E-4	5.07E-8	1.49E-7	1.30E-4	4.46E-7	1.63E-5	1.01E-8	-8.06E-5	6.64E-5
ODP	kg CFC11 eq	5.72E-8	3.30E-11	8.26E-12	5.72E-8	2.90E-10	4.58E-9	1.49E-11	-2.88E-8	3.34E-8
AP	mol H+ eq	5.75E-4	8.17E-7	1.47E-6	5.77E-4	7.17E-6	7.90E-5	3.61E-7	-2.60E-4	4.04E-4
EP-fw	kg P eq	5.33E-6	1.18E-9	8.24E-9	5.34E-6	1.04E-8	5.48E-7	4.63E-10	-2.58E-6	3.32E-6
EP-m	kg N eq	1.04E-4	2.92E-7	1.55E-7	1.04E-4	2.57E-6	1.98E-5	2.27E-7	-4.99E-5	7.67E-5
EP-T	mol N eq	1.12E-3	3.22E-6	1.85E-6	1.12E-3	2.83E-5	2.18E-4	1.44E-6	-5.44E-4	8.25E-4
POCP	kg NMVOC eq	3.92E-4	9.20E-7	6.28E-7	3.93E-4	8.09E-6	6.48E-5	4.96E-7	-1.85E-4	2.82E-4
ADP-mm	kg Sb eq	3.28E-6	3.71E-9	1.97E-8	3.30E-6	3.26E-8	3.06E-7	3.59E-10	-1.21E-6	2.43E-6
ADP-f	MJ	3.07E+0	2.20E-3	1.36E-3	3.07E+0	1.93E-2	2.09E-1	1.09E-3	-1.56E+0	1.74E+0
WDP	m3 depriv.	1.79E-1	6.75E-6	5.22E-5	1.79E-1	5.93E-5	8.23E-3	5.78E-6	-8.56E-2	1.02E-1
PM	disease inc.	4.56E-9	1.29E-11	9.08E-12	4.58E-9	1.14E-10	9.68E-10	7.48E-12	-2.31E-9	3.36E-9
IR	kBq U-235 eq	6.19E-3	9.62E-6	1.02E-6	6.20E-3	8.45E-5	7.44E-4	5.02E-6	-3.03E-3	4.01E-3
ETP-fw	CTUe	2.60E+0	1.79E-3	1.21E-2	2.62E+0	1.57E-2	1.62E+0	1.79E-2	-1.21E+0	3.06E+0
HTP-c	CTUh	8.94E-11	6.36E-14	6.17E-13	9.01E-11	5.59E-13	2.40E-11	2.92E-14	-4.35E-11	7.12E-11
HTP-nc	CTUh	2.57E-9	2.13E-12	1.57E-11	2.58E-9	1.87E-11	5.69E-10	3.41E-12	-1.18E-9	2.00E-9
SQP	Pt	3.35E+0	1.88E-3	2.24E-3	3.35E+0	1.65E-2	1.28E-1	2.79E-3	-3.24E+0	2.60E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.01E-1	3.16E-5	2.40E-2	8.25E-1	2.77E-4	1.50E-2	4.13E-5	-5.45E-1	2.96E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.01E-1	3.16E-5	2.40E-2	8.25E-1	2.77E-4	1.50E-2	4.13E-5	-5.45E-1	2.96E-1
PENRE	MJ	3.29E+0	2.34E-3	1.44E-3	3.30E+0	2.05E-2	2.22E-1	1.15E-3	-1.68E+0	1.86E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.29E+0	2.34E-3	1.44E-3	3.30E+0	2.05E-2	2.22E-1	1.15E-3	-1.68E+0	1.86E+0
PET	MJ	4.09E+0	2.37E-3	2.55E-2	4.12E+0	2.08E-2	2.37E-1	1.19E-3	-2.23E+0	2.15E+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	2.11E-3	2.49E-7	1.46E-6	2.11E-3	2.19E-6	2.28E-4	1.34E-6	-1.02E-3	1.32E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.42E-6	5.63E-9	2.73E-13	2.43E-6	4.94E-8	3.45E-7	1.31E-9	-1.48E-6	1.35E-6
NHWD	kg	1.30E-2	1.36E-4	1.05E-6	1.32E-2	1.20E-3	8.11E-3	4.79E-3	-5.83E-3	2.14E-2
RWD	kg	5.55E-6	1.50E-8	1.10E-13	5.57E-6	1.31E-7	8.01E-7	7.09E-9	-2.77E-6	3.74E-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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