Environmental Profile

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

Ecochain v3.5.80

Product:	3003148 - Wadal PVC Branch 45° GY 50 S/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	3.15E-1	4.86E-3	1.45E-4	3.20E-1	4.16E-3	2.08E-1	1.33E-3	-1.90E-1	3.43E-1
GWP-f	kg CO2 eq	3.77E-1	4.86E-3	1.46E-4	3.82E-1	4.15E-3	1.34E-1	1.33E-3	-2.04E-1	3.18E-1
GWP-b	kg CO2 eq	-6.31E-2	2.95E-6	-1.54E-6	-6.31E-2	2.52E-6	7.34E-2	1.66E-6	1.45E-2	2.49E-2
GWP-luluc	kg CO2 eq	4.31E-4	1.72E-6	1.49E-7	4.33E-4	1.47E-6	5.25E-5	3.51E-8	-2.57E-4	2.30E-4
ODP	kg CFC11 eq	1.81E-7	1.12E-9	8.26E-12	1.82E-7	9.58E-10	1.46E-8	4.92E-11	-9.26E-8	1.05E-7
AP	mol H+ eq	1.82E-3	2.77E-5	1.47E-6	1.85E-3	2.37E-5	2.51E-4	1.20E-6	-8.13E-4	1.31E-3
EP-fw	kg P eq	1.75E-5	4.00E-8	8.24E-9	1.75E-5	3.42E-8	1.76E-6	1.58E-9	-8.36E-6	1.10E-5
EP-m	kg N eq	3.29E-4	9.90E-6	1.55E-7	3.39E-4	8.47E-6	6.23E-5	7.39E-7	-1.52E-4	2.58E-4
EP-T	mol N eq	3.58E-3	1.09E-4	1.85E-6	3.69E-3	9.33E-5	6.86E-4	4.78E-6	-1.65E-3	2.82E-3
POCP	kg NMVOC eq	1.18E-3	3.12E-5	6.28E-7	1.21E-3	2.67E-5	2.05E-4	1.65E-6	-5.56E-4	8.86E-4
ADP-mm	kg Sb eq	3.47E-4	1.26E-7	1.97E-8	3.47E-4	1.07E-7	9.83E-7	1.21E-9	-3.90E-6	3.44E-4
ADP-f	MJ	9.09E+0	7.46E-2	1.36E-3	9.16E+0	6.38E-2	6.72E-1	3.60E-3	-4.78E+0	5.12E+0
WDP	m3 depriv.	5.60E-1	2.29E-4	5.22E-5	5.61E-1	1.96E-4	2.63E-2	2.49E-5	-2.82E-1	3.05E-1
PM	disease inc.	1.34E-8	4.39E-10	9.08E-12	1.39E-8	3.75E-10	3.10E-9	2.48E-11	-6.96E-9	1.04E-8
IR	kBq U-235 eq	2.01E-2	3.26E-4	1.02E-6	2.04E-2	2.79E-4	2.38E-3	1.65E-5	-9.72E-3	1.34E-2
ETP-fw	CTUe	1.13E+1	6.06E-2	1.21E-2	1.13E+1	5.18E-2	5.16E+0	5.68E-2	-3.93E+0	1.27E+1
HTP-c	CTUh	3.39E-10	2.15E-12	6.17E-13	3.42E-10	1.84E-12	7.81E-11	1.01E-13	-1.28E-10	2.94E-10
HTP-nc	CTUh	1.01E-8	7.22E-11	1.57E-11	1.02E-8	6.17E-11	1.81E-9	1.09E-11	-3.78E-9	8.34E-9
SQP	Pt	7.47E+0	6.38E-2	2.24E-3	7.54E+0	5.46E-2	4.12E-1	9.21E-3	-7.97E+0	5.04E-2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.25E+0	1.07E-3	2.40E-2	2.28E+0	9.15E-4	4.82E-2	1.33E-4	-1.40E+0	9.29E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.25E+0	1.07E-3	2.40E-2	2.28E+0	9.15E-4	4.82E-2	1.33E-4	-1.40E+0	9.29E-1
PENRE	MJ	9.75E+0	7.92E-2	1.44E-3	9.83E+0	6.77E-2	7.15E-1	3.82E-3	-5.15E+0	5.47E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.75E+0	7.92E-2	1.44E-3	9.83E+0	6.77E-2	7.15E-1	3.82E-3	-5.15E+0	5.47E+0
PET	MJ	1.20E+1	8.02E-2	2.55E-2	1.21E+1	6.86E-2	7.63E-1	3.95E-3	-6.55E+0	6.40E+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	6.62E-3	8.44E-6	1.46E-6	6.63E-3	7.22E-6	7.25E-4	4.40E-6	-3.35E-3	4.02E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.01E-5	1.91E-7	2.73E-13	5.03E-5	1.63E-7	1.11E-6	4.40E-9	-4.33E-6	4.72E-5
NHWD	kg	4.03E-2	4.62E-3	1.05E-6	4.49E-2	3.95E-3	2.52E-2	1.58E-2	-1.76E-2	7.23E-2
RWD	kg	1.77E-5	5.07E-7	1.10E-13	1.82E-5	4.34E-7	2.57E-6	2.34E-8	-8.79E-6	1.25E-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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