Environmental Profile

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

Ecochain v3.5.80

Product:	3003163 - Wadal PVC Branch 45° GY 50x40 S/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	2.41E-1	3.68E-3	1.45E-4	2.45E-1	3.29E-3	1.81E-1	1.05E-3	-1.52E-1	2.78E-1
GWP-f	kg CO2 eq	3.05E-1	3.67E-3	1.46E-4	3.08E-1	3.29E-3	1.08E-1	1.05E-3	-1.65E-1	2.55E-1
GWP-b	kg CO2 eq	-6.38E-2	2.23E-6	-1.54E-6	-6.38E-2	2.00E-6	7.27E-2	1.32E-6	1.32E-2	2.21E-2
GWP-luluc	kg CO2 eq	3.56E-4	1.30E-6	1.49E-7	3.58E-4	1.16E-6	4.16E-5	2.77E-8	-2.22E-4	1.79E-4
ODP	kg CFC11 eq	1.44E-7	8.46E-10	8.26E-12	1.45E-7	7.57E-10	1.16E-8	3.89E-11	-7.37E-8	8.34E-8
AP	mol H+ eq	1.47E-3	2.09E-5	1.47E-6	1.49E-3	1.87E-5	2.00E-4	9.49E-7	-6.64E-4	1.05E-3
EP-fw	kg P eq	1.40E-5	3.02E-8	8.24E-9	1.41E-5	2.70E-8	1.39E-6	1.25E-9	-6.85E-6	8.64E-6
EP-m	kg N eq	2.67E-4	7.49E-6	1.55E-7	2.75E-4	6.70E-6	4.99E-5	5.85E-7	-1.25E-4	2.06E-4
EP-T	mol N eq	2.91E-3	8.25E-5	1.85E-6	2.99E-3	7.38E-5	5.50E-4	3.78E-6	-1.37E-3	2.25E-3
POCP	kg NMVOC eq	9.59E-4	2.36E-5	6.28E-7	9.83E-4	2.11E-5	1.64E-4	1.30E-6	-4.60E-4	7.09E-4
ADP-mm	kg Sb eq	2.49E-4	9.50E-8	1.97E-8	2.49E-4	8.50E-8	7.84E-7	9.54E-10	-3.13E-6	2.46E-4
ADP-f	MJ	7.30E+0	5.64E-2	1.36E-3	7.36E+0	5.04E-2	5.35E-1	2.85E-3	-3.84E+0	4.11E+0
WDP	m3 depriv.	4.46E-1	1.73E-4	5.22E-5	4.46E-1	1.55E-4	2.09E-2	1.96E-5	-2.26E-1	2.41E-1
PM	disease inc.	1.11E-8	3.32E-10	9.08E-12	1.15E-8	2.97E-10	2.48E-9	1.96E-11	-5.92E-9	8.35E-9
IR	kBq U-235 eq	1.61E-2	2.46E-4	1.02E-6	1.63E-2	2.20E-4	1.90E-3	1.31E-5	-7.89E-3	1.05E-2
ETP-fw	CTUe	9.00E+0	4.58E-2	1.21E-2	9.06E+0	4.10E-2	4.09E+0	4.50E-2	-3.29E+0	9.94E+0
HTP-c	CTUh	2.72E-10	1.63E-12	6.17E-13	2.74E-10	1.46E-12	6.23E-11	7.94E-14	-1.07E-10	2.31E-10
HTP-nc	CTUh	7.98E-9	5.46E-11	1.57E-11	8.05E-9	4.88E-11	1.44E-9	8.64E-12	-3.06E-9	6.49E-9
SQP	Pt	7.15E+0	4.82E-2	2.24E-3	7.20E+0	4.32E-2	3.28E-1	7.28E-3	-7.58E+0	7.44E-5
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.00E+0	8.09E-4	2.40E-2	2.02E+0	7.24E-4	3.83E-2	1.06E-4	-1.31E+0	7.52E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.00E+0	8.09E-4	2.40E-2	2.02E+0	7.24E-4	3.83E-2	1.06E-4	-1.31E+0	7.52E-1
PENRE	MJ	7.83E+0	5.99E-2	1.44E-3	7.90E+0	5.36E-2	5.69E-1	3.02E-3	-4.14E+0	4.38E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.83E+0	5.99E-2	1.44E-3	7.90E+0	5.36E-2	5.69E-1	3.02E-3	-4.14E+0	4.38E+0
PET	MJ	9.83E+0	6.07E-2	2.55E-2	9.92E+0	5.43E-2	6.07E-1	3.13E-3	-5.45E+0	5.13E+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	5.30E-3	6.38E-6	1.46E-6	5.30E-3	5.71E-6	5.75E-4	3.48E-6	-2.73E-3	3.16E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.65E-5	1.44E-7	2.73E-13	3.67E-5	1.29E-7	8.84E-7	3.48E-9	-3.54E-6	3.41E-5
NHWD	kg	3.30E-2	3.49E-3	1.05E-6	3.65E-2	3.13E-3	2.01E-2	1.25E-2	-1.46E-2	5.77E-2
RWD	kg	1.42E-5	3.83E-7	1.10E-13	1.46E-5	3.43E-7	2.05E-6	1.85E-8	-7.16E-6	9.88E-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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