Environmental Profile

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

Ecochain v3.5.80

Product:	3003178 - Wadal PVC Branch 88° GY 110x50 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	6.86E-1	1.08E-2	1.45E-4	6.97E-1	9.06E-3	4.29E-1	2.88E-3	-3.98E-1	7.41E-1
GWP-f	kg CO2 eq	8.10E-1	1.08E-2	1.46E-4	8.21E-1	9.05E-3	2.77E-1	2.88E-3	-4.39E-1	6.72E-1
GWP-b	kg CO2 eq	-1.25E-1	6.56E-6	-1.54E-6	-1.25E-1	5.50E-6	1.52E-1	3.63E-6	4.15E-2	6.89E-2
GWP-luluc	kg CO2 eq	9.65E-4	3.82E-6	1.49E-7	9.69E-4	3.20E-6	1.15E-4	7.58E-8	-6.22E-4	4.65E-4
ODP	kg CFC11 eq	3.97E-7	2.49E-9	8.26E-12	4.00E-7	2.09E-9	3.20E-8	1.07E-10	-2.01E-7	2.32E-7
AP	mol H+ eq	3.90E-3	6.15E-5	1.47E-6	3.96E-3	5.16E-5	5.50E-4	2.61E-6	-1.80E-3	2.77E-3
EP-fw	kg P eq	3.79E-5	8.89E-8	8.24E-9	3.80E-5	7.45E-8	3.85E-6	3.42E-9	-1.90E-5	2.30E-5
EP-m	kg N eq	7.11E-4	2.20E-5	1.55E-7	7.33E-4	1.84E-5	1.36E-4	1.61E-6	-3.36E-4	5.53E-4
EP-T	mol N eq	7.69E-3	2.43E-4	1.85E-6	7.94E-3	2.03E-4	1.50E-3	1.04E-5	-3.65E-3	6.00E-3
POCP	kg NMVOC eq	2.50E-3	6.93E-5	6.28E-7	2.57E-3	5.81E-5	4.49E-4	3.58E-6	-1.22E-3	1.86E-3
ADP-mm	kg Sb eq	6.95E-4	2.79E-7	1.97E-8	6.95E-4	2.34E-7	2.16E-6	2.62E-9	-8.52E-6	6.89E-4
ADP-f	MJ	1.94E+1	1.66E-1	1.36E-3	1.96E+1	1.39E-1	1.47E+0	7.83E-3	-1.03E+1	1.09E+1
WDP	m3 depriv.	1.21E+0	5.09E-4	5.22E-5	1.21E+0	4.26E-4	5.76E-2	5.20E-5	-6.27E-1	6.44E-1
PM	disease inc.	2.90E-8	9.75E-10	9.08E-12	2.99E-8	8.17E-10	6.81E-9	5.39E-11	-1.58E-8	2.18E-8
IR	kBq U-235 eq	4.35E-2	7.25E-4	1.02E-6	4.42E-2	6.07E-4	5.24E-3	3.60E-5	-2.16E-2	2.85E-2
ETP-fw	CTUe	2.50E+1	1.35E-1	1.21E-2	2.51E+1	1.13E-1	1.13E+1	1.25E-1	-9.24E+0	2.74E+1
HTP-c	CTUh	7.24E-10	4.79E-12	6.17E-13	7.29E-10	4.01E-12	1.68E-10	2.17E-13	-2.79E-10	6.22E-10
HTP-nc	CTUh	2.18E-8	1.60E-10	1.57E-11	2.20E-8	1.34E-10	3.96E-9	2.39E-11	-8.37E-9	1.77E-8
SQP	Pt	1.56E+1	1.42E-1	2.24E-3	1.57E+1	1.19E-1	9.00E-1	2.01E-2	-1.83E+1	-1.49E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.96E+0	2.38E-3	2.40E-2	4.98E+0	1.99E-3	1.06E-1	2.92E-4	-3.24E+0	1.85E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.96E+0	2.38E-3	2.40E-2	4.98E+0	1.99E-3	1.06E-1	2.92E-4	-3.24E+0	1.85E+0
PENRE	MJ	2.09E+1	1.76E-1	1.44E-3	2.10E+1	1.48E-1	1.57E+0	8.31E-3	-1.11E+1	1.17E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.09E+1	1.76E-1	1.44E-3	2.10E+1	1.48E-1	1.57E+0	8.31E-3	-1.11E+1	1.17E+1
PET	MJ	2.58E+1	1.78E-1	2.55E-2	2.60E+1	1.49E-1	1.67E+0	8.60E-3	-1.43E+1	1.35E+1
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	1.42E-2	1.88E-5	1.46E-6	1.42E-2	1.57E-5	1.59E-3	9.59E-6	-7.64E-3	8.15E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.02E-4	4.24E-7	2.73E-13	1.02E-4	3.55E-7	2.43E-6	9.55E-9	-9.30E-6	9.55E-5
NHWD	kg	8.72E-2	1.03E-2	1.05E-6	9.75E-2	8.61E-3	5.44E-2	3.44E-2	-3.85E-2	1.56E-1
RWD	kg	3.85E-5	1.13E-6	1.10E-13	3.96E-5	9.45E-7	5.64E-6	5.09E-8	-1.96E-5	2.67E-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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