Environmental Profile

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

Ecochain v3.5.80

Product:	3003192 - Wadal PVC Branch 88° GY 160 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	2.13E+0	3.68E-2	1.45E-4	2.17E+0	2.98E-2	1.74E+0	9.44E-3	-1.37E+0	2.58E+0
GWP-f	kg CO2 eq	2.80E+0	3.67E-2	1.46E-4	2.84E+0	2.97E-2	9.68E-1	9.44E-3	-1.52E+0	2.32E+0
GWP-b	kg CO2 eq	-6.73E-1	2.23E-5	-1.54E-6	-6.73E-1	1.81E-5	7.72E-1	1.19E-5	1.59E-1	2.58E-1
GWP-luluc	kg CO2 eq	3.50E-3	1.30E-5	1.49E-7	3.51E-3	1.05E-5	3.80E-4	2.48E-7	-2.33E-3	1.57E-3
ODP	kg CFC11 eq	1.32E-6	8.47E-9	8.26E-12	1.33E-6	6.85E-9	1.06E-7	3.52E-10	-6.71E-7	7.70E-7
AP	mol H+ eq	1.35E-2	2.09E-4	1.47E-6	1.37E-2	1.69E-4	1.84E-3	8.57E-6	-6.27E-3	9.45E-3
EP-fw	kg P eq	1.30E-4	3.02E-7	8.24E-9	1.31E-4	2.45E-7	1.27E-5	1.12E-8	-6.60E-5	7.77E-5
EP-m	kg N eq	2.50E-3	7.49E-5	1.55E-7	2.58E-3	6.06E-5	4.61E-4	5.31E-6	-1.20E-3	1.91E-3
EP-T	mol N eq	2.71E-2	8.25E-4	1.85E-6	2.79E-2	6.68E-4	5.08E-3	3.42E-5	-1.31E-2	2.06E-2
POCP	kg NMVOC eq	8.89E-3	2.36E-4	6.28E-7	9.13E-3	1.91E-4	1.51E-3	1.18E-5	-4.38E-3	6.47E-3
ADP-mm	kg Sb eq	2.33E-3	9.51E-7	1.97E-8	2.33E-3	7.69E-7	7.21E-6	8.59E-9	-2.88E-5	2.31E-3
ADP-f	MJ	6.69E+1	5.64E-1	1.36E-3	6.75E+1	4.57E-1	4.90E+0	2.57E-2	-3.52E+1	3.76E+1
WDP	m3 depriv.	4.06E+0	1.73E-3	5.22E-5	4.06E+0	1.40E-3	1.90E-1	1.67E-4	-2.11E+0	2.15E+0
PM	disease inc.	1.05E-7	3.32E-9	9.08E-12	1.08E-7	2.68E-9	2.28E-8	1.77E-10	-5.90E-8	7.48E-8
IR	kBq U-235 eq	1.48E-1	2.47E-3	1.02E-6	1.51E-1	2.00E-3	1.75E-2	1.18E-4	-7.44E-2	9.59E-2
ETP-fw	CTUe	8.73E+1	4.58E-1	1.21E-2	8.77E+1	3.71E-1	3.74E+1	4.11E-1	-3.31E+1	9.27E+1
HTP-c	CTUh	2.54E-9	1.63E-11	6.17E-13	2.56E-9	1.32E-11	5.65E-10	7.11E-13	-1.03E-9	2.11E-9
HTP-nc	CTUh	7.38E-8	5.46E-10	1.57E-11	7.44E-8	4.42E-10	1.32E-8	7.87E-11	-2.88E-8	5.93E-8
SQP	Pt	7.44E+1	4.83E-1	2.24E-3	7.49E+1	3.91E-1	3.00E+0	6.59E-2	-8.25E+1	-4.18E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.00E+1	8.09E-3	2.40E-2	2.01E+1	6.55E-3	3.49E-1	9.60E-4	-1.41E+1	6.28E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.00E+1	8.09E-3	2.40E-2	2.01E+1	6.55E-3	3.49E-1	9.60E-4	-1.41E+1	6.28E+0
PENRE	MJ	7.18E+1	5.99E-1	1.44E-3	7.24E+1	4.85E-1	5.21E+0	2.73E-2	-3.79E+1	4.02E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.18E+1	5.99E-1	1.44E-3	7.24E+1	4.85E-1	5.21E+0	2.73E-2	-3.79E+1	4.02E+1
PET	MJ	9.18E+1	6.07E-1	2.55E-2	9.24E+1	4.91E-1	5.56E+0	2.83E-2	-5.21E+1	4.64E+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	4.83E-2	6.38E-5	1.46E-6	4.84E-2	5.17E-5	5.25E-3	3.15E-5	-2.63E-2	2.74E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.43E-4	1.44E-6	2.73E-13	3.44E-4	1.17E-6	8.13E-6	3.13E-8	-3.29E-5	3.20E-4
NHWD	kg	3.08E-1	3.50E-2	1.05E-6	3.43E-1	2.83E-2	1.84E-1	1.13E-1	-1.39E-1	5.30E-1
RWD	kg	1.32E-4	3.84E-6	1.10E-13	1.36E-4	3.10E-6	1.89E-5	1.67E-7	-6.78E-5	9.01E-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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