Environmental Profile

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

Ecochain v3.5.80

Product:	3080487 - Wadal PVC Branch 88° WT 40 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	1.83E-1	6.35E-5	1.45E-4	1.83E-1	2.37E-3	1.15E-1	7.39E-4	-1.11E-1	1.91E-1
GWP-f	kg CO2 eq	2.15E-1	6.35E-5	1.46E-4	2.15E-1	2.36E-3	7.89E-2	7.38E-4	-1.17E-1	1.80E-1
GWP-b	kg CO2 eq	-3.17E-2	3.85E-8	-1.54E-6	-3.17E-2	1.44E-6	3.64E-2	9.55E-7	6.38E-3	1.11E-2
GWP-luluc	kg CO2 eq	2.12E-4	2.25E-8	1.49E-7	2.13E-4	8.37E-7	3.06E-5	1.88E-8	-1.31E-4	1.13E-4
ODP	kg CFC11 eq	1.07E-7	1.46E-11	8.26E-12	1.07E-7	5.45E-10	8.58E-9	2.80E-11	-5.27E-8	6.33E-8
AP	mol H+ eq	9.77E-4	3.62E-7	1.47E-6	9.79E-4	1.35E-5	1.45E-4	6.77E-7	-4.52E-4	6.87E-4
EP-fw	kg P eq	9.30E-6	5.22E-10	8.24E-9	9.31E-6	1.95E-8	1.03E-6	8.64E-10	-4.57E-6	5.79E-6
EP-m	kg N eq	1.73E-4	1.29E-7	1.55E-7	1.73E-4	4.82E-6	3.58E-5	4.28E-7	-8.38E-5	1.31E-4
EP-T	mol N eq	1.85E-3	1.43E-6	1.85E-6	1.86E-3	5.31E-5	3.95E-4	2.71E-6	-9.08E-4	1.40E-3
POCP	kg NMVOC eq	6.41E-4	4.08E-7	6.28E-7	6.42E-4	1.52E-5	1.18E-4	9.29E-7	-3.08E-4	4.68E-4
ADP-mm	kg Sb eq	5.79E-6	1.64E-9	1.97E-8	5.81E-6	6.12E-8	5.68E-7	6.71E-10	-2.20E-6	4.25E-6
ADP-f	MJ	5.31E+0	9.74E-4	1.36E-3	5.31E+0	3.63E-2	3.88E-1	2.04E-3	-2.73E+0	3.01E+0
WDP	m3 depriv.	3.25E-1	2.99E-6	5.22E-5	3.25E-1	1.11E-4	1.55E-2	1.01E-5	-1.58E-1	1.83E-1
PM	disease inc.	7.31E-9	5.73E-12	9.08E-12	7.32E-9	2.13E-10	1.78E-9	1.40E-11	-3.71E-9	5.62E-9
IR	kBq U-235 eq	1.10E-2	4.26E-6	1.02E-6	1.10E-2	1.59E-4	1.38E-3	9.43E-6	-5.40E-3	7.15E-3
ETP-fw	CTUe	4.46E+0	7.91E-4	1.21E-2	4.47E+0	2.95E-2	3.06E+0	3.38E-2	-2.08E+0	5.52E+0
HTP-c	CTUh	1.50E-10	2.82E-14	6.17E-13	1.51E-10	1.05E-12	4.26E-11	5.42E-14	-7.01E-11	1.24E-10
HTP-nc	CTUh	4.60E-9	9.43E-13	1.57E-11	4.62E-9	3.51E-11	1.06E-9	6.44E-12	-2.10E-9	3.61E-9
SQP	Pt	3.75E+0	8.34E-4	2.24E-3	3.75E+0	3.11E-2	2.36E-1	5.24E-3	-3.87E+0	1.55E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.14E+0	1.40E-5	2.40E-2	1.16E+0	5.21E-4	2.82E-2	7.78E-5	-6.87E-1	5.06E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.14E+0	1.40E-5	2.40E-2	1.16E+0	5.21E-4	2.82E-2	7.78E-5	-6.87E-1	5.06E-1
PENRE	MJ	5.69E+0	1.03E-3	1.44E-3	5.70E+0	3.85E-2	4.13E-1	2.16E-3	-2.94E+0	3.21E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.69E+0	1.03E-3	1.44E-3	5.70E+0	3.85E-2	4.13E-1	2.16E-3	-2.94E+0	3.21E+0
PET	MJ	6.83E+0	1.05E-3	2.55E-2	6.86E+0	3.91E-2	4.41E-1	2.24E-3	-3.63E+0	3.71E+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	3.66E-3	1.10E-7	1.46E-6	3.66E-3	4.11E-6	4.26E-4	2.51E-6	-1.84E-3	2.26E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.25E-6	2.49E-9	2.73E-13	4.25E-6	9.28E-8	6.35E-7	2.46E-9	-2.46E-6	2.52E-6
NHWD	kg	2.17E-2	6.04E-5	1.05E-6	2.17E-2	2.25E-3	1.45E-2	8.99E-3	-9.68E-3	3.78E-2
RWD	kg	9.80E-6	6.63E-9	1.10E-13	9.81E-6	2.47E-7	1.48E-6	1.33E-8	-4.87E-6	6.68E-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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