Environmental Profile

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

Ecochain v3.5.80

Product:	3003161 - Wadal PVC Branch 45° GY 50 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	2.92E-1	4.65E-3	1.45E-4	2.97E-1	3.95E-3	1.97E-1	1.26E-3	-1.78E-1	3.21E-1
GWP-f	kg CO2 eq	3.55E-1	4.65E-3	1.46E-4	3.59E-1	3.94E-3	1.23E-1	1.26E-3	-1.92E-1	2.96E-1
GWP-b	kg CO2 eq	-6.32E-2	2.82E-6	-1.54E-6	-6.32E-2	2.40E-6	7.34E-2	1.58E-6	1.46E-2	2.49E-2
GWP-luluc	kg CO2 eq	4.08E-4	1.65E-6	1.49E-7	4.10E-4	1.40E-6	4.99E-5	3.32E-8	-2.51E-4	2.10E-4
ODP	kg CFC11 eq	1.72E-7	1.07E-9	8.26E-12	1.73E-7	9.09E-10	1.39E-8	4.67E-11	-8.78E-8	1.01E-7
AP	mol H+ eq	1.71E-3	2.65E-5	1.47E-6	1.73E-3	2.25E-5	2.39E-4	1.14E-6	-7.76E-4	1.22E-3
EP-fw	kg P eq	1.64E-5	3.83E-8	8.24E-9	1.65E-5	3.25E-8	1.67E-6	1.50E-9	-8.02E-6	1.02E-5
EP-m	kg N eq	3.09E-4	9.48E-6	1.55E-7	3.18E-4	8.04E-6	5.91E-5	7.03E-7	-1.45E-4	2.41E-4
EP-T	mol N eq	3.35E-3	1.04E-4	1.85E-6	3.46E-3	8.86E-5	6.51E-4	4.54E-6	-1.58E-3	2.63E-3
POCP	kg NMVOC eq	1.10E-3	2.99E-5	6.28E-7	1.13E-3	2.53E-5	1.94E-4	1.56E-6	-5.31E-4	8.22E-4
ADP-mm	kg Sb eq	2.98E-4	1.20E-7	1.97E-8	2.98E-4	1.02E-7	9.36E-7	1.14E-9	-3.71E-6	2.96E-4
ADP-f	MJ	8.52E+0	7.14E-2	1.36E-3	8.60E+0	6.05E-2	6.39E-1	3.41E-3	-4.50E+0	4.79E+0
WDP	m3 depriv.	5.29E-1	2.19E-4	5.22E-5	5.29E-1	1.86E-4	2.50E-2	2.31E-5	-2.69E-1	2.86E-1
PM	disease inc.	1.27E-8	4.20E-10	9.08E-12	1.31E-8	3.56E-10	2.95E-9	2.35E-11	-6.74E-9	9.70E-9
IR	kBq U-235 eq	1.89E-2	3.12E-4	1.02E-6	1.92E-2	2.65E-4	2.27E-3	1.57E-5	-9.28E-3	1.25E-2
ETP-fw	CTUe	1.05E+1	5.80E-2	1.21E-2	1.06E+1	4.92E-2	4.91E+0	5.41E-2	-3.80E+0	1.18E+1
HTP-c	CTUh	3.17E-10	2.06E-12	6.17E-13	3.20E-10	1.75E-12	7.35E-11	9.50E-14	-1.23E-10	2.72E-10
HTP-nc	CTUh	9.46E-9	6.91E-11	1.57E-11	9.54E-9	5.86E-11	1.72E-9	1.04E-11	-3.61E-9	7.72E-9
SQP	Pt	7.39E+0	6.11E-2	2.24E-3	7.45E+0	5.18E-2	3.91E-1	8.74E-3	-7.94E+0	-3.95E-2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.21E+0	1.02E-3	2.40E-2	2.24E+0	8.69E-4	4.59E-2	1.27E-4	-1.39E+0	8.95E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.21E+0	1.02E-3	2.40E-2	2.24E+0	8.69E-4	4.59E-2	1.27E-4	-1.39E+0	8.95E-1
PENRE	MJ	9.14E+0	7.58E-2	1.44E-3	9.22E+0	6.43E-2	6.80E-1	3.62E-3	-4.85E+0	5.12E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.14E+0	7.58E-2	1.44E-3	9.22E+0	6.43E-2	6.80E-1	3.62E-3	-4.85E+0	5.12E+0
PET	MJ	1.14E+1	7.68E-2	2.55E-2	1.15E+1	6.52E-2	7.26E-1	3.75E-3	-6.24E+0	6.01E+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	6.20E-3	8.08E-6	1.46E-6	6.20E-3	6.85E-6	6.89E-4	4.18E-6	-3.21E-3	3.69E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.37E-5	1.83E-7	2.73E-13	4.39E-5	1.55E-7	1.05E-6	4.17E-9	-4.09E-6	4.10E-5
NHWD	kg	3.81E-2	4.42E-3	1.05E-6	4.25E-2	3.75E-3	2.38E-2	1.50E-2	-1.68E-2	6.82E-2
RWD	kg	1.68E-5	4.86E-7	1.10E-13	1.72E-5	4.12E-7	2.44E-6	2.22E-8	-8.39E-6	1.17E-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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