Environmental Profile

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

Ecochain v3.5.80

Product:	3003160 - Wadal PVC Branch 88° GY 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	1.86E-1	2.51E-3	1.45E-4	1.89E-1	2.39E-3	1.16E-1	7.66E-4	-1.11E-1	1.97E-1
GWP-f	kg CO2 eq	2.17E-1	2.51E-3	1.46E-4	2.20E-1	2.39E-3	7.97E-2	7.65E-4	-1.17E-1	1.85E-1
GWP-b	kg CO2 eq	-3.14E-2	1.52E-6	-1.54E-6	-3.14E-2	1.45E-6	3.64E-2	9.56E-7	6.37E-3	1.13E-2
GWP-luluc	kg CO2 eq	2.36E-4	8.88E-7	1.49E-7	2.37E-4	8.46E-7	3.00E-5	2.04E-8	-1.32E-4	1.36E-4
ODP	kg CFC11 eq	1.03E-7	5.78E-10	8.26E-12	1.04E-7	5.51E-10	8.30E-9	2.83E-11	-5.33E-8	5.94E-8
AP	mol H+ eq	1.05E-3	1.43E-5	1.47E-6	1.06E-3	1.36E-5	1.43E-4	6.92E-7	-4.56E-4	7.63E-4
EP-fw	kg P eq	9.96E-6	2.06E-8	8.24E-9	9.99E-6	1.97E-8	1.00E-6	9.17E-10	-4.61E-6	6.40E-6
EP-m	kg N eq	1.87E-4	5.11E-6	1.55E-7	1.92E-4	4.87E-6	3.55E-5	4.24E-7	-8.44E-5	1.48E-4
EP-T	mol N eq	2.04E-3	5.64E-5	1.85E-6	2.10E-3	5.37E-5	3.91E-4	2.75E-6	-9.14E-4	1.63E-3
POCP	kg NMVOC eq	6.75E-4	1.61E-5	6.28E-7	6.92E-4	1.54E-5	1.17E-4	9.49E-7	-3.10E-4	5.14E-4
ADP-mm	kg Sb eq	1.98E-4	6.49E-8	1.97E-8	1.98E-4	6.19E-8	5.60E-7	6.98E-10	-2.22E-6	1.97E-4
ADP-f	MJ	5.24E+0	3.85E-2	1.36E-3	5.28E+0	3.67E-2	3.84E-1	2.07E-3	-2.75E+0	2.96E+0
WDP	m3 depriv.	3.22E-1	1.18E-4	5.22E-5	3.23E-1	1.13E-4	1.50E-2	1.51E-5	-1.59E-1	1.78E-1
PM	disease inc.	7.59E-9	2.26E-10	9.08E-12	7.82E-9	2.16E-10	1.77E-9	1.43E-11	-3.73E-9	6.09E-9
IR	kBq U-235 eq	1.15E-2	1.68E-4	1.02E-6	1.16E-2	1.60E-4	1.36E-3	9.50E-6	-5.45E-3	7.72E-3
ETP-fw	CTUe	6.23E+0	3.13E-2	1.21E-2	6.27E+0	2.98E-2	2.94E+0	3.24E-2	-2.09E+0	7.18E+0
HTP-c	CTUh	1.91E-10	1.11E-12	6.17E-13	1.92E-10	1.06E-12	4.53E-11	5.84E-14	-7.07E-11	1.68E-10
HTP-nc	CTUh	5.76E-9	3.73E-11	1.57E-11	5.81E-9	3.55E-11	1.04E-9	6.24E-12	-2.12E-9	4.77E-9
SQP	Pt	3.81E+0	3.30E-2	2.24E-3	3.84E+0	3.14E-2	2.36E-1	5.30E-3	-3.87E+0	2.39E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.15E+0	5.53E-4	2.40E-2	1.17E+0	5.27E-4	2.76E-2	7.65E-5	-6.88E-1	5.14E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.15E+0	5.53E-4	2.40E-2	1.17E+0	5.27E-4	2.76E-2	7.65E-5	-6.88E-1	5.14E-1
PENRE	MJ	5.62E+0	4.09E-2	1.44E-3	5.67E+0	3.90E-2	4.08E-1	2.20E-3	-2.96E+0	3.15E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.62E+0	4.09E-2	1.44E-3	5.67E+0	3.90E-2	4.08E-1	2.20E-3	-2.96E+0	3.15E+0
PET	MJ	6.77E+0	4.14E-2	2.55E-2	6.84E+0	3.95E-2	4.36E-1	2.28E-3	-3.65E+0	3.67E+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	3.83E-3	4.36E-6	1.46E-6	3.84E-3	4.15E-6	4.14E-4	2.53E-6	-1.85E-3	2.41E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.86E-5	9.85E-8	2.73E-13	2.87E-5	9.39E-8	6.32E-7	2.54E-9	-2.47E-6	2.69E-5
NHWD	kg	2.28E-2	2.39E-3	1.05E-6	2.52E-2	2.28E-3	1.45E-2	9.10E-3	-9.76E-3	4.14E-2
RWD	kg	1.01E-5	2.62E-7	1.10E-13	1.04E-5	2.50E-7	1.46E-6	1.35E-8	-4.91E-6	7.17E-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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