Environmental Profile

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

Ecochain v3.5.80

Product:	3003141 - Wadal PVC Bend 88° GY 125 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	1.23E+0	2.00E-2	1.45E-4	1.25E+0	1.62E-2	8.12E-1	5.15E-3	-7.10E-1	1.37E+0
GWP-f	kg CO2 eq	1.48E+0	2.00E-2	1.46E-4	1.50E+0	1.62E-2	5.02E-1	5.14E-3	-8.03E-1	1.22E+0
GWP-b	kg CO2 eq	-2.51E-1	1.21E-5	-1.54E-6	-2.51E-1	9.84E-6	3.09E-1	6.50E-6	9.38E-2	1.52E-1
GWP-luluc	kg CO2 eq	1.86E-3	7.06E-6	1.49E-7	1.86E-3	5.74E-6	2.07E-4	1.35E-7	-1.26E-3	8.13E-4
ODP	kg CFC11 eq	7.17E-7	4.60E-9	8.26E-12	7.21E-7	3.74E-9	5.78E-8	1.92E-10	-3.63E-7	4.20E-7
AP	mol H+ eq	7.12E-3	1.14E-4	1.47E-6	7.24E-3	9.23E-5	9.98E-4	4.67E-6	-3.34E-3	5.00E-3
EP-fw	kg P eq	6.95E-5	1.64E-7	8.24E-9	6.97E-5	1.33E-7	6.94E-6	6.11E-9	-3.58E-5	4.10E-5
EP-m	kg N eq	1.32E-3	4.07E-5	1.55E-7	1.36E-3	3.30E-5	2.49E-4	2.90E-6	-6.30E-4	1.01E-3
EP-T	mol N eq	1.42E-2	4.48E-4	1.85E-6	1.47E-2	3.64E-4	2.74E-3	1.86E-5	-6.88E-3	1.09E-2
POCP	kg NMVOC eq	4.61E-3	1.28E-4	6.28E-7	4.73E-3	1.04E-4	8.19E-4	6.41E-6	-2.27E-3	3.39E-3
ADP-mm	kg Sb eq	1.24E-3	5.16E-7	1.97E-8	1.24E-3	4.19E-7	3.93E-6	4.68E-9	-1.55E-5	1.23E-3
ADP-f	MJ	3.54E+1	3.06E-1	1.36E-3	3.57E+1	2.49E-1	2.66E+0	1.40E-2	-1.87E+1	1.99E+1
WDP	m3 depriv.	2.19E+0	9.40E-4	5.22E-5	2.19E+0	7.64E-4	1.04E-1	9.08E-5	-1.15E+0	1.14E+0
PM	disease inc.	5.41E-8	1.80E-9	9.08E-12	5.59E-8	1.46E-9	1.24E-8	9.65E-11	-3.07E-8	3.91E-8
IR	kBq U-235 eq	7.92E-2	1.34E-3	1.02E-6	8.06E-2	1.09E-3	9.49E-3	6.45E-5	-4.02E-2	5.11E-2
ETP-fw	CTUe	4.73E+1	2.49E-1	1.21E-2	4.76E+1	2.02E-1	2.04E+1	2.24E-1	-1.81E+1	5.02E+1
HTP-c	CTUh	1.32E-9	8.85E-12	6.17E-13	1.33E-9	7.19E-12	3.04E-10	3.87E-13	-5.21E-10	1.12E-9
HTP-nc	CTUh	3.95E-8	2.97E-10	1.57E-11	3.98E-8	2.41E-10	7.15E-9	4.29E-11	-1.55E-8	3.18E-8
SQP	Pt	3.11E+1	2.62E-1	2.24E-3	3.14E+1	2.13E-1	1.63E+0	3.59E-2	-3.82E+1	-4.95E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.50E+0	4.40E-3	2.40E-2	9.53E+0	3.57E-3	1.90E-1	5.24E-4	-6.74E+0	2.99E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	9.50E+0	4.40E-3	2.40E-2	9.53E+0	3.57E-3	1.90E-1	5.24E-4	-6.74E+0	2.99E+0
PENRE	MJ	3.80E+1	3.25E-1	1.44E-3	3.83E+1	2.64E-1	2.83E+0	1.49E-2	-2.02E+1	2.13E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.80E+1	3.25E-1	1.44E-3	3.83E+1	2.64E-1	2.83E+0	1.49E-2	-2.02E+1	2.13E+1
PET	MJ	4.75E+1	3.30E-1	2.55E-2	4.78E+1	2.68E-1	3.02E+0	1.54E-2	-2.69E+1	2.42E+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	2.57E-2	3.47E-5	1.46E-6	2.58E-2	2.82E-5	2.86E-3	1.72E-5	-1.45E-2	1.42E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.82E-4	7.84E-7	2.73E-13	1.83E-4	6.36E-7	4.41E-6	1.71E-8	-1.71E-5	1.71E-4
NHWD	kg	1.61E-1	1.90E-2	1.05E-6	1.80E-1	1.54E-2	9.86E-2	6.17E-2	-7.15E-2	2.84E-1
RWD	kg	7.04E-5	2.08E-6	1.10E-13	7.24E-5	1.69E-6	1.03E-5	9.12E-8	-3.64E-5	4.81E-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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