Environmental Profile

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

Ecochain v3.5.80

Product:	3003232 - Wadal PVC Reducer bush GY 110x50x50
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	3.53E-1	5.32E-3	1.45E-4	3.59E-1	4.76E-3	2.15E-1	1.52E-3	-2.09E-1	3.71E-1
GWP-f	kg CO2 eq	4.15E-1	5.32E-3	1.46E-4	4.21E-1	4.76E-3	1.41E-1	1.52E-3	-2.24E-1	3.44E-1
GWP-b	kg CO2 eq	-6.22E-2	3.23E-6	-1.54E-6	-6.22E-2	2.89E-6	7.38E-2	1.91E-6	1.53E-2	2.68E-2
GWP-luluc	kg CO2 eq	4.69E-4	1.88E-6	1.49E-7	4.72E-4	1.68E-6	6.01E-5	4.01E-8	-2.79E-4	2.54E-4
ODP	kg CFC11 eq	2.07E-7	1.23E-9	8.26E-12	2.08E-7	1.10E-9	1.66E-8	5.64E-11	-1.05E-7	1.21E-7
AP	mol H+ eq	2.01E-3	3.03E-5	1.47E-6	2.04E-3	2.71E-5	2.85E-4	1.37E-6	-9.12E-4	1.44E-3
EP-fw	kg P eq	1.95E-5	4.38E-8	8.24E-9	1.95E-5	3.92E-8	2.01E-6	1.81E-9	-9.39E-6	1.22E-5
EP-m	kg N eq	3.60E-4	1.08E-5	1.55E-7	3.71E-4	9.70E-6	7.02E-5	8.48E-7	-1.68E-4	2.84E-4
EP-T	mol N eq	3.92E-3	1.19E-4	1.85E-6	4.04E-3	1.07E-4	7.74E-4	5.48E-6	-1.83E-3	3.10E-3
POCP	kg NMVOC eq	1.28E-3	3.42E-5	6.28E-7	1.31E-3	3.06E-5	2.31E-4	1.89E-6	-6.17E-4	9.59E-4
ADP-mm	kg Sb eq	3.96E-4	1.38E-7	1.97E-8	3.96E-4	1.23E-7	1.12E-6	1.38E-9	-4.43E-6	3.93E-4
ADP-f	MJ	9.97E+0	8.17E-2	1.36E-3	1.01E+1	7.31E-2	7.66E-1	4.12E-3	-5.30E+0	5.60E+0
WDP	m3 depriv.	6.31E-1	2.51E-4	5.22E-5	6.31E-1	2.24E-4	3.01E-2	2.83E-5	-3.20E-1	3.41E-1
PM	disease inc.	1.46E-8	4.80E-10	9.08E-12	1.51E-8	4.30E-10	3.52E-9	2.84E-11	-7.67E-9	1.14E-8
IR	kBq U-235 eq	2.25E-2	3.57E-4	1.02E-6	2.29E-2	3.19E-4	2.72E-3	1.89E-5	-1.09E-2	1.50E-2
ETP-fw	CTUe	1.26E+1	6.63E-2	1.21E-2	1.26E+1	5.93E-2	5.91E+0	6.52E-2	-4.36E+0	1.43E+1
HTP-c	CTUh	3.90E-10	2.36E-12	6.17E-13	3.93E-10	2.11E-12	8.74E-11	1.15E-13	-1.41E-10	3.41E-10
HTP-nc	CTUh	1.16E-8	7.90E-11	1.57E-11	1.17E-8	7.07E-11	2.06E-9	1.25E-11	-4.16E-9	9.68E-9
SQP	Pt	7.64E+0	6.99E-2	2.24E-3	7.72E+0	6.25E-2	4.70E-1	1.06E-2	-8.19E+0	6.97E-2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.49E+0	1.17E-3	2.40E-2	2.52E+0	1.05E-3	5.52E-2	1.53E-4	-1.46E+0	1.12E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.49E+0	1.17E-3	2.40E-2	2.52E+0	1.05E-3	5.52E-2	1.53E-4	-1.46E+0	1.12E+0
PENRE	MJ	1.07E+1	8.67E-2	1.44E-3	1.08E+1	7.76E-2	8.15E-1	4.37E-3	-5.71E+0	5.98E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.07E+1	8.67E-2	1.44E-3	1.08E+1	7.76E-2	8.15E-1	4.37E-3	-5.71E+0	5.98E+0
PET	MJ	1.32E+1	8.79E-2	2.55E-2	1.33E+1	7.86E-2	8.71E-1	4.53E-3	-7.16E+0	7.10E+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	7.30E-3	9.24E-6	1.46E-6	7.31E-3	8.27E-6	8.28E-4	5.04E-6	-3.77E-3	4.39E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.72E-5	2.09E-7	2.73E-13	5.74E-5	1.87E-7	1.26E-6	5.03E-9	-4.80E-6	5.40E-5
NHWD	kg	4.48E-2	5.06E-3	1.05E-6	4.98E-2	4.53E-3	2.82E-2	1.81E-2	-1.96E-2	8.10E-2
RWD	kg	1.98E-5	5.55E-7	1.10E-13	2.04E-5	4.97E-7	2.92E-6	2.68E-8	-9.85E-6	1.40E-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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