Environmental Profile

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

Ecochain v3.5.80

Product:	3003226 - Wadal PVC Reducer bush GY 90x50
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	2.60E-1	3.75E-3	1.45E-4	2.64E-1	3.32E-3	1.39E-1	1.06E-3	-1.45E-1	2.62E-1
GWP-f	kg CO2 eq	2.90E-1	3.75E-3	1.46E-4	2.94E-1	3.31E-3	1.01E-1	1.06E-3	-1.57E-1	2.42E-1
GWP-b	kg CO2 eq	-3.04E-2	2.28E-6	-1.54E-6	-3.04E-2	2.01E-6	3.87E-2	1.33E-6	1.15E-2	1.98E-2
GWP-luluc	kg CO2 eq	3.24E-4	1.33E-6	1.49E-7	3.25E-4	1.17E-6	4.18E-5	2.79E-8	-1.94E-4	1.74E-4
ODP	kg CFC11 eq	1.44E-7	8.64E-10	8.26E-12	1.45E-7	7.63E-10	1.16E-8	3.92E-11	-7.31E-8	8.40E-8
AP	mol H+ eq	1.39E-3	2.14E-5	1.47E-6	1.42E-3	1.89E-5	1.99E-4	9.56E-7	-6.28E-4	1.01E-3
EP-fw	kg P eq	1.35E-5	3.08E-8	8.24E-9	1.35E-5	2.73E-8	1.40E-6	1.26E-9	-6.53E-6	8.42E-6
EP-m	kg N eq	2.49E-4	7.64E-6	1.55E-7	2.57E-4	6.75E-6	4.90E-5	5.90E-7	-1.15E-4	1.98E-4
EP-T	mol N eq	2.71E-3	8.42E-5	1.85E-6	2.79E-3	7.44E-5	5.40E-4	3.81E-6	-1.25E-3	2.16E-3
POCP	kg NMVOC eq	8.82E-4	2.41E-5	6.28E-7	9.07E-4	2.13E-5	1.61E-4	1.31E-6	-4.20E-4	6.71E-4
ADP-mm	kg Sb eq	2.48E-4	9.70E-8	1.97E-8	2.49E-4	8.57E-8	7.81E-7	9.61E-10	-3.06E-6	2.46E-4
ADP-f	MJ	6.99E+0	5.75E-2	1.36E-3	7.04E+0	5.09E-2	5.34E-1	2.87E-3	-3.70E+0	3.94E+0
WDP	m3 depriv.	4.40E-1	1.77E-4	5.22E-5	4.41E-1	1.56E-4	2.10E-2	1.97E-5	-2.24E-1	2.38E-1
PM	disease inc.	1.00E-8	3.38E-10	9.08E-12	1.04E-8	2.99E-10	2.46E-9	1.97E-11	-5.19E-9	7.96E-9
IR	kBq U-235 eq	1.56E-2	2.51E-4	1.02E-6	1.58E-2	2.22E-4	1.89E-3	1.32E-5	-7.59E-3	1.04E-2
ETP-fw	CTUe	8.57E+0	4.67E-2	1.21E-2	8.63E+0	4.13E-2	4.11E+0	4.54E-2	-3.05E+0	9.77E+0
HTP-c	CTUh	2.58E-10	1.66E-12	6.17E-13	2.60E-10	1.47E-12	6.11E-11	8.00E-14	-9.44E-11	2.28E-10
HTP-nc	CTUh	7.84E-9	5.57E-11	1.57E-11	7.91E-9	4.92E-11	1.44E-9	8.71E-12	-2.90E-9	6.51E-9
SQP	Pt	4.26E+0	4.92E-2	2.24E-3	4.31E+0	4.35E-2	3.27E-1	7.34E-3	-4.94E+0	-2.52E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.52E+0	8.25E-4	2.40E-2	1.55E+0	7.30E-4	3.84E-2	1.06E-4	-9.05E-1	6.82E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.52E+0	8.25E-4	2.40E-2	1.55E+0	7.30E-4	3.84E-2	1.06E-4	-9.05E-1	6.82E-1
PENRE	MJ	7.49E+0	6.11E-2	1.44E-3	7.56E+0	5.40E-2	5.68E-1	3.04E-3	-3.98E+0	4.20E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.49E+0	6.11E-2	1.44E-3	7.56E+0	5.40E-2	5.68E-1	3.04E-3	-3.98E+0	4.20E+0
PET	MJ	9.02E+0	6.19E-2	2.55E-2	9.10E+0	5.47E-2	6.06E-1	3.15E-3	-4.88E+0	4.88E+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	5.11E-3	6.51E-6	1.46E-6	5.12E-3	5.75E-6	5.76E-4	3.51E-6	-2.64E-3	3.06E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.63E-5	1.47E-7	2.73E-13	3.64E-5	1.30E-7	8.77E-7	3.50E-9	-3.30E-6	3.41E-5
NHWD	kg	3.07E-2	3.57E-3	1.05E-6	3.43E-2	3.15E-3	1.97E-2	1.26E-2	-1.32E-2	5.65E-2
RWD	kg	1.37E-5	3.91E-7	1.10E-13	1.41E-5	3.46E-7	2.03E-6	1.86E-8	-6.82E-6	9.70E-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

Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
https://www.ecochain.com
+31 20 3035 777