Environmental Profile

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

Ecochain v3.5.80

Product:	3003221 - Wadal PVC Reducer bush GY 50x32
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	7.93E-2	1.22E-3	1.45E-4	8.06E-2	1.10E-3	7.83E-2	3.57E-4	-5.86E-2	1.02E-1
GWP-f	kg CO2 eq	1.12E-1	1.21E-3	1.46E-4	1.13E-1	1.10E-3	4.39E-2	3.57E-4	-6.07E-2	9.78E-2
GWP-b	kg CO2 eq	-3.26E-2	7.38E-7	-1.54E-6	-3.26E-2	6.69E-7	3.44E-2	4.38E-7	2.17E-3	3.93E-3
GWP-luluc	kg CO2 eq	1.22E-4	4.30E-7	1.49E-7	1.23E-4	3.90E-7	1.37E-5	9.72E-9	-6.39E-5	7.30E-5
ODP	kg CFC11 eq	4.70E-8	2.80E-10	8.26E-12	4.73E-8	2.54E-10	3.77E-9	1.31E-11	-2.52E-8	2.61E-8
AP	mol H+ eq	5.46E-4	6.92E-6	1.47E-6	5.54E-4	6.28E-6	6.67E-5	3.20E-7	-2.27E-4	4.01E-4
EP-fw	kg P eq	4.98E-6	1.00E-8	8.24E-9	5.00E-6	9.06E-9	4.58E-7	4.32E-10	-2.19E-6	3.28E-6
EP-m	kg N eq	9.81E-5	2.48E-6	1.55E-7	1.01E-4	2.25E-6	1.68E-5	1.93E-7	-4.37E-5	7.64E-5
EP-T	mol N eq	1.08E-3	2.73E-5	1.85E-6	1.11E-3	2.47E-5	1.86E-4	1.27E-6	-4.77E-4	8.48E-4
POCP	kg NMVOC eq	3.68E-4	7.80E-6	6.28E-7	3.77E-4	7.07E-6	5.53E-5	4.39E-7	-1.65E-4	2.75E-4
ADP-mm	kg Sb eq	9.92E-5	3.14E-8	1.97E-8	9.92E-5	2.85E-8	2.58E-7	3.26E-10	-1.06E-6	9.84E-5
ADP-f	MJ	2.66E+0	1.87E-2	1.36E-3	2.68E+0	1.69E-2	1.77E-1	9.57E-4	-1.38E+0	1.50E+0
WDP	m3 depriv.	1.54E-1	5.72E-5	5.22E-5	1.54E-1	5.19E-5	6.81E-3	8.07E-6	-7.34E-2	8.71E-2
PM	disease inc.	4.26E-9	1.10E-10	9.08E-12	4.37E-9	9.94E-11	8.27E-10	6.59E-12	-2.00E-9	3.31E-9
IR	kBq U-235 eq	5.62E-3	8.15E-5	1.02E-6	5.70E-3	7.39E-5	6.28E-4	4.37E-6	-2.60E-3	3.80E-3
ETP-fw	CTUe	3.07E+0	1.51E-2	1.21E-2	3.09E+0	1.37E-2	1.32E+0	1.45E-2	-9.91E-1	3.45E+0
HTP-c	CTUh	1.04E-10	5.39E-13	6.17E-13	1.06E-10	4.89E-13	2.25E-11	2.77E-14	-3.89E-11	8.97E-11
HTP-nc	CTUh	2.87E-9	1.81E-11	1.57E-11	2.90E-9	1.64E-11	4.81E-10	2.81E-12	-9.72E-10	2.43E-9
SQP	Pt	3.26E+0	1.60E-2	2.24E-3	3.28E+0	1.45E-2	1.10E-1	2.44E-3	-2.91E+0	5.00E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.36E-1	2.68E-4	2.40E-2	7.60E-1	2.43E-4	1.26E-2	3.47E-5	-4.81E-1	2.92E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.36E-1	2.68E-4	2.40E-2	7.60E-1	2.43E-4	1.26E-2	3.47E-5	-4.81E-1	2.92E-1
PENRE	MJ	2.86E+0	1.98E-2	1.44E-3	2.88E+0	1.80E-2	1.89E-1	1.02E-3	-1.49E+0	1.60E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.86E+0	1.98E-2	1.44E-3	2.88E+0	1.80E-2	1.89E-1	1.02E-3	-1.49E+0	1.60E+0
PET	MJ	3.59E+0	2.01E-2	2.55E-2	3.64E+0	1.82E-2	2.01E-1	1.05E-3	-1.97E+0	1.89E+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	1.94E-3	2.11E-6	1.46E-6	1.95E-3	1.91E-6	1.89E-4	1.16E-6	-8.53E-4	1.28E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.43E-5	4.77E-8	2.73E-13	1.44E-5	4.32E-8	2.95E-7	1.18E-9	-1.34E-6	1.34E-5
NHWD	kg	1.23E-2	1.16E-3	1.05E-6	1.35E-2	1.05E-3	7.11E-3	4.19E-3	-5.19E-3	2.07E-2
RWD	kg	4.98E-6	1.27E-7	1.10E-13	5.11E-6	1.15E-7	6.81E-7	6.20E-9	-2.39E-6	3.52E-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