Environmental Profile

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

Ecochain v3.5.80

Product:	3003220 - Wadal PVC Reducer bush GY 40x32
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	5.52E-2	8.32E-4	1.45E-4	5.62E-2	8.13E-4	6.99E-2	2.63E-4	-4.66E-2	8.06E-2
GWP-f	kg CO2 eq	8.81E-2	8.31E-4	1.46E-4	8.90E-2	8.12E-4	3.58E-2	2.63E-4	-4.81E-2	7.79E-2
GWP-b	kg CO2 eq	-3.29E-2	5.05E-7	-1.54E-6	-3.29E-2	4.93E-7	3.41E-2	3.23E-7	1.50E-3	2.65E-3
GWP-luluc	kg CO2 eq	9.50E-5	2.94E-7	1.49E-7	9.54E-5	2.87E-7	1.01E-5	7.17E-9	-5.07E-5	5.52E-5
ODP	kg CFC11 eq	3.50E-8	1.92E-10	8.26E-12	3.52E-8	1.87E-10	2.79E-9	9.64E-12	-1.89E-8	1.93E-8
AP	mol H+ eq	4.25E-4	4.73E-6	1.47E-6	4.31E-4	4.63E-6	5.01E-5	2.36E-7	-1.77E-4	3.10E-4
EP-fw	kg P eq	3.78E-6	6.84E-9	8.24E-9	3.80E-6	6.68E-9	3.39E-7	3.19E-10	-1.67E-6	2.48E-6
EP-m	kg N eq	7.68E-5	1.69E-6	1.55E-7	7.87E-5	1.66E-6	1.28E-5	1.43E-7	-3.48E-5	5.84E-5
EP-T	mol N eq	8.48E-4	1.87E-5	1.85E-6	8.69E-4	1.82E-5	1.41E-4	9.38E-7	-3.82E-4	6.48E-4
POCP	kg NMVOC eq	2.95E-4	5.34E-6	6.28E-7	3.01E-4	5.21E-6	4.19E-5	3.24E-7	-1.33E-4	2.16E-4
ADP-mm	kg Sb eq	5.04E-5	2.15E-8	1.97E-8	5.05E-5	2.10E-8	1.92E-7	2.40E-10	-8.03E-7	4.99E-5
ADP-f	MJ	2.10E+0	1.28E-2	1.36E-3	2.11E+0	1.25E-2	1.32E-1	7.06E-4	-1.07E+0	1.18E+0
WDP	m3 depriv.	1.16E-1	3.92E-5	5.22E-5	1.16E-1	3.83E-5	5.04E-3	5.96E-6	-5.45E-2	6.69E-2
PM	disease inc.	3.48E-9	7.50E-11	9.08E-12	3.57E-9	7.33E-11	6.20E-10	4.86E-12	-1.63E-9	2.63E-9
IR	kBq U-235 eq	4.25E-3	5.58E-5	1.02E-6	4.31E-3	5.45E-5	4.69E-4	3.22E-6	-1.98E-3	2.86E-3
ETP-fw	CTUe	2.14E+0	1.04E-2	1.21E-2	2.16E+0	1.01E-2	9.76E-1	1.07E-2	-7.63E-1	2.40E+0
HTP-c	CTUh	7.82E-11	3.69E-13	6.17E-13	7.92E-11	3.60E-13	1.71E-11	2.04E-14	-3.19E-11	6.47E-11
HTP-nc	CTUh	2.04E-9	1.24E-11	1.57E-11	2.07E-9	1.21E-11	3.59E-10	2.07E-12	-7.30E-10	1.71E-9
SQP	Pt	3.14E+0	1.09E-2	2.24E-3	3.16E+0	1.07E-2	8.25E-2	1.80E-3	-2.74E+0	5.09E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.23E-1	1.83E-4	2.40E-2	6.48E-1	1.79E-4	9.32E-3	2.56E-5	-4.44E-1	2.13E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.23E-1	1.83E-4	2.40E-2	6.48E-1	1.79E-4	9.32E-3	2.56E-5	-4.44E-1	2.13E-1
PENRE	MJ	2.25E+0	1.35E-2	1.44E-3	2.26E+0	1.32E-2	1.41E-1	7.49E-4	-1.16E+0	1.26E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.25E+0	1.35E-2	1.44E-3	2.26E+0	1.32E-2	1.41E-1	7.49E-4	-1.16E+0	1.26E+0
PET	MJ	2.87E+0	1.37E-2	2.55E-2	2.91E+0	1.34E-2	1.50E-1	7.75E-4	-1.60E+0	1.47E+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	1.50E-3	1.44E-6	1.46E-6	1.50E-3	1.41E-6	1.41E-4	8.58E-7	-6.39E-4	1.01E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.76E-6	3.26E-8	2.73E-13	7.80E-6	3.19E-8	2.21E-7	8.71E-10	-1.09E-6	6.96E-6
NHWD	kg	9.83E-3	7.91E-4	1.05E-6	1.06E-2	7.73E-4	5.46E-3	3.09E-3	-4.18E-3	1.58E-2
RWD	kg	3.81E-6	8.68E-8	1.10E-13	3.89E-6	8.48E-8	5.10E-7	4.57E-9	-1.84E-6	2.66E-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