Environmental Profile

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

Ecochain v3.5.80

Product:	3003235 - Wadal PVC Reducer bush GY 110x90
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	3.12E-1	5.05E-3	1.45E-4	3.17E-1	4.24E-3	2.01E-1	1.35E-3	-1.87E-1	3.36E-1
GWP-f	kg CO2 eq	3.74E-1	5.04E-3	1.46E-4	3.79E-1	4.23E-3	1.27E-1	1.35E-3	-2.02E-1	3.09E-1
GWP-b	kg CO2 eq	-6.27E-2	3.06E-6	-1.54E-6	-6.27E-2	2.57E-6	7.38E-2	1.70E-6	1.55E-2	2.66E-2
GWP-luluc	kg CO2 eq	4.33E-4	1.79E-6	1.49E-7	4.35E-4	1.50E-6	5.35E-5	3.57E-8	-2.65E-4	2.25E-4
ODP	kg CFC11 eq	1.84E-7	1.16E-9	8.26E-12	1.86E-7	9.76E-10	1.48E-8	5.02E-11	-9.38E-8	1.08E-7
AP	mol H+ eq	1.81E-3	2.87E-5	1.47E-6	1.84E-3	2.41E-5	2.55E-4	1.22E-6	-8.27E-4	1.29E-3
EP-fw	kg P eq	1.75E-5	4.15E-8	8.24E-9	1.76E-5	3.48E-8	1.79E-6	1.61E-9	-8.57E-6	1.08E-5
EP-m	kg N eq	3.27E-4	1.03E-5	1.55E-7	3.37E-4	8.63E-6	6.30E-5	7.54E-7	-1.54E-4	2.56E-4
EP-T	mol N eq	3.56E-3	1.13E-4	1.85E-6	3.67E-3	9.51E-5	6.94E-4	4.87E-6	-1.67E-3	2.79E-3
POCP	kg NMVOC eq	1.16E-3	3.24E-5	6.28E-7	1.19E-3	2.72E-5	2.07E-4	1.68E-6	-5.63E-4	8.63E-4
ADP-mm	kg Sb eq	3.47E-4	1.30E-7	1.97E-8	3.47E-4	1.10E-7	1.00E-6	1.23E-9	-3.97E-6	3.44E-4
ADP-f	MJ	8.95E+0	7.74E-2	1.36E-3	9.03E+0	6.50E-2	6.84E-1	3.67E-3	-4.76E+0	5.02E+0
WDP	m3 depriv.	5.63E-1	2.38E-4	5.22E-5	5.63E-1	1.99E-4	2.68E-2	2.52E-5	-2.88E-1	3.02E-1
PM	disease inc.	1.34E-8	4.55E-10	9.08E-12	1.38E-8	3.82E-10	3.15E-9	2.52E-11	-7.14E-9	1.03E-8
IR	kBq U-235 eq	2.02E-2	3.38E-4	1.02E-6	2.05E-2	2.84E-4	2.43E-3	1.68E-5	-9.89E-3	1.33E-2
ETP-fw	CTUe	1.14E+1	6.29E-2	1.21E-2	1.15E+1	5.28E-2	5.26E+0	5.79E-2	-4.06E+0	1.28E+1
HTP-c	CTUh	3.52E-10	2.24E-12	6.17E-13	3.54E-10	1.88E-12	7.83E-11	1.02E-13	-1.30E-10	3.05E-10
HTP-nc	CTUh	1.04E-8	7.50E-11	1.57E-11	1.05E-8	6.29E-11	1.84E-9	1.11E-11	-3.75E-9	8.62E-9
SQP	Pt	7.50E+0	6.62E-2	2.24E-3	7.57E+0	5.56E-2	4.19E-1	9.38E-3	-8.14E+0	-9.34E-2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.33E+0	1.11E-3	2.40E-2	2.36E+0	9.32E-4	4.91E-2	1.36E-4	-1.43E+0	9.73E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.33E+0	1.11E-3	2.40E-2	2.36E+0	9.32E-4	4.91E-2	1.36E-4	-1.43E+0	9.73E-1
PENRE	MJ	9.60E+0	8.22E-2	1.44E-3	9.69E+0	6.90E-2	7.28E-1	3.89E-3	-5.12E+0	5.36E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.60E+0	8.22E-2	1.44E-3	9.69E+0	6.90E-2	7.28E-1	3.89E-3	-5.12E+0	5.36E+0
PET	MJ	1.19E+1	8.33E-2	2.55E-2	1.20E+1	6.99E-2	7.77E-1	4.03E-3	-6.56E+0	6.34E+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	6.55E-3	8.76E-6	1.46E-6	6.56E-3	7.35E-6	7.37E-4	4.48E-6	-3.43E-3	3.88E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.03E-5	1.98E-7	2.73E-13	5.05E-5	1.66E-7	1.13E-6	4.48E-9	-4.35E-6	4.74E-5
NHWD	kg	4.07E-2	4.80E-3	1.05E-6	4.55E-2	4.03E-3	2.52E-2	1.61E-2	-1.79E-2	7.29E-2
RWD	kg	1.78E-5	5.27E-7	1.10E-13	1.84E-5	4.42E-7	2.61E-6	2.38E-8	-8.93E-6	1.25E-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

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