

# Environmental Profile

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

Ecochain v3.5.71



Product: 3066574 - PVC-U U Drain Bend 45° 110 D/S  
 Unit: 1 piece  
 Manufacturer: Wavin - UK - Chippenham - Verified

LCA standard: EN15804+A2 (2019)  
 Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off  
 Externally verified: Yes  
 Issue date: 09-02-2023  
 End of validity: 09-02-2028  
 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 - UK - Chippenham - Verified (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

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# Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	5.74E-1	2.46E-2	5.25E-2	6.51E-1	7.64E-3	2.12E-1	2.40E-3	-3.19E-1	5.54E-1
GWP-f	kg CO2 eq	5.69E-1	2.46E-2	5.11E-2	6.44E-1	7.63E-3	2.12E-1	2.40E-3	-3.17E-1	5.50E-1
GWP-b	kg CO2 eq	4.88E-3	-5.22E-6	1.42E-3	6.30E-3	4.64E-6	-1.81E-4	3.01E-6	-2.22E-3	3.90E-3
GWP-luluc	kg CO2 eq	4.74E-4	1.62E-5	4.15E-5	5.32E-4	2.70E-6	9.37E-5	6.39E-8	-2.06E-4	4.22E-4
ODP	kg CFC11 eq	3.16E-7	5.00E-9	4.79E-9	3.25E-7	1.76E-9	2.56E-8	9.01E-11	-1.60E-7	1.93E-7
AP	mol H+ eq	2.65E-3	7.34E-4	2.71E-4	3.66E-3	4.35E-5	4.32E-4	2.19E-6	-1.21E-3	2.93E-3
EP-fw	kg P eq	2.59E-5	1.11E-7	7.03E-7	2.67E-5	6.28E-8	3.13E-6	2.88E-9	-1.18E-5	1.82E-5
EP-m	kg N eq	4.46E-4	1.82E-4	5.51E-5	6.83E-4	1.56E-5	1.04E-4	1.36E-6	-2.08E-4	5.95E-4
EP-T	mol N eq	4.86E-3	2.02E-3	5.96E-4	7.48E-3	1.71E-4	1.15E-3	8.74E-6	-2.21E-3	6.59E-3
POCP	kg NMVOC eq	1.65E-3	5.25E-4	2.68E-4	2.44E-3	4.90E-5	3.43E-4	3.00E-6	-7.69E-4	2.07E-3
ADP-mm	kg Sb eq	3.30E-4	2.28E-7	1.19E-6	3.32E-4	1.97E-7	1.70E-6	2.20E-9	-6.59E-6	3.27E-4
ADP-f	MJ	1.45E+1	3.20E-1	5.64E-1	1.54E+1	1.17E-1	1.18E+0	6.58E-3	-7.71E+0	8.98E+0
WDP	m3 depriv.	9.54E-1	5.28E-4	1.75E-2	9.72E-1	3.60E-4	4.72E-2	4.53E-5	-4.60E-1	5.60E-1
PM	disease inc.	1.74E-8	9.00E-10	1.84E-9	2.01E-8	6.89E-10	5.33E-9	4.53E-11	-7.63E-9	1.85E-8
IR	kBq U-235 eq	3.17E-2	1.38E-3	1.44E-3	3.45E-2	5.12E-4	4.14E-3	3.02E-5	-1.48E-2	2.44E-2
ETP-fw	CTUe	1.23E+1	2.13E-1	1.43E+0	1.40E+1	9.52E-2	9.19E+0	1.02E-1	-4.43E+0	1.89E+1
HTP-c	CTUh	4.42E-10	1.36E-11	5.61E-11	5.11E-10	3.39E-12	1.32E-10	1.82E-13	-1.68E-10	4.78E-10
HTP-nc	CTUh	1.42E-8	1.82E-10	3.28E-9	1.76E-8	1.13E-10	3.18E-9	1.96E-11	-5.83E-9	1.51E-8
SQP	Pt	1.88E+0	7.03E-2	1.88E-1	2.14E+0	1.00E-1	7.25E-1	1.68E-2	-8.21E-1	2.16E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.15E-1	2.44E-3	2.91E+0	3.63E+0	1.68E-3	8.59E-2	2.43E-4	-3.34E-1	3.39E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.15E-1	2.44E-3	2.91E+0	3.63E+0	1.68E-3	8.59E-2	2.43E-4	-3.34E-1	3.39E+0
PENRE	MJ	1.56E+1	3.40E-1	5.99E-1	1.65E+1	1.24E-1	1.26E+0	6.98E-3	-8.31E+0	9.58E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.56E+1	3.40E-1	5.99E-1	1.65E+1	1.24E-1	1.26E+0	6.98E-3	-8.31E+0	9.58E+0
PET	MJ	1.63E+1	3.42E-1	3.51E+0	2.01E+1	1.26E-1	1.34E+0	7.23E-3	-8.64E+0	1.30E+1
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	1.04E-2	1.90E-5	5.03E-4	1.10E-2	1.33E-5	1.29E-3	8.05E-6	-4.80E-3	7.49E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.11E-5	3.54E-7	5.57E-6	5.70E-5	3.00E-7	1.90E-6	8.03E-9	-6.40E-6	5.28E-5
NHWD	kg	5.60E-2	2.98E-3	1.13E-3	6.01E-2	7.26E-3	4.27E-2	2.91E-2	-2.45E-2	1.15E-1
RWD	kg	2.78E-5	2.22E-6	1.47E-6	3.15E-5	7.97E-7	4.41E-6	4.28E-8	-1.31E-5	2.36E-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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