

Environmental Profile

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

Ecochain v3.5.64



Product: 3084310 - Ca.Prot.Pipe BK 180x16,4 L=100 m
Unit: 1 piece
Manufacturer: Wavin - DE - Westeregeln - verified
Address: Borrweg 10
39448 Börde-Hakel
Germany
Contact: <https://www.wavin.com/en-en>

LCA standard: EN15804+A2 (2019)
Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified: Yes
Issue date: 11-08-2022
End of validity: 11-08-2027
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 - DE - Westeregeln - 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					Use stage							End-of-Life stage				
A1 Raw material supply A2 Transport A3 Manufacturing					B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment B6 Operational energy use B7 Operational water use							C1 De-construction demolition C2 Transport C3 Waste processing C4 Disposal				
Construction process stage					Benefits and loads beyond the system boundaries											
A4 Transport gate to site A5 Assembly / Construction installation process					D Reuse- Recovery- Recycling- potential											

Environmental impacts and parameters

GWP-total = EF Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF 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

This document and supporting material contain confidential and proprietary business information of Wavin - DE - Westeregeln - verified . These materials may be printed or (photo) copied or otherwise used only with the written consent of Wavin - DE - Westeregeln - verified .

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.69E+3	9.58E+1	3.43E+1	1.82E+3	2.22E+1	7.20E+2	1.23E+1	-1.11E+3	1.47E+3
GWP-f	kg CO2 eq	1.69E+3	9.57E+1	2.82E+1	1.81E+3	2.22E+1	7.21E+2	1.23E+1	-1.11E+3	1.46E+3
GWP-b	kg CO2 eq	8.47E+0	2.16E-3	2.87E+0	1.13E+1	1.35E-2	-8.87E-1	9.20E-3	-4.20E+0	6.27E+0
GWP-luluc	kg CO2 eq	5.08E-1	5.29E-2	3.23E+0	3.79E+0	7.85E-3	1.25E-1	1.79E-4	-2.52E-1	3.67E+0
ODP	kg CFC11 eq	7.25E-5	2.00E-5	3.72E-6	9.63E-5	5.11E-6	1.62E-5	2.62E-7	-5.29E-5	6.50E-5
AP	mol H+ eq	6.19E+0	2.02E+0	1.66E-1	8.38E+0	1.26E-1	6.81E-1	6.27E-3	-3.07E+0	6.13E+0
EP-fw	kg P eq	2.81E-2	6.36E-4	6.38E-4	2.94E-2	1.82E-4	3.59E-3	8.19E-6	-1.38E-2	1.94E-2
EP-m	kg N eq	1.04E+0	5.23E-1	3.44E-2	1.60E+0	4.52E-2	1.98E-1	4.40E-3	-5.60E-1	1.29E+0
EP-T	mol N eq	1.16E+1	5.80E+0	3.46E-1	1.78E+1	4.98E-1	2.18E+0	2.54E-2	-6.23E+0	1.43E+1
POCP	kg NMVOC eq	5.62E+0	1.53E+0	9.97E-2	7.24E+0	1.42E-1	6.89E-1	9.96E-3	-2.91E+0	5.18E+0
ADP-mm	kg Sb eq	1.51E-2	1.44E-3	8.22E-4	1.74E-2	5.74E-4	2.70E-3	6.31E-6	-7.16E-3	1.35E-2
ADP-f	MJ	5.98E+4	1.32E+3	3.31E+2	6.14E+4	3.40E+2	2.16E+3	1.92E+1	-3.32E+4	3.07E+4
WDP	m3 depriv.	1.32E+3	3.22E+0	1.87E+2	1.51E+3	1.04E+0	4.24E+1	9.58E-2	-6.46E+2	9.03E+2
PM	disease inc.	5.59E-5	5.35E-6	1.50E-6	6.28E-5	2.00E-6	1.12E-5	1.32E-7	-2.43E-5	5.19E-5
IR	kBq U-235 eq	4.69E+1	5.59E+0	8.98E-1	5.34E+1	1.49E+0	6.51E+0	8.91E-2	-2.00E+1	4.14E+1
ETP-fw	CTUe	1.02E+4	1.00E+3	8.08E+2	1.20E+4	2.76E+2	2.45E+3	1.69E+1	-4.83E+3	9.96E+3
HTP-c	CTUh	4.42E-7	4.89E-8	3.00E-8	5.21E-7	9.83E-9	2.95E-7	4.71E-10	-2.29E-7	5.97E-7
HTP-nc	CTUh	1.04E-5	9.61E-7	7.72E-7	1.21E-5	3.29E-7	3.69E-6	1.08E-8	-5.13E-6	1.10E-5
SQP	Pt	2.14E+3	6.28E+2	3.21E+1	2.80E+3	2.91E+2	1.73E+3	4.91E+1	-1.05E+3	3.81E+3
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.78E+2	1.24E+1	1.74E+3	2.73E+3	4.88E+0	1.07E+2	7.53E-1	-4.81E+2	2.36E+3
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	9.78E+2	1.24E+1	1.74E+3	2.73E+3	4.88E+0	1.07E+2	7.53E-1	-4.81E+2	2.36E+3
PENRE	MJ	6.41E+4	1.40E+3	3.54E+2	6.59E+4	3.61E+2	2.30E+3	2.03E+1	-3.58E+4	3.27E+4
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.41E+4	1.40E+3	3.54E+2	6.59E+4	3.61E+2	2.30E+3	2.03E+1	-3.58E+4	3.27E+4
PET	MJ	6.51E+4	1.41E+3	2.09E+3	6.86E+4	3.66E+2	2.41E+3	2.11E+1	-3.63E+4	3.51E+4
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	1.99E+1	1.11E-1	4.45E+0	2.44E+1	3.85E-2	1.25E+0	2.36E-2	-9.87E+0	1.59E+1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.65E-3	2.20E-3	5.41E-4	1.04E-2	8.70E-4	3.52E-3	2.31E-5	-9.72E-3	5.09E-3
NHWD	kg	5.39E+1	4.06E+1	6.78E-1	9.52E+1	2.11E+1	1.06E+2	8.43E+1	-2.71E+1	2.80E+2
RWD	kg	4.80E-2	8.92E-3	1.29E-3	5.82E-2	2.31E-3	8.24E-3	1.25E-4	-1.86E-2	5.03E-2
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