

Environmental Profile

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

Ecochain v3.5.64



Product: 3017946 - Prot.Pipe BK 140x12,8 L=100
Unit: 1 piece
Manufacturer: Wavin - DE - Westeregeln - verified
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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]

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.77E+2	4.46E-1	2.10E+1	1.98E+2	1.35E+1	4.37E+2	7.44E+0	9.60E+0	6.66E+2
GWP-f	kg CO2 eq	1.41E+2	4.46E-1	1.73E+1	1.58E+2	1.35E+1	4.38E+2	7.45E+0	8.60E+0	6.26E+2
GWP-b	kg CO2 eq	3.57E+1	2.06E-4	1.78E+0	3.74E+1	8.17E-3	-5.39E-1	5.59E-3	9.90E-1	3.79E+1
GWP-luluc	kg CO2 eq	2.65E-1	1.63E-4	2.00E+0	2.27E+0	4.76E-3	7.56E-2	1.08E-4	5.49E-2	2.40E+0
ODP	kg CFC11 eq	1.21E-5	9.83E-8	2.27E-6	1.44E-5	3.10E-6	9.84E-6	1.59E-7	-1.48E-5	1.27E-5
AP	mol H+ eq	7.75E-1	2.58E-3	1.02E-1	8.80E-1	7.67E-2	4.14E-1	3.80E-3	5.79E-1	1.95E+0
EP-fw	kg P eq	1.24E-2	4.49E-6	3.92E-4	1.28E-2	1.11E-4	2.18E-3	4.97E-6	3.15E-3	1.82E-2
EP-m	kg N eq	1.22E-1	9.11E-4	2.11E-2	1.44E-1	2.74E-2	1.20E-1	2.67E-3	7.76E-2	3.72E-1
EP-T	mol N eq	1.28E+0	1.00E-2	2.12E-1	1.50E+0	3.02E-1	1.32E+0	1.54E-2	8.73E-1	4.02E+0
POCP	kg NMVOC eq	3.26E-1	2.87E-3	6.10E-2	3.90E-1	8.64E-2	4.19E-1	6.04E-3	5.04E-1	1.40E+0
ADP-mm	kg Sb eq	3.21E-3	1.13E-5	5.09E-4	3.73E-3	3.48E-4	1.64E-3	3.83E-6	1.73E-3	7.45E-3
ADP-f	MJ	2.49E+3	6.72E+0	2.03E+2	2.70E+3	2.07E+2	1.31E+3	1.16E+1	3.86E+3	8.08E+3
WDP	m3 depriv.	2.99E+1	2.40E-2	1.16E+2	1.46E+2	6.34E-1	2.58E+1	5.82E-2	1.53E+2	3.25E+2
PM	disease inc.	7.86E-6	4.00E-8	9.15E-7	8.81E-6	1.22E-6	6.81E-6	7.99E-8	5.48E-6	2.24E-5
IR	kBq U-235 eq	1.95E+1	2.82E-2	5.46E-1	2.01E+1	9.03E-1	3.95E+0	5.41E-2	3.84E+0	2.88E+1
ETP-fw	CTUe	4.34E+3	5.99E+0	4.98E+2	4.85E+3	1.68E+2	1.49E+3	1.02E+1	8.70E+2	7.38E+3
HTP-c	CTUh	8.37E-8	1.94E-10	1.85E-8	1.02E-7	5.97E-9	1.79E-7	2.86E-10	3.96E-8	3.28E-7
HTP-nc	CTUh	2.11E-6	6.55E-9	4.77E-7	2.60E-6	2.00E-7	2.24E-6	6.54E-9	1.05E-6	6.09E-6
SQP	Pt	1.04E+3	5.83E+0	1.95E+1	1.06E+3	1.77E+2	1.05E+3	2.98E+1	1.45E+2	2.46E+3
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.33E+2	8.41E-2	1.08E+3	1.51E+3	2.96E+0	6.47E+1	4.57E-1	1.11E+2	1.69E+3
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.33E+2	8.41E-2	1.08E+3	1.51E+3	2.96E+0	6.47E+1	4.57E-1	1.11E+2	1.69E+3
PENRE	MJ	2.62E+3	7.13E+0	2.17E+2	2.84E+3	2.19E+2	1.40E+3	1.23E+1	4.03E+3	8.50E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.62E+3	7.13E+0	2.17E+2	2.84E+3	2.19E+2	1.40E+3	1.23E+1	4.03E+3	8.50E+3
PET	MJ	3.05E+3	7.22E+0	1.30E+3	4.36E+3	2.22E+2	1.46E+3	1.28E+1	4.14E+3	1.02E+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+0	8.18E-4	2.75E+0	4.74E+0	2.34E-2	7.58E-1	1.44E-2	2.23E+0	7.77E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.16E-3	1.70E-5	3.28E-4	2.50E-3	5.28E-4	2.14E-3	1.40E-5	-2.99E-3	2.19E-3
NHWD	kg	2.37E+1	4.26E-1	4.12E-1	2.45E+1	1.28E+1	6.45E+1	5.12E+1	5.13E+0	1.58E+2
RWD	kg	1.62E-2	4.41E-5	7.84E-4	1.70E-2	1.41E-3	5.01E-3	7.60E-5	2.98E-3	2.65E-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



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