Environmental Profile

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

Ecochain v3.5.80

Product:	3024102 - KANION PVC Pipe Bracket 75 BK
Unit:	1 piece
Manufacturer:	Wavin - PL -Buk - Extra products

Kanion gutters mean original design, elegance and aesthetics. They are designed to drain 100% of rainwater. It is safe to say that they are intended for the most demanding users.

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	2.26E-1	3.31E-3	1.45E-4	2.29E-1	1.55E-3	1.41E-1	5.07E-4	-1.06E-1	2.67E-1
GWP-f	kg CO2 eq	2.58E-1	3.31E-3	1.46E-4	2.61E-1	1.55E-3	1.01E-1	5.07E-4	-1.22E-1	2.42E-1
GWP-b	kg CO2 eq	-3.27E-2	2.01E-6	-1.54E-6	-3.27E-2	9.41E-7	4.07E-2	6.13E-7	1.67E-2	2.47E-2
GWP-luluc	kg CO2 eq	3.07E-4	1.17E-6	1.49E-7	3.08E-4	5.48E-7	1.99E-5	1.41E-8	-1.73E-4	1.55E-4
ODP	kg CFC11 eq	7.10E-8	7.63E-10	8.26E-12	7.18E-8	3.57E-10	5.54E-9	1.84E-11	-3.88E-8	3.89E-8
AP	mol H+ eq	1.29E-3	1.89E-5	1.47E-6	1.31E-3	8.82E-6	1.09E-4	4.53E-7	-4.20E-4	1.01E-3
EP-fw	kg P eq	1.10E-5	2.72E-8	8.24E-9	1.11E-5	1.27E-8	6.71E-7	6.21E-10	-4.48E-6	7.28E-6
EP-m	kg N eq	2.41E-4	6.75E-6	1.55E-7	2.48E-4	3.16E-6	2.93E-5	2.69E-7	-8.42E-5	1.96E-4
EP-T	mol N eq	2.61E-3	7.44E-5	1.85E-6	2.69E-3	3.48E-5	3.23E-4	1.79E-6	-9.31E-4	2.12E-3
POCP	kg NMVOC eq	9.02E-4	2.13E-5	6.28E-7	9.23E-4	9.95E-6	9.55E-5	6.21E-7	-3.26E-4	7.04E-4
ADP-mm	kg Sb eq	1.98E-4	8.57E-8	1.97E-8	1.98E-4	4.01E-8	4.11E-7	4.64E-10	-1.57E-6	1.97E-4
ADP-f	MJ	5.71E+0	5.08E-2	1.36E-3	5.77E+0	2.38E-2	2.72E-1	1.35E-3	-2.50E+0	3.56E+0
WDP	m3 depriv.	2.53E-1	1.56E-4	5.22E-5	2.53E-1	7.30E-5	9.66E-3	1.27E-5	-1.26E-1	1.37E-1
PM	disease inc.	1.20E-8	2.99E-10	9.08E-12	1.23E-8	1.40E-10	1.36E-9	9.29E-12	-4.36E-9	9.43E-9
IR	kBq U-235 eq	1.17E-2	2.22E-4	1.02E-6	1.19E-2	1.04E-4	9.79E-4	6.13E-6	-4.41E-3	8.58E-3
ETP-fw	CTUe	8.23E+0	4.13E-2	1.21E-2	8.28E+0	1.93E-2	1.87E+0	1.99E-2	-2.65E+0	7.54E+0
HTP-c	CTUh	6.70E-10	1.47E-12	6.17E-13	6.72E-10	6.87E-13	3.91E-11	4.00E-14	-6.05E-11	6.51E-10
HTP-nc	CTUh	6.51E-9	4.92E-11	1.57E-11	6.58E-9	2.30E-11	7.46E-10	3.87E-12	-1.64E-10	7.18E-9
SQP	Pt	4.40E+0	4.35E-2	2.24E-3	4.44E+0	2.03E-2	1.75E-1	3.44E-3	-5.59E+0	-9.52E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.16E+0	7.29E-4	2.40E-2	1.19E+0	3.41E-4	1.85E-2	4.82E-5	-9.75E-1	2.31E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.16E+0	7.29E-4	2.40E-2	1.19E+0	3.41E-4	1.85E-2	4.82E-5	-9.75E-1	2.31E-1
PENRE	MJ	6.12E+0	5.40E-2	1.44E-3	6.18E+0	2.52E-2	2.90E-1	1.43E-3	-2.70E+0	3.79E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.12E+0	5.40E-2	1.44E-3	6.18E+0	2.52E-2	2.90E-1	1.43E-3	-2.70E+0	3.79E+0
PET	MJ	7.29E+0	5.47E-2	2.55E-2	7.37E+0	2.56E-2	3.08E-1	1.48E-3	-3.68E+0	4.02E+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	3.85E-3	5.75E-6	1.46E-6	3.86E-3	2.69E-6	2.76E-4	1.63E-6	-1.76E-3	2.38E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.87E-5	1.30E-7	2.73E-13	2.88E-5	6.08E-8	4.82E-7	1.68E-9	-3.35E-6	2.60E-5
NHWD	kg	5.74E-2	3.15E-3	1.05E-6	6.06E-2	1.47E-3	1.28E-2	5.89E-3	-8.76E-3	7.19E-2
RWD	kg	1.09E-5	3.46E-7	1.10E-13	1.12E-5	1.62E-7	1.10E-6	8.72E-9	-4.18E-6	8.33E-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