Environmental Profile

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

Ecochain v3.5.80

Product:	3021650 - KANION PVC Gutter Union+Insert 100 BN
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	6.55E-1	9.55E-3	1.45E-4	6.64E-1	6.80E-3	4.80E-1	2.22E-3	-3.57E-1	7.96E-1
GWP-f	kg CO2 eq	7.84E-1	9.54E-3	1.46E-4	7.93E-1	6.79E-3	3.17E-1	2.22E-3	-4.24E-1	6.95E-1
GWP-b	kg CO2 eq	-1.30E-1	5.79E-6	-1.54E-6	-1.30E-1	4.13E-6	1.63E-1	2.75E-6	6.74E-2	1.01E-1
GWP-luluc	kg CO2 eq	9.97E-4	3.38E-6	1.49E-7	1.00E-3	2.40E-6	8.68E-5	5.85E-8	-7.29E-4	3.61E-4
ODP	kg CFC11 eq	3.07E-7	2.20E-9	8.26E-12	3.09E-7	1.57E-9	2.44E-8	8.14E-11	-1.59E-7	1.76E-7
AP	mol H+ eq	3.70E-3	5.44E-5	1.47E-6	3.76E-3	3.87E-5	4.47E-4	1.99E-6	-1.62E-3	2.62E-3
EP-fw	kg P eq	3.40E-5	7.85E-8	8.24E-9	3.41E-5	5.59E-8	2.92E-6	2.63E-9	-1.79E-5	1.92E-5
EP-m	kg N eq	7.00E-4	1.94E-5	1.55E-7	7.20E-4	1.38E-5	1.16E-4	1.28E-6	-3.20E-4	5.32E-4
EP-T	mol N eq	7.49E-3	2.14E-4	1.85E-6	7.71E-3	1.53E-4	1.28E-3	7.91E-6	-3.52E-3	5.63E-3
POCP	kg NMVOC eq	2.58E-3	6.13E-5	6.28E-7	2.64E-3	4.36E-5	3.81E-4	2.73E-6	-1.16E-3	1.90E-3
ADP-mm	kg Sb eq	1.45E-4	2.47E-7	1.97E-8	1.45E-4	1.76E-7	1.72E-6	2.00E-9	-6.89E-6	1.40E-4
ADP-f	MJ	1.88E+1	1.46E-1	1.36E-3	1.90E+1	1.04E-1	1.15E+0	5.95E-3	-9.26E+0	1.10E+1
WDP	m3 depriv.	9.88E-1	4.50E-4	5.22E-5	9.88E-1	3.20E-4	4.32E-2	4.26E-5	-5.26E-1	5.06E-1
PM	disease inc.	3.23E-8	8.61E-10	9.08E-12	3.32E-8	6.13E-10	5.56E-9	4.10E-11	-1.65E-8	2.29E-8
IR	kBq U-235 eq	3.80E-2	6.40E-4	1.02E-6	3.86E-2	4.56E-4	4.13E-3	2.73E-5	-1.88E-2	2.45E-2
ETP-fw	CTUe	2.25E+1	1.19E-1	1.21E-2	2.26E+1	8.47E-2	8.43E+0	9.14E-2	-1.01E+1	2.11E+1
HTP-c	CTUh	6.94E-10	4.23E-12	6.17E-13	6.99E-10	3.01E-12	1.44E-10	1.67E-13	-2.47E-10	6.00E-10
HTP-nc	CTUh	1.74E-8	1.42E-10	1.57E-11	1.75E-8	1.01E-10	3.11E-9	1.76E-11	-5.50E-9	1.52E-8
SQP	Pt	1.64E+1	1.25E-1	2.24E-3	1.66E+1	8.92E-2	7.15E-1	1.52E-2	-2.26E+1	-5.18E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.56E+0	2.10E-3	2.40E-2	4.59E+0	1.50E-3	8.02E-2	2.21E-4	-3.96E+0	7.15E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.56E+0	2.10E-3	2.40E-2	4.59E+0	1.50E-3	8.02E-2	2.21E-4	-3.96E+0	7.15E-1
PENRE	MJ	2.02E+1	1.56E-1	1.44E-3	2.03E+1	1.11E-1	1.23E+0	6.32E-3	-9.99E+0	1.17E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.02E+1	1.56E-1	1.44E-3	2.03E+1	1.11E-1	1.23E+0	6.32E-3	-9.99E+0	1.17E+1
PET	MJ	2.48E+1	1.58E-1	2.55E-2	2.49E+1	1.12E-1	1.31E+0	6.54E-3	-1.39E+1	1.24E+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	1.29E-2	1.66E-5	1.46E-6	1.29E-2	1.18E-5	1.22E-3	7.28E-6	-7.21E-3	6.91E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.00E-5	3.75E-7	2.73E-13	3.04E-5	2.67E-7	1.98E-6	7.28E-9	-9.83E-6	2.28E-5
NHWD	kg	8.75E-2	9.08E-3	1.05E-6	9.66E-2	6.46E-3	4.76E-2	2.61E-2	-3.41E-2	1.43E-1
RWD	kg	3.54E-5	9.96E-7	1.10E-13	3.63E-5	7.09E-7	4.56E-6	3.87E-8	-1.74E-5	2.43E-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