Environmental Profile

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

Ecochain v3.5.80

Product:	3024082 - KANION PVC Gutter Bracket 100 Graphite
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	1.67E-1	2.41E-3	1.45E-4	1.69E-1	1.89E-3	1.10E-1	6.10E-4	-9.11E-2	1.91E-1
GWP-f	kg CO2 eq	1.98E-1	2.41E-3	1.46E-4	2.01E-1	1.89E-3	7.12E-2	6.10E-4	-1.04E-1	1.70E-1
GWP-b	kg CO2 eq	-3.18E-2	1.46E-6	-1.54E-6	-3.18E-2	1.15E-6	3.92E-2	7.54E-7	1.31E-2	2.05E-2
GWP-luluc	kg CO2 eq	2.42E-4	8.53E-7	1.49E-7	2.43E-4	6.69E-7	2.39E-5	1.65E-8	-1.63E-4	1.05E-4
ODP	kg CFC11 eq	8.10E-8	5.56E-10	8.26E-12	8.16E-8	4.36E-10	6.62E-9	2.24E-11	-4.33E-8	4.53E-8
AP	mol H+ eq	9.68E-4	1.37E-5	1.47E-6	9.84E-4	1.08E-5	1.18E-4	5.49E-7	-4.13E-4	7.00E-4
EP-fw	kg P eq	8.97E-6	1.98E-8	8.24E-9	8.99E-6	1.56E-8	8.00E-7	7.36E-10	-4.44E-6	5.37E-6
EP-m	kg N eq	1.80E-4	4.91E-6	1.55E-7	1.85E-4	3.85E-6	3.01E-5	3.33E-7	-7.92E-5	1.40E-4
EP-T	mol N eq	1.93E-3	5.41E-5	1.85E-6	1.98E-3	4.25E-5	3.32E-4	2.18E-6	-8.67E-4	1.49E-3
POCP	kg NMVOC eq	6.41E-4	1.55E-5	6.28E-7	6.57E-4	1.21E-5	9.90E-5	7.53E-7	-2.89E-4	4.80E-4
ADP-mm	kg Sb eq	1.49E-4	6.24E-8	1.97E-8	1.49E-4	4.89E-8	4.62E-7	5.56E-10	-1.83E-6	1.48E-4
ADP-f	MJ	4.58E+0	3.70E-2	1.36E-3	4.62E+0	2.90E-2	3.12E-1	1.64E-3	-2.35E+0	2.61E+0
WDP	m3 depriv.	2.60E-1	1.14E-4	5.22E-5	2.61E-1	8.91E-5	1.18E-2	1.31E-5	-1.38E-1	1.34E-1
PM	disease inc.	7.71E-9	2.18E-10	9.08E-12	7.94E-9	1.71E-10	1.48E-9	1.13E-11	-3.93E-9	5.67E-9
IR	kBq U-235 eq	9.62E-3	1.62E-4	1.02E-6	9.78E-3	1.27E-4	1.11E-3	7.50E-6	-4.85E-3	6.18E-3
ETP-fw	CTUe	6.15E+0	3.00E-2	1.21E-2	6.19E+0	2.36E-2	2.31E+0	2.52E-2	-2.34E+0	6.20E+0
HTP-c	CTUh	1.84E-10	1.07E-12	6.17E-13	1.86E-10	8.39E-13	3.86E-11	4.71E-14	-6.36E-11	1.62E-10
HTP-nc	CTUh	5.00E-9	3.58E-11	1.57E-11	5.05E-9	2.81E-11	8.39E-10	4.87E-12	-1.61E-9	4.31E-9
SQP	Pt	3.96E+0	3.17E-2	2.24E-3	3.99E+0	2.48E-2	1.94E-1	4.19E-3	-5.00E+0	-7.82E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.07E+0	5.31E-4	2.40E-2	1.10E+0	4.17E-4	2.20E-2	5.99E-5	-8.79E-1	2.39E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.07E+0	5.31E-4	2.40E-2	1.10E+0	4.17E-4	2.20E-2	5.99E-5	-8.79E-1	2.39E-1
PENRE	MJ	4.91E+0	3.93E-2	1.44E-3	4.95E+0	3.08E-2	3.32E-1	1.74E-3	-2.53E+0	2.78E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.91E+0	3.93E-2	1.44E-3	4.95E+0	3.08E-2	3.32E-1	1.74E-3	-2.53E+0	2.78E+0
PET	MJ	5.98E+0	3.98E-2	2.55E-2	6.05E+0	3.12E-2	3.54E-1	1.80E-3	-3.41E+0	3.02E+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	3.31E-3	4.19E-6	1.46E-6	3.31E-3	3.29E-6	3.29E-4	2.00E-6	-1.79E-3	1.86E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.20E-5	9.46E-8	2.73E-13	2.21E-5	7.42E-8	5.26E-7	2.02E-9	-2.34E-6	2.04E-5
NHWD	kg	2.18E-2	2.29E-3	1.05E-6	2.41E-2	1.80E-3	1.23E-2	7.19E-3	-8.79E-3	3.66E-2
RWD	kg	8.57E-6	2.52E-7	1.10E-13	8.82E-6	1.97E-7	1.22E-6	1.06E-8	-4.44E-6	5.81E-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

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