Environmental Profile

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

Ecochain v3.5.80

Product:	3023398 - KANION PVC Pipe Bracket 110 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	2.43E-1	3.76E-3	1.45E-4	2.46E-1	2.50E-3	1.71E-1	8.10E-4	-1.28E-1	2.93E-1
GWP-f	kg CO2 eq	3.06E-1	3.76E-3	1.46E-4	3.10E-1	2.50E-3	9.52E-2	8.10E-4	-1.48E-1	2.61E-1
GWP-b	kg CO2 eq	-6.41E-2	2.28E-6	-1.54E-6	-6.41E-2	1.52E-6	7.57E-2	9.93E-7	2.03E-2	3.19E-2
GWP-luluc	kg CO2 eq	3.82E-4	1.33E-6	1.49E-7	3.84E-4	8.84E-7	3.16E-5	2.21E-8	-2.42E-4	1.74E-4
ODP	kg CFC11 eq	1.09E-7	8.66E-10	8.26E-12	1.10E-7	5.75E-10	8.79E-9	2.96E-11	-5.79E-8	6.13E-8
AP	mol H+ eq	1.55E-3	2.14E-5	1.47E-6	1.58E-3	1.42E-5	1.61E-4	7.26E-7	-6.03E-4	1.15E-3
EP-fw	kg P eq	1.39E-5	3.09E-8	8.24E-9	1.39E-5	2.05E-8	1.06E-6	9.81E-10	-6.48E-6	8.54E-6
EP-m	kg N eq	2.89E-4	7.66E-6	1.55E-7	2.97E-4	5.09E-6	4.13E-5	4.38E-7	-1.18E-4	2.26E-4
EP-T	mol N eq	3.13E-3	8.44E-5	1.85E-6	3.21E-3	5.61E-5	4.56E-4	2.88E-6	-1.30E-3	2.43E-3
POCP	kg NMVOC eq	1.03E-3	2.41E-5	6.28E-7	1.05E-3	1.60E-5	1.36E-4	9.96E-7	-4.49E-4	7.56E-4
ADP-mm	kg Sb eq	2.48E-4	9.72E-8	1.97E-8	2.49E-4	6.46E-8	6.29E-7	7.39E-10	-2.49E-6	2.47E-4
ADP-f	MJ	6.59E+0	5.77E-2	1.36E-3	6.65E+0	3.83E-2	4.20E-1	2.17E-3	-3.23E+0	3.88E+0
WDP	m3 depriv.	3.51E-1	1.77E-4	5.22E-5	3.51E-1	1.18E-4	1.56E-2	1.84E-5	-1.89E-1	1.78E-1
PM	disease inc.	1.37E-8	3.39E-10	9.08E-12	1.40E-8	2.25E-10	2.02E-9	1.49E-11	-6.22E-9	1.01E-8
IR	kBq U-235 eq	1.46E-2	2.52E-4	1.02E-6	1.48E-2	1.68E-4	1.51E-3	9.90E-6	-6.63E-3	9.87E-3
ETP-fw	CTUe	1.01E+1	4.69E-2	1.21E-2	1.02E+1	3.11E-2	3.03E+0	3.29E-2	-3.61E+0	9.68E+0
HTP-c	CTUh	7.39E-10	1.67E-12	6.17E-13	7.41E-10	1.11E-12	5.26E-11	6.29E-14	-9.46E-11	7.01E-10
HTP-nc	CTUh	8.43E-9	5.59E-11	1.57E-11	8.50E-9	3.71E-11	1.12E-9	6.36E-12	-1.06E-9	8.60E-9
SQP	Pt	7.44E+0	4.94E-2	2.24E-3	7.49E+0	3.28E-2	2.65E-1	5.54E-3	-8.73E+0	-9.34E-1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.86E+0	8.28E-4	2.40E-2	1.89E+0	5.50E-4	2.93E-2	7.86E-5	-1.49E+0	4.22E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.86E+0	8.28E-4	2.40E-2	1.89E+0	5.50E-4	2.93E-2	7.86E-5	-1.49E+0	4.22E-1
PENRE	MJ	7.07E+0	6.13E-2	1.44E-3	7.13E+0	4.07E-2	4.47E-1	2.30E-3	-3.48E+0	4.14E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.07E+0	6.13E-2	1.44E-3	7.13E+0	4.07E-2	4.47E-1	2.30E-3	-3.48E+0	4.14E+0
PET	MJ	8.93E+0	6.21E-2	2.55E-2	9.01E+0	4.12E-2	4.76E-1	2.38E-3	-4.97E+0	4.56E+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	4.71E-3	6.53E-6	1.46E-6	4.72E-3	4.34E-6	4.34E-4	2.64E-6	-2.52E-3	2.64E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.64E-5	1.48E-7	2.73E-13	3.65E-5	9.80E-8	7.18E-7	2.68E-9	-3.99E-6	3.34E-5
NHWD	kg	6.47E-2	3.58E-3	1.05E-6	6.83E-2	2.38E-3	1.67E-2	9.50E-3	-1.33E-2	8.35E-2
RWD	kg	1.31E-5	3.92E-7	1.10E-13	1.35E-5	2.61E-7	1.66E-6	1.41E-8	-6.17E-6	9.26E-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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