Environmental Profile

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

Ecochain v3.5.80

Product:	3043638 - Angle ext. KANION PVC 70x135 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	9.64E-1	6.82E-3	7.42E-5	9.71E-1	3.48E-3	6.50E-1	1.12E-3	6.90E-3	1.63E+0
GWP-f	kg CO2 eq	1.05E+0	6.82E-3	7.50E-5	1.06E+0	3.47E-3	2.91E-1	1.12E-3	-5.81E-1	7.72E-1
GWP-b	kg CO2 eq	-8.96E-2	4.14E-6	-7.91E-7	-8.96E-2	2.11E-6	3.59E-1	1.39E-6	5.92E-1	8.62E-1
GWP-luluc	kg CO2 eq	3.75E-3	2.41E-6	7.66E-8	3.75E-3	1.23E-6	6.00E-5	3.01E-8	-4.27E-3	-4.62E-4
ODP	kg CFC11 eq	2.27E-7	1.57E-9	4.24E-12	2.28E-7	8.01E-10	2.04E-8	4.12E-11	-1.29E-7	1.21E-7
AP	mol H+ eq	5.26E-3	3.88E-5	7.56E-7	5.30E-3	1.98E-5	5.12E-4	1.01E-6	-3.53E-3	2.30E-3
EP-fw	kg P eq	5.66E-5	5.61E-8	4.22E-9	5.67E-5	2.86E-8	2.11E-6	1.35E-9	-5.78E-5	1.02E-6
EP-m	kg N eq	1.43E-3	1.39E-5	7.95E-8	1.44E-3	7.08E-6	1.66E-4	6.14E-7	-7.91E-4	8.25E-4
EP-T	mol N eq	1.41E-2	1.53E-4	9.51E-7	1.43E-2	7.80E-5	1.82E-3	4.01E-6	-9.07E-3	7.14E-3
POCP	kg NMVOC eq	3.79E-3	4.38E-5	3.22E-7	3.84E-3	2.23E-5	5.42E-4	1.38E-6	-2.41E-3	1.99E-3
ADP-mm	kg Sb eq	3.06E-4	1.76E-7	1.01E-8	3.06E-4	8.99E-8	2.06E-6	1.02E-9	-7.25E-6	3.01E-4
ADP-f	MJ	2.02E+1	1.05E-1	6.96E-4	2.03E+1	5.33E-2	1.12E+0	3.01E-3	-1.09E+1	1.05E+1
WDP	m3 depriv.	7.75E-1	3.21E-4	2.68E-5	7.75E-1	1.64E-4	2.64E-2	2.34E-5	-1.08E+0	-2.74E-1
PM	disease inc.	6.39E-8	6.15E-10	4.66E-12	6.45E-8	3.14E-10	7.08E-9	2.08E-11	-6.18E-8	1.01E-8
IR	kBq U-235 eq	4.71E-2	4.57E-4	5.22E-7	4.76E-2	2.33E-4	4.44E-3	1.38E-5	-4.45E-2	7.76E-3
ETP-fw	CTUe	8.41E+1	8.50E-2	6.20E-3	8.42E+1	4.33E-2	5.33E+0	4.66E-2	-4.76E+1	4.20E+1
HTP-c	CTUh	7.35E-10	3.02E-12	3.16E-13	7.39E-10	1.54E-12	1.64E-10	8.59E-14	-4.66E-10	4.38E-10
HTP-nc	CTUh	1.90E-8	1.01E-10	8.02E-12	1.91E-8	5.16E-11	2.58E-9	8.98E-12	-1.37E-8	8.01E-9
SQP	Pt	3.39E+1	8.95E-2	1.15E-3	3.40E+1	4.56E-2	6.71E-1	7.70E-3	-1.14E+2	-7.91E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.72E+0	1.50E-3	1.23E-2	6.73E+0	7.65E-4	5.71E-2	1.10E-4	-2.05E+1	-1.37E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.72E+0	1.50E-3	1.23E-2	6.73E+0	7.65E-4	5.71E-2	1.10E-4	-2.05E+1	-1.37E+1
PENRE	MJ	2.17E+1	1.11E-1	7.40E-4	2.18E+1	5.66E-2	1.19E+0	3.20E-3	-1.17E+1	1.14E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.17E+1	1.11E-1	7.40E-4	2.18E+1	5.66E-2	1.19E+0	3.20E-3	-1.17E+1	1.14E+1
PET	MJ	2.84E+1	1.13E-1	1.31E-2	2.85E+1	5.74E-2	1.25E+0	3.31E-3	-3.22E+1	-2.34E+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	1.56E-2	1.18E-5	7.48E-7	1.56E-2	6.04E-6	8.38E-4	3.68E-6	-2.47E-2	-8.29E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.60E-5	2.68E-7	1.40E-13	5.63E-5	1.36E-7	2.44E-6	3.70E-9	-1.35E-5	4.54E-5
NHWD	kg	1.54E-1	6.48E-3	5.40E-7	1.60E-1	3.31E-3	5.08E-2	1.32E-2	-6.32E-2	1.65E-1
RWD	kg	4.61E-5	7.12E-7	5.62E-14	4.69E-5	3.63E-7	5.69E-6	1.96E-8	-4.23E-5	1.06E-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