Environmental Profile

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

Ecochain v3.5.80

Product:	3032739 - KANION PVC Angle ext. 160x90 WT
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	1.35E+0	2.44E-2	1.45E-4	1.38E+0	1.66E-2	1.32E+0	5.47E-3	-8.10E-1	1.91E+0
GWP-f	kg CO2 eq	1.87E+0	2.44E-2	1.46E-4	1.90E+0	1.65E-2	6.99E-1	5.47E-3	-1.01E+0	1.61E+0
GWP-b	kg CO2 eq	-5.20E-1	1.48E-5	-1.54E-6	-5.20E-1	1.01E-5	6.24E-1	6.62E-6	2.03E-1	3.07E-1
GWP-luluc	kg CO2 eq	2.85E-3	8.63E-6	1.49E-7	2.85E-3	5.86E-6	2.07E-4	1.50E-7	-2.17E-3	9.03E-4
ODP	kg CFC11 eq	7.20E-7	5.62E-9	8.26E-12	7.26E-7	3.81E-9	5.78E-8	1.98E-10	-3.90E-7	3.98E-7
AP	mol H+ eq	9.35E-3	1.39E-4	1.47E-6	9.49E-3	9.43E-5	1.07E-3	4.87E-6	-4.21E-3	6.45E-3
EP-fw	kg P eq	8.66E-5	2.01E-7	8.24E-9	8.68E-5	1.36E-7	6.93E-6	6.64E-9	-4.76E-5	4.63E-5
EP-m	kg N eq	1.81E-3	4.97E-5	1.55E-7	1.86E-3	3.37E-5	2.82E-4	3.01E-6	-8.46E-4	1.33E-3
EP-T	mol N eq	1.97E-2	5.47E-4	1.85E-6	2.02E-2	3.72E-4	3.11E-3	1.93E-5	-9.37E-3	1.43E-2
POCP	kg NMVOC eq	6.32E-3	1.57E-4	6.28E-7	6.48E-3	1.06E-4	9.25E-4	6.68E-6	-3.01E-3	4.51E-3
ADP-mm	kg Sb eq	1.65E-3	6.31E-7	1.97E-8	1.65E-3	4.28E-7	4.16E-6	4.97E-9	-1.74E-5	1.64E-3
ADP-f	MJ	4.29E+1	3.74E-1	1.36E-3	4.32E+1	2.54E-1	2.79E+0	1.45E-2	-2.24E+1	2.39E+1
WDP	m3 depriv.	2.35E+0	1.15E-3	5.22E-5	2.36E+0	7.80E-4	1.02E-1	1.31E-4	-1.34E+0	1.12E+0
PM	disease inc.	8.00E-8	2.20E-9	9.08E-12	8.23E-8	1.49E-9	1.35E-8	9.99E-11	-4.64E-8	5.09E-8
IR	kBq U-235 eq	9.40E-2	1.64E-3	1.02E-6	9.56E-2	1.11E-3	9.99E-3	6.61E-5	-4.97E-2	5.70E-2
ETP-fw	CTUe	6.97E+1	3.04E-1	1.21E-2	7.00E+1	2.06E-1	1.97E+1	2.13E-1	-2.78E+1	6.24E+1
HTP-c	CTUh	1.68E-9	1.08E-11	6.17E-13	1.69E-9	7.34E-12	3.65E-10	4.27E-13	-6.93E-10	1.37E-9
HTP-nc	CTUh	4.66E-8	3.62E-10	1.57E-11	4.70E-8	2.46E-10	7.40E-9	4.15E-11	-1.87E-8	3.60E-8
SQP	Pt	5.90E+1	3.20E-1	2.24E-3	5.93E+1	2.17E-1	1.73E+0	3.70E-2	-7.66E+1	-1.53E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.41E+1	5.37E-3	2.40E-2	1.41E+1	3.64E-3	1.90E-1	5.23E-4	-1.31E+1	1.19E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.41E+1	5.37E-3	2.40E-2	1.41E+1	3.64E-3	1.90E-1	5.23E-4	-1.31E+1	1.19E+0
PENRE	MJ	4.60E+1	3.97E-1	1.44E-3	4.64E+1	2.70E-1	2.97E+0	1.54E-2	-2.41E+1	2.55E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.60E+1	3.97E-1	1.44E-3	4.64E+1	2.70E-1	2.97E+0	1.54E-2	-2.41E+1	2.55E+1
PET	MJ	6.01E+1	4.03E-1	2.55E-2	6.05E+1	2.73E-1	3.16E+0	1.59E-2	-3.73E+1	2.67E+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	3.19E-2	4.23E-5	1.46E-6	3.19E-2	2.88E-5	2.88E-3	1.76E-5	-1.92E-2	1.57E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.37E-4	9.57E-7	2.73E-13	2.38E-4	6.50E-7	4.82E-6	1.80E-8	-2.22E-5	2.21E-4
NHWD	kg	2.19E-1	2.32E-2	1.05E-6	2.43E-1	1.57E-2	1.13E-1	6.34E-2	-9.21E-2	3.43E-1
RWD	kg	8.57E-5	2.54E-6	1.10E-13	8.82E-5	1.73E-6	1.11E-5	9.39E-8	-4.61E-5	5.51E-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