Environmental Profile

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

Ecochain v3.5.80

Product:	3024181 - KANION PVC Run.Outlet PVC100/75 Graph.
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	6.19E-1	1.24E-2	1.45E-4	6.31E-1	7.40E-3	6.19E-1	2.42E-3	-3.47E-1	9.13E-1
GWP-f	kg CO2 eq	8.77E-1	1.24E-2	1.46E-4	8.90E-1	7.39E-3	2.98E-1	2.42E-3	-4.69E-1	7.28E-1
GWP-b	kg CO2 eq	-2.59E-1	7.53E-6	-1.54E-6	-2.59E-1	4.49E-6	3.21E-1	2.99E-6	1.23E-1	1.84E-1
GWP-luluc	kg CO2 eq	1.44E-3	4.39E-6	1.49E-7	1.44E-3	2.62E-6	9.51E-5	6.46E-8	-1.20E-3	3.44E-4
ODP	kg CFC11 eq	3.33E-7	2.86E-9	8.26E-12	3.36E-7	1.70E-9	2.70E-8	8.86E-11	-1.76E-7	1.89E-7
AP	mol H+ eq	4.35E-3	7.06E-5	1.47E-6	4.42E-3	4.21E-5	5.04E-4	2.17E-6	-2.08E-3	2.89E-3
EP-fw	kg P eq	4.12E-5	1.02E-7	8.24E-9	4.13E-5	6.08E-8	3.20E-6	2.89E-9	-2.44E-5	2.01E-5
EP-m	kg N eq	8.74E-4	2.53E-5	1.55E-7	8.99E-4	1.51E-5	1.33E-4	1.38E-6	-4.22E-4	6.28E-4
EP-T	mol N eq	9.28E-3	2.79E-4	1.85E-6	9.56E-3	1.66E-4	1.47E-3	8.62E-6	-4.70E-3	6.51E-3
POCP	kg NMVOC eq	2.99E-3	7.96E-5	6.28E-7	3.07E-3	4.75E-5	4.37E-4	2.98E-6	-1.51E-3	2.05E-3
ADP-mm	kg Sb eq	6.05E-4	3.21E-7	1.97E-8	6.05E-4	1.91E-7	1.97E-6	2.19E-9	-8.07E-6	5.99E-4
ADP-f	MJ	1.96E+1	1.90E-1	1.36E-3	1.98E+1	1.14E-1	1.29E+0	6.48E-3	-1.02E+1	1.10E+1
WDP	m3 depriv.	1.06E+0	5.84E-4	5.22E-5	1.06E+0	3.48E-4	4.68E-2	4.96E-5	-6.45E-1	4.59E-1
PM	disease inc.	3.98E-8	1.12E-9	9.08E-12	4.09E-8	6.68E-10	6.36E-9	4.46E-11	-2.47E-8	2.33E-8
IR	kBq U-235 eq	4.34E-2	8.32E-4	1.02E-6	4.43E-2	4.96E-4	4.68E-3	2.97E-5	-2.41E-2	2.54E-2
ETP-fw	CTUe	3.43E+1	1.55E-1	1.21E-2	3.45E+1	9.22E-2	9.15E+0	9.84E-2	-1.52E+1	2.86E+1
HTP-c	CTUh	8.93E-10	5.50E-12	6.17E-13	8.99E-10	3.28E-12	1.61E-10	1.84E-13	-3.38E-10	7.25E-10
HTP-nc	CTUh	2.22E-8	1.84E-10	1.57E-11	2.24E-8	1.10E-10	3.41E-9	1.90E-11	-7.44E-9	1.85E-8
SQP	Pt	2.99E+1	1.63E-1	2.24E-3	3.01E+1	9.71E-2	8.01E-1	1.66E-2	-4.19E+1	-1.10E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.79E+0	2.73E-3	2.40E-2	6.82E+0	1.63E-3	8.80E-2	2.39E-4	-7.19E+0	-2.81E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.79E+0	2.73E-3	2.40E-2	6.82E+0	1.63E-3	8.80E-2	2.39E-4	-7.19E+0	-2.81E-1
PENRE	MJ	2.11E+1	2.02E-1	1.44E-3	2.13E+1	1.21E-1	1.38E+0	6.88E-3	-1.10E+1	1.18E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.11E+1	2.02E-1	1.44E-3	2.13E+1	1.21E-1	1.38E+0	6.88E-3	-1.10E+1	1.18E+1
PET	MJ	2.79E+1	2.05E-1	2.55E-2	2.81E+1	1.22E-1	1.46E+0	7.12E-3	-1.82E+1	1.15E+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	1.42E-2	2.15E-5	1.46E-6	1.42E-2	1.28E-5	1.33E-3	7.91E-6	-9.79E-3	5.80E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	9.07E-5	4.87E-7	2.73E-13	9.12E-5	2.90E-7	2.27E-6	7.96E-9	-1.12E-5	8.25E-5
NHWD	kg	1.08E-1	1.18E-2	1.05E-6	1.20E-1	7.04E-3	5.15E-2	2.84E-2	-4.54E-2	1.62E-1
RWD	kg	4.02E-5	1.29E-6	1.10E-13	4.15E-5	7.72E-7	5.24E-6	4.21E-8	-2.25E-5	2.51E-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