Environmental Profile

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

Ecochain v3.5.80

Product:	3024042 - KANION PVC Socket Bend 50x67 BN S/S
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	1.56E-1	3.31E-3	1.45E-4	1.59E-1	1.79E-3	1.59E-1	5.79E-4	-8.87E-2	2.32E-1
GWP-f	kg CO2 eq	2.21E-1	3.31E-3	1.46E-4	2.24E-1	1.79E-3	7.77E-2	5.79E-4	-1.22E-1	1.82E-1
GWP-b	kg CO2 eq	-6.51E-2	2.01E-6	-1.54E-6	-6.51E-2	1.09E-6	8.15E-2	7.12E-7	3.36E-2	5.00E-2
GWP-luluc	kg CO2 eq	3.65E-4	1.17E-6	1.49E-7	3.66E-4	6.34E-7	2.33E-5	1.57E-8	-3.17E-4	7.28E-5
ODP	kg CFC11 eq	8.10E-8	7.63E-10	8.26E-12	8.18E-8	4.12E-10	6.61E-9	2.12E-11	-4.37E-8	4.51E-8
AP	mol H+ eq	1.06E-3	1.89E-5	1.47E-6	1.08E-3	1.02E-5	1.26E-4	5.20E-7	-5.32E-4	6.89E-4
EP-fw	kg P eq	1.01E-5	2.73E-8	8.24E-9	1.01E-5	1.47E-8	7.85E-7	7.00E-10	-6.33E-6	4.58E-6
EP-m	kg N eq	2.17E-4	6.75E-6	1.55E-7	2.24E-4	3.65E-6	3.37E-5	3.15E-7	-1.09E-4	1.53E-4
EP-T	mol N eq	2.30E-3	7.44E-5	1.85E-6	2.38E-3	4.02E-5	3.71E-4	2.07E-6	-1.22E-3	1.57E-3
POCP	kg NMVOC eq	7.51E-4	2.13E-5	6.28E-7	7.73E-4	1.15E-5	1.10E-4	7.13E-7	-3.90E-4	5.05E-4
ADP-mm	kg Sb eq	5.35E-5	8.57E-8	1.97E-8	5.36E-5	4.63E-8	4.91E-7	5.28E-10	-1.95E-6	5.22E-5
ADP-f	MJ	5.06E+0	5.08E-2	1.36E-3	5.11E+0	2.75E-2	3.20E-1	1.55E-3	-2.61E+0	2.85E+0
WDP	m3 depriv.	2.61E-1	1.56E-4	5.22E-5	2.61E-1	8.43E-5	1.14E-2	1.29E-5	-1.63E-1	1.09E-1
PM	disease inc.	1.01E-8	2.99E-10	9.08E-12	1.04E-8	1.62E-10	1.60E-9	1.07E-11	-6.45E-9	5.72E-9
IR	kBq U-235 eq	1.04E-2	2.22E-4	1.02E-6	1.06E-2	1.20E-4	1.16E-3	7.10E-6	-6.13E-3	5.76E-3
ETP-fw	CTUe	8.10E+0	4.13E-2	1.21E-2	8.16E+0	2.23E-2	2.22E+0	2.37E-2	-4.02E+0	6.40E+0
HTP-c	CTUh	2.19E-10	1.47E-12	6.17E-13	2.22E-10	7.94E-13	4.14E-11	4.49E-14	-8.57E-11	1.78E-10
HTP-nc	CTUh	5.08E-9	4.92E-11	1.57E-11	5.14E-9	2.66E-11	8.43E-10	4.58E-12	-1.73E-9	4.28E-9
SQP	Pt	7.57E+0	4.35E-2	2.24E-3	7.62E+0	2.35E-2	2.00E-1	3.97E-3	-1.10E+1	-3.15E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.70E+0	7.29E-4	2.40E-2	1.72E+0	3.94E-4	2.16E-2	5.65E-5	-1.89E+0	-1.46E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.70E+0	7.29E-4	2.40E-2	1.72E+0	3.94E-4	2.16E-2	5.65E-5	-1.89E+0	-1.46E-1
PENRE	MJ	5.43E+0	5.40E-2	1.44E-3	5.48E+0	2.92E-2	3.41E-1	1.65E-3	-2.81E+0	3.04E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.43E+0	5.40E-2	1.44E-3	5.48E+0	2.92E-2	3.41E-1	1.65E-3	-2.81E+0	3.04E+0
PET	MJ	7.13E+0	5.47E-2	2.55E-2	7.21E+0	2.96E-2	3.62E-1	1.71E-3	-4.70E+0	2.90E+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	3.53E-3	5.75E-6	1.46E-6	3.54E-3	3.11E-6	3.21E-4	1.89E-6	-2.54E-3	1.33E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.05E-5	1.30E-7	2.73E-13	1.07E-5	7.03E-8	5.65E-7	1.92E-9	-2.98E-6	8.32E-6
NHWD	kg	2.76E-2	3.15E-3	1.05E-6	3.08E-2	1.70E-3	1.31E-2	6.81E-3	-1.16E-2	4.08E-2
RWD	kg	9.55E-6	3.46E-7	1.10E-13	9.90E-6	1.87E-7	1.31E-6	1.01E-8	-5.74E-6	5.67E-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

Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
https://www.ecochain.com
+31 20 3035 777