Environmental Profile

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

Ecochain v3.5.80

Product:	3021592 - KANION PVC Socket Bend 75x67 BN S/PL
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	2.55E-1	4.50E-3	1.45E-4	2.60E-1	2.89E-3	2.00E-1	9.36E-4	-1.42E-1	3.21E-1
GWP-f	kg CO2 eq	3.19E-1	4.50E-3	1.46E-4	3.24E-1	2.89E-3	1.18E-1	9.36E-4	-1.75E-1	2.71E-1
GWP-b	kg CO2 eq	-6.46E-2	2.73E-6	-1.54E-6	-6.46E-2	1.76E-6	8.15E-2	1.15E-6	3.33E-2	5.02E-2
GWP-luluc	kg CO2 eq	4.43E-4	1.59E-6	1.49E-7	4.45E-4	1.02E-6	3.68E-5	2.54E-8	-3.48E-4	1.34E-4
ODP	kg CFC11 eq	1.27E-7	1.04E-9	8.26E-12	1.28E-7	6.66E-10	1.03E-8	3.43E-11	-6.81E-8	7.08E-8
AP	mol H+ eq	1.53E-3	2.56E-5	1.47E-6	1.56E-3	1.65E-5	1.89E-4	8.41E-7	-7.16E-4	1.05E-3
EP-fw	kg P eq	1.42E-5	3.70E-8	8.24E-9	1.43E-5	2.38E-8	1.24E-6	1.13E-9	-8.08E-6	7.45E-6
EP-m	kg N eq	2.94E-4	9.17E-6	1.55E-7	3.03E-4	5.89E-6	4.93E-5	5.08E-7	-1.41E-4	2.18E-4
EP-T	mol N eq	3.15E-3	1.01E-4	1.85E-6	3.25E-3	6.49E-5	5.43E-4	3.34E-6	-1.56E-3	2.30E-3
POCP	kg NMVOC eq	1.05E-3	2.89E-5	6.28E-7	1.08E-3	1.86E-5	1.62E-4	1.15E-6	-5.10E-4	7.47E-4
ADP-mm	kg Sb eq	8.05E-5	1.16E-7	1.97E-8	8.07E-5	7.48E-8	7.38E-7	8.54E-10	-2.92E-6	7.86E-5
ADP-f	MJ	7.53E+0	6.91E-2	1.36E-3	7.60E+0	4.44E-2	4.92E-1	2.51E-3	-3.86E+0	4.28E+0
WDP	m3 depriv.	4.07E-1	2.12E-4	5.22E-5	4.08E-1	1.36E-4	1.81E-2	2.09E-5	-2.32E-1	1.94E-1
PM	disease inc.	1.33E-8	4.06E-10	9.08E-12	1.37E-8	2.61E-10	2.38E-9	1.73E-11	-7.60E-9	8.74E-9
IR	kBq U-235 eq	1.52E-2	3.02E-4	1.02E-6	1.55E-2	1.94E-4	1.76E-3	1.15E-5	-8.36E-3	9.14E-3
ETP-fw	CTUe	1.00E+1	5.61E-2	1.21E-2	1.01E+1	3.60E-2	3.53E+0	3.82E-2	-4.68E+0	9.03E+0
HTP-c	CTUh	2.90E-10	2.00E-12	6.17E-13	2.93E-10	1.28E-12	6.26E-11	7.26E-14	-1.11E-10	2.45E-10
HTP-nc	CTUh	7.29E-9	6.69E-11	1.57E-11	7.38E-9	4.30E-11	1.31E-9	7.39E-12	-2.60E-9	6.14E-9
SQP	Pt	7.93E+0	5.91E-2	2.24E-3	7.99E+0	3.80E-2	3.06E-1	6.41E-3	-1.11E+1	-2.79E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.06E+0	9.91E-4	2.40E-2	2.09E+0	6.37E-4	3.39E-2	9.13E-5	-1.94E+0	1.81E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.06E+0	9.91E-4	2.40E-2	2.09E+0	6.37E-4	3.39E-2	9.13E-5	-1.94E+0	1.81E-1
PENRE	MJ	8.08E+0	7.33E-2	1.44E-3	8.15E+0	4.71E-2	5.23E-1	2.67E-3	-4.16E+0	4.56E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.08E+0	7.33E-2	1.44E-3	8.15E+0	4.71E-2	5.23E-1	2.67E-3	-4.16E+0	4.56E+0
PET	MJ	1.01E+1	7.43E-2	2.55E-2	1.02E+1	4.78E-2	5.57E-1	2.76E-3	-6.10E+0	4.74E+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	5.27E-3	7.82E-6	1.46E-6	5.28E-3	5.02E-6	5.07E-4	3.06E-6	-3.26E-3	2.54E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.54E-5	1.77E-7	2.73E-13	1.56E-5	1.14E-7	8.45E-7	3.10E-9	-4.05E-6	1.25E-5
NHWD	kg	3.71E-2	4.28E-3	1.05E-6	4.14E-2	2.75E-3	1.98E-2	1.10E-2	-1.52E-2	5.97E-2
RWD	kg	1.38E-5	4.70E-7	1.10E-13	1.43E-5	3.02E-7	1.95E-6	1.63E-8	-7.72E-6	8.83E-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