Environmental Profile

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

Ecochain v3.5.80

Product:	3021506 - KANION PVC Socket Bend 90x67 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	4.67E-1	7.93E-3	1.45E-4	4.75E-1	5.79E-3	3.19E-1	1.87E-3	-2.68E-1	5.34E-1
GWP-f	kg CO2 eq	5.62E-1	7.92E-3	1.46E-4	5.70E-1	5.79E-3	2.01E-1	1.87E-3	-3.08E-1	4.71E-1
GWP-b	kg CO2 eq	-9.54E-2	4.81E-6	-1.54E-6	-9.54E-2	3.51E-6	1.18E-1	2.31E-6	4.00E-2	6.26E-2
GWP-luluc	kg CO2 eq	6.86E-4	2.80E-6	1.49E-7	6.89E-4	2.05E-6	7.28E-5	5.04E-8	-4.97E-4	2.67E-4
ODP	kg CFC11 eq	2.50E-7	1.83E-9	8.26E-12	2.52E-7	1.33E-9	2.02E-8	6.87E-11	-1.32E-7	1.42E-7
AP	mol H+ eq	2.68E-3	4.51E-5	1.47E-6	2.73E-3	3.30E-5	3.59E-4	1.68E-6	-1.25E-3	1.87E-3
EP-fw	kg P eq	2.50E-5	6.52E-8	8.24E-9	2.51E-5	4.76E-8	2.44E-6	2.25E-9	-1.35E-5	1.41E-5
EP-m	kg N eq	4.94E-4	1.62E-5	1.55E-7	5.10E-4	1.18E-5	9.09E-5	1.02E-6	-2.39E-4	3.75E-4
EP-T	mol N eq	5.33E-3	1.78E-4	1.85E-6	5.51E-3	1.30E-4	1.00E-3	6.68E-6	-2.61E-3	4.03E-3
POCP	kg NMVOC eq	1.77E-3	5.09E-5	6.28E-7	1.82E-3	3.72E-5	2.99E-4	2.30E-6	-8.67E-4	1.29E-3
ADP-mm	kg Sb eq	1.60E-4	2.05E-7	1.97E-8	1.60E-4	1.50E-7	1.41E-6	1.70E-9	-5.58E-6	1.56E-4
ADP-f	MJ	1.35E+1	1.22E-1	1.36E-3	1.36E+1	8.88E-2	9.51E-1	5.02E-3	-7.02E+0	7.62E+0
WDP	m3 depriv.	7.79E-1	3.73E-4	5.22E-5	7.79E-1	2.73E-4	3.62E-2	4.01E-5	-4.23E-1	3.93E-1
PM	disease inc.	2.17E-8	7.15E-10	9.08E-12	2.24E-8	5.22E-10	4.48E-9	3.46E-11	-1.19E-8	1.56E-8
IR	kBq U-235 eq	2.79E-2	5.32E-4	1.02E-6	2.84E-2	3.88E-4	3.39E-3	2.30E-5	-1.48E-2	1.74E-2
ETP-fw	CTUe	1.59E+1	9.88E-2	1.21E-2	1.60E+1	7.21E-2	7.05E+0	7.71E-2	-7.10E+0	1.61E+1
HTP-c	CTUh	4.87E-10	3.52E-12	6.17E-13	4.91E-10	2.57E-12	1.16E-10	1.44E-13	-1.93E-10	4.17E-10
HTP-nc	CTUh	1.32E-8	1.18E-10	1.57E-11	1.33E-8	8.60E-11	2.55E-9	1.49E-11	-5.13E-9	1.08E-8
SQP	Pt	1.18E+1	1.04E-1	2.24E-3	1.19E+1	7.60E-2	5.88E-1	1.28E-2	-1.51E+1	-2.54E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.49E+0	1.75E-3	2.40E-2	3.51E+0	1.27E-3	6.70E-2	1.83E-4	-2.67E+0	9.16E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.49E+0	1.75E-3	2.40E-2	3.51E+0	1.27E-3	6.70E-2	1.83E-4	-2.67E+0	9.16E-1
PENRE	MJ	1.44E+1	1.29E-1	1.44E-3	1.46E+1	9.43E-2	1.01E+0	5.33E-3	-7.56E+0	8.13E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.44E+1	1.29E-1	1.44E-3	1.46E+1	9.43E-2	1.01E+0	5.33E-3	-7.56E+0	8.13E+0
PET	MJ	1.79E+1	1.31E-1	2.55E-2	1.81E+1	9.56E-2	1.08E+0	5.51E-3	-1.02E+1	9.05E+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	9.46E-3	1.38E-5	1.46E-6	9.47E-3	1.01E-5	1.00E-3	6.12E-6	-5.44E-3	5.05E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.95E-5	3.11E-7	2.73E-13	2.98E-5	2.27E-7	1.60E-6	6.18E-9	-6.83E-6	2.48E-5
NHWD	kg	6.24E-2	7.54E-3	1.05E-6	6.99E-2	5.51E-3	3.66E-2	2.20E-2	-2.66E-2	1.07E-1
RWD	kg	2.51E-5	8.27E-7	1.10E-13	2.59E-5	6.04E-7	3.70E-6	3.26E-8	-1.35E-5	1.68E-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

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