Environmental Profile

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

Ecochain v3.5.80

Product:	3021597 - KANION PVC Socket Bend 90x67 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	3.43E-1	6.30E-3	1.45E-4	3.50E-1	4.18E-3	2.78E-1	1.35E-3	-2.01E-1	4.31E-1
GWP-f	kg CO2 eq	4.39E-1	6.30E-3	1.46E-4	4.46E-1	4.18E-3	1.59E-1	1.35E-3	-2.41E-1	3.69E-1
GWP-b	kg CO2 eq	-9.68E-2	3.82E-6	-1.54E-6	-9.68E-2	2.54E-6	1.18E-1	1.67E-6	4.05E-2	6.18E-2
GWP-luluc	kg CO2 eq	5.87E-4	2.23E-6	1.49E-7	5.89E-4	1.48E-6	5.31E-5	3.64E-8	-4.53E-4	1.91E-4
ODP	kg CFC11 eq	1.83E-7	1.45E-9	8.26E-12	1.85E-7	9.64E-10	1.48E-8	4.96E-11	-9.72E-8	1.03E-7
AP	mol H+ eq	2.10E-3	3.59E-5	1.47E-6	2.13E-3	2.38E-5	2.69E-4	1.21E-6	-9.92E-4	1.43E-3
EP-fw	kg P eq	1.95E-5	5.18E-8	8.24E-9	1.96E-5	3.44E-8	1.78E-6	1.63E-9	-1.10E-5	1.04E-5
EP-m	kg N eq	3.98E-4	1.28E-5	1.55E-7	4.11E-4	8.52E-6	6.92E-5	7.37E-7	-1.94E-4	2.96E-4
EP-T	mol N eq	4.27E-3	1.41E-4	1.85E-6	4.42E-3	9.39E-5	7.62E-4	4.82E-6	-2.14E-3	3.14E-3
POCP	kg NMVOC eq	1.42E-3	4.04E-5	6.28E-7	1.46E-3	2.68E-5	2.27E-4	1.66E-6	-7.03E-4	1.02E-3
ADP-mm	kg Sb eq	1.08E-4	1.63E-7	1.97E-8	1.08E-4	1.08E-7	1.05E-6	1.23E-9	-4.18E-6	1.05E-4
ADP-f	MJ	1.04E+1	9.67E-2	1.36E-3	1.05E+1	6.42E-2	7.03E-1	3.63E-3	-5.39E+0	5.90E+0
WDP	m3 depriv.	5.79E-1	2.97E-4	5.22E-5	5.79E-1	1.97E-4	2.63E-2	2.89E-5	-3.24E-1	2.82E-1
PM	disease inc.	1.79E-8	5.69E-10	9.08E-12	1.84E-8	3.77E-10	3.37E-9	2.50E-11	-1.02E-8	1.20E-8
IR	kBq U-235 eq	2.13E-2	4.23E-4	1.02E-6	2.18E-2	2.81E-4	2.52E-3	1.66E-5	-1.16E-2	1.29E-2
ETP-fw	CTUe	1.32E+1	7.85E-2	1.21E-2	1.33E+1	5.21E-2	5.13E+0	5.57E-2	-6.15E+0	1.24E+1
HTP-c	CTUh	3.86E-10	2.79E-12	6.17E-13	3.90E-10	1.85E-12	8.74E-11	1.04E-13	-1.57E-10	3.22E-10
HTP-nc	CTUh	1.00E-8	9.36E-11	1.57E-11	1.01E-8	6.21E-11	1.88E-9	1.08E-11	-3.87E-9	8.20E-9
SQP	Pt	1.14E+1	8.27E-2	2.24E-3	1.15E+1	5.49E-2	4.36E-1	9.27E-3	-1.50E+1	-3.00E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.95E+0	1.39E-3	2.40E-2	2.97E+0	9.21E-4	4.90E-2	1.33E-4	-2.60E+0	4.29E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.95E+0	1.39E-3	2.40E-2	2.97E+0	9.21E-4	4.90E-2	1.33E-4	-2.60E+0	4.29E-1
PENRE	MJ	1.12E+1	1.03E-1	1.44E-3	1.13E+1	6.81E-2	7.48E-1	3.85E-3	-5.81E+0	6.30E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.12E+1	1.03E-1	1.44E-3	1.13E+1	6.81E-2	7.48E-1	3.85E-3	-5.81E+0	6.30E+0
PET	MJ	1.41E+1	1.04E-1	2.55E-2	1.43E+1	6.91E-2	7.97E-1	3.98E-3	-8.41E+0	6.73E+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	7.28E-3	1.09E-5	1.46E-6	7.29E-3	7.26E-6	7.33E-4	4.42E-6	-4.41E-3	3.62E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.09E-5	2.47E-7	2.73E-13	2.11E-5	1.64E-7	1.20E-6	4.47E-9	-5.49E-6	1.70E-5
NHWD	kg	5.02E-2	5.99E-3	1.05E-6	5.62E-2	3.98E-3	2.78E-2	1.59E-2	-2.14E-2	8.24E-2
RWD	kg	1.93E-5	6.57E-7	1.10E-13	2.00E-5	4.36E-7	2.77E-6	2.35E-8	-1.07E-5	1.25E-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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