Environmental Profile

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

Ecochain v3.5.80

Product:	3021504 - KANION PVC Socket Bend 90x67 BK 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

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	5.29E-1	8.21E-3	1.45E-4	5.37E-1	6.06E-3	3.44E-1	1.94E-3	-2.90E-1	6.00E-1
GWP-f	kg CO2 eq	6.24E-1	8.21E-3	1.46E-4	6.32E-1	6.05E-3	2.26E-1	1.94E-3	-3.29E-1	5.37E-1
GWP-b	kg CO2 eq	-9.53E-2	4.98E-6	-1.54E-6	-9.52E-2	3.67E-6	1.18E-1	2.42E-6	3.99E-2	6.27E-2
GWP-luluc	kg CO2 eq	7.54E-4	2.90E-6	1.49E-7	7.57E-4	2.14E-6	7.67E-5	5.19E-8	-5.05E-4	3.31E-4
ODP	kg CFC11 eq	2.67E-7	1.89E-9	8.26E-12	2.69E-7	1.39E-9	2.14E-8	7.17E-11	-1.38E-7	1.53E-7
AP	mol H+ eq	3.02E-3	4.68E-5	1.47E-6	3.07E-3	3.45E-5	3.79E-4	1.75E-6	-1.30E-3	2.18E-3
EP-fw	kg P eq	2.81E-5	6.75E-8	8.24E-9	2.82E-5	4.98E-8	2.57E-6	2.33E-9	-1.40E-5	1.69E-5
EP-m	kg N eq	5.61E-4	1.67E-5	1.55E-7	5.78E-4	1.23E-5	9.61E-5	1.07E-6	-2.49E-4	4.38E-4
EP-T	mol N eq	5.99E-3	1.84E-4	1.85E-6	6.18E-3	1.36E-4	1.06E-3	6.97E-6	-2.72E-3	4.66E-3
POCP	kg NMVOC eq	2.01E-3	5.27E-5	6.28E-7	2.06E-3	3.88E-5	3.16E-4	2.40E-6	-9.04E-4	1.51E-3
ADP-mm	kg Sb eq	4.96E-4	2.12E-7	1.97E-8	4.96E-4	1.57E-7	1.48E-6	1.77E-9	-5.82E-6	4.92E-4
ADP-f	MJ	1.49E+1	1.26E-1	1.36E-3	1.50E+1	9.29E-2	1.00E+0	5.25E-3	-7.47E+0	8.61E+0
WDP	m3 depriv.	8.30E-1	3.87E-4	5.22E-5	8.31E-1	2.85E-4	3.82E-2	3.92E-5	-4.40E-1	4.30E-1
PM	disease inc.	2.46E-8	7.41E-10	9.08E-12	2.54E-8	5.46E-10	4.71E-9	3.61E-11	-1.22E-8	1.85E-8
IR	kBq U-235 eq	3.21E-2	5.51E-4	1.02E-6	3.27E-2	4.06E-4	3.56E-3	2.40E-5	-1.54E-2	2.13E-2
ETP-fw	CTUe	1.94E+1	1.02E-1	1.21E-2	1.95E+1	7.54E-2	7.47E+0	8.16E-2	-7.27E+0	1.99E+1
HTP-c	CTUh	5.62E-10	3.64E-12	6.17E-13	5.67E-10	2.68E-12	1.22E-10	1.48E-13	-2.00E-10	4.91E-10
HTP-nc	CTUh	1.58E-8	1.22E-10	1.57E-11	1.59E-8	8.99E-11	2.69E-9	1.57E-11	-5.34E-9	1.34E-8
SQP	Pt	1.21E+1	1.08E-1	2.24E-3	1.22E+1	7.95E-2	6.17E-1	1.34E-2	-1.52E+1	-2.30E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.58E+0	1.81E-3	2.40E-2	3.61E+0	1.33E-3	7.06E-2	1.93E-4	-2.68E+0	1.00E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.58E+0	1.81E-3	2.40E-2	3.61E+0	1.33E-3	7.06E-2	1.93E-4	-2.68E+0	1.00E+0
PENRE	MJ	1.59E+1	1.34E-1	1.44E-3	1.61E+1	9.86E-2	1.06E+0	5.57E-3	-8.06E+0	9.19E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.59E+1	1.34E-1	1.44E-3	1.61E+1	9.86E-2	1.06E+0	5.57E-3	-8.06E+0	9.19E+0
PET	MJ	1.95E+1	1.36E-1	2.55E-2	1.97E+1	9.99E-2	1.13E+0	5.76E-3	-1.07E+1	1.02E+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	1.03E-2	1.43E-5	1.46E-6	1.03E-2	1.05E-5	1.06E-3	6.40E-6	-5.63E-3	5.79E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.25E-5	3.22E-7	2.73E-13	7.29E-5	2.38E-7	1.68E-6	6.43E-9	-7.26E-6	6.75E-5
NHWD	kg	6.63E-2	7.81E-3	1.05E-6	7.41E-2	5.76E-3	3.91E-2	2.30E-2	-2.76E-2	1.14E-1
RWD	kg	2.97E-5	8.57E-7	1.10E-13	3.06E-5	6.32E-7	3.88E-6	3.40E-8	-1.40E-5	2.11E-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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