Environmental Profile

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

Ecochain v3.5.80

Ecochain

Product:	3021512 - KANION PVC Socket Bend 110x67 BN S/S	LCA standard:	EN15804+A2 (2019)
Unit:	1 piece	Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Manufacturer:	Wavin - PL -Buk - Extra products	Externally verified:	Yes
		Issue date:	08-06-2023
		End of validity:	08-06-2028
		Verifier:	Martijn van Hövell - SGS Search

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.

WAVIN An Orbia business.

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	6.40E-1	1.23E-2	1.45E-4	6.53E-1	8.37E-3	5.14E-1	2.69E-3	-3.87E-1	7.91E-1
GWP-f	kg CO2 eq	8.32E-1	1.23E-2	1.46E-4	8.44E-1	8.37E-3	2.83E-1	2.69E-3	-4.57E-1	6.81E-1
GWP-b	kg CO2 eq	-1.93E-1	7.44E-6	-1.54E-6	-1.93E-1	5.08E-6	2.32E-1	3.34E-6	7.11E-2	1.10E-1
GWP-luluc	kg CO2 eq	1.09E-3	4.34E-6	1.49E-7	1.10E-3	2.96E-6	1.06E-4	7.23E-8	-8.33E-4	3.71E-4
ODP	kg CFC11 eq	3.66E-7	2.82E-9	8.26E-12	3.69E-7	1.93E-9	2.96E-8	9.92E-11	-1.91E-7	2.09E-7
AP	mol H+ eq	3.98E-3	6.98E-5	1.47E-6	4.05E-3	4.77E-5	5.30E-4	2.43E-6	-1.93E-3	2.71E-3
EP-fw	kg P eq	3.76E-5	1.01E-7	8.24E-9	3.77E-5	6.88E-8	3.57E-6	3.24E-9	-2.11E-5	2.02E-5
EP-m	kg N eq	7.51E-4	2.50E-5	1.55E-7	7.76E-4	1.71E-5	1.35E-4	1.48E-6	-3.74E-4	5.56E-4
EP-T	mol N eq	8.07E-3	2.75E-4	1.85E-6	8.34E-3	1.88E-4	1.49E-3	9.65E-6	-4.12E-3	5.91E-3
POCP	kg NMVOC eq	2.67E-3	7.87E-5	6.28E-7	2.74E-3	5.37E-5	4.43E-4	3.33E-6	-1.37E-3	1.88E-3
ADP-mm	kg Sb eq	2.16E-4	3.17E-7	1.97E-8	2.16E-4	2.16E-7	2.08E-6	2.45E-9	-8.28E-6	2.10E-4
ADP-f	MJ	1.96E+1	1.88E-1	1.36E-3	1.98E+1	1.28E-1	1.40E+0	7.26E-3	-1.03E+1	1.11E+1
WDP	m3 depriv.	1.13E+0	5.77E-4	5.22E-5	1.13E+0	3.94E-4	5.26E-2	5.60E-5	-6.32E-1	5.51E-1
PM	disease inc.	3.39E-8	1.11E-9	9.08E-12	3.50E-8	7.55E-10	6.63E-9	5.00E-11	-1.96E-8	2.28E-8
IR	kBq U-235 eq	4.13E-2	8.22E-4	1.02E-6	4.21E-2	5.61E-4	5.00E-3	3.32E-5	-2.25E-2	2.53E-2
ETP-fw	CTUe	2.49E+1	1.53E-1	1.21E-2	2.50E+1	1.04E-1	1.03E+1	1.12E-1	-1.16E+1	2.40E+1
HTP-c	CTUh	8.06E-10	5.43E-12	6.17E-13	8.12E-10	3.71E-12	1.68E-10	2.07E-13	-3.06E-10	6.77E-10
HTP-nc	CTUh	2.02E-8	1.82E-10	1.57E-11	2.04E-8	1.24E-10	3.72E-9	2.16E-11	-7.03E-9	1.73E-8
SQP	Pt	2.22E+1	1.61E-1	2.24E-3	2.24E+1	1.10E-1	8.65E-1	1.86E-2	-2.81E+1	-4.76E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.87E+0	2.70E-3	2.40E-2	5.90E+0	1.84E-3	9.80E-2	2.66E-4	-4.86E+0	1.14E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.87E+0	2.70E-3	2.40E-2	5.90E+0	1.84E-3	9.80E-2	2.66E-4	-4.86E+0	1.14E+0
PENRE	MJ	2.11E+1	2.00E-1	1.44E-3	2.13E+1	1.36E-1	1.49E+0	7.70E-3	-1.11E+1	1.18E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.11E+1	2.00E-1	1.44E-3	2.13E+1	1.36E-1	1.49E+0	7.70E-3	-1.11E+1	1.18E+1
PET	MJ	2.69E+1	2.02E-1	2.55E-2	2.72E+1	1.38E-1	1.58E+0	7.97E-3	-1.60E+1	1.29E+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	1.38E-2	2.13E-5	1.46E-6	1.38E-2	1.45E-5	1.46E-3	8.85E-6	-8.43E-3	6.84E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.17E-5	4.81E-7	2.73E-13	4.21E-5	3.28E-7	2.36E-6	8.92E-9	-1.07E-5	3.41E-5
NHWD	kg	9.77E-2	1.17E-2	1.05E-6	1.09E-1	7.96E-3	5.35E-2	3.18E-2	-4.20E-2	1.61E-1
RWD	kg	3.74E-5	1.28E-6	1.10E-13	3.87E-5	8.73E-7	5.48E-6	4.71E-8	-2.06E-5	2.45E-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