Environmental Profile

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

Ecochain v3.5.80

Product:	3024195 - KANION PVC Socket Bend 75x67 Graph. 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	2.71E-1	4.31E-3	1.45E-4	2.75E-1	2.97E-3	2.02E-1	9.57E-4	-1.45E-1	3.36E-1
GWP-f	kg CO2 eq	3.35E-1	4.31E-3	1.46E-4	3.39E-1	2.97E-3	1.21E-1	9.57E-4	-1.78E-1	2.86E-1
GWP-b	kg CO2 eq	-6.42E-2	2.62E-6	-1.54E-6	-6.42E-2	1.80E-6	8.15E-2	1.18E-6	3.33E-2	5.05E-2
GWP-luluc	kg CO2 eq	4.70E-4	1.52E-6	1.49E-7	4.72E-4	1.05E-6	3.80E-5	2.58E-8	-3.50E-4	1.61E-4
ODP	kg CFC11 eq	1.30E-7	9.93E-10	8.26E-12	1.31E-7	6.85E-10	1.07E-8	3.52E-11	-6.97E-8	7.32E-8
AP	mol H+ eq	1.64E-3	2.45E-5	1.47E-6	1.66E-3	1.69E-5	1.95E-4	8.62E-7	-7.28E-4	1.15E-3
EP-fw	kg P eq	1.54E-5	3.54E-8	8.24E-9	1.54E-5	2.44E-8	1.28E-6	1.15E-9	-8.20E-6	8.54E-6
EP-m	kg N eq	3.15E-4	8.78E-6	1.55E-7	3.24E-4	6.05E-6	5.06E-5	5.24E-7	-1.43E-4	2.38E-4
EP-T	mol N eq	3.38E-3	9.67E-5	1.85E-6	3.47E-3	6.67E-5	5.57E-4	3.43E-6	-1.58E-3	2.52E-3
POCP	kg NMVOC eq	1.11E-3	2.77E-5	6.28E-7	1.13E-3	1.91E-5	1.66E-4	1.18E-6	-5.17E-4	8.04E-4
ADP-mm	kg Sb eq	2.49E-4	1.11E-7	1.97E-8	2.49E-4	7.68E-8	7.59E-7	8.73E-10	-2.99E-6	2.47E-4
ADP-f	MJ	7.66E+0	6.61E-2	1.36E-3	7.73E+0	4.56E-2	5.06E-1	2.58E-3	-3.93E+0	4.35E+0
WDP	m3 depriv.	4.23E-1	2.03E-4	5.22E-5	4.24E-1	1.40E-4	1.88E-2	2.03E-5	-2.37E-1	2.06E-1
PM	disease inc.	1.38E-8	3.89E-10	9.08E-12	1.42E-8	2.68E-10	2.44E-9	1.78E-11	-7.68E-9	9.21E-9
IR	kBq U-235 eq	1.62E-2	2.89E-4	1.02E-6	1.65E-2	1.99E-4	1.82E-3	1.18E-5	-8.51E-3	1.00E-2
ETP-fw	CTUe	1.17E+1	5.37E-2	1.21E-2	1.17E+1	3.70E-2	3.66E+0	3.97E-2	-4.73E+0	1.07E+1
HTP-c	CTUh	3.26E-10	1.91E-12	6.17E-13	3.28E-10	1.32E-12	6.35E-11	7.37E-14	-1.13E-10	2.80E-10
HTP-nc	CTUh	8.51E-9	6.40E-11	1.57E-11	8.59E-9	4.41E-11	1.35E-9	7.66E-12	-2.66E-9	7.33E-9
SQP	Pt	7.99E+0	5.66E-2	2.24E-3	8.05E+0	3.90E-2	3.14E-1	6.59E-3	-1.11E+1	-2.72E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.08E+0	9.49E-4	2.40E-2	2.10E+0	6.54E-4	3.51E-2	9.43E-5	-1.94E+0	1.95E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.08E+0	9.49E-4	2.40E-2	2.10E+0	6.54E-4	3.51E-2	9.43E-5	-1.94E+0	1.95E-1
PENRE	MJ	8.22E+0	7.02E-2	1.44E-3	8.29E+0	4.84E-2	5.38E-1	2.74E-3	-4.24E+0	4.64E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.22E+0	7.02E-2	1.44E-3	8.29E+0	4.84E-2	5.38E-1	2.74E-3	-4.24E+0	4.64E+0
PET	MJ	1.03E+1	7.11E-2	2.55E-2	1.04E+1	4.91E-2	5.73E-1	2.83E-3	-6.18E+0	4.84E+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	5.56E-3	7.48E-6	1.46E-6	5.56E-3	5.16E-6	5.25E-4	3.14E-6	-3.31E-3	2.79E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.69E-5	1.69E-7	2.73E-13	3.70E-5	1.17E-7	8.68E-7	3.17E-9	-4.11E-6	3.39E-5
NHWD	kg	3.87E-2	4.10E-3	1.05E-6	4.28E-2	2.83E-3	2.03E-2	1.13E-2	-1.55E-2	6.18E-2
RWD	kg	1.45E-5	4.50E-7	1.10E-13	1.50E-5	3.10E-7	2.01E-6	1.67E-8	-7.85E-6	9.47E-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

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