Environmental Profile

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

Ecochain v3.5.80

Product:	3043701 - Pipe connector KANION PVC 50 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

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.37E-1	3.16E-3	1.45E-4	1.40E-1	1.21E-3	1.61E-1	3.92E-4	-7.52E-2	2.28E-1
GWP-f	kg CO2 eq	2.03E-1	3.16E-3	1.46E-4	2.06E-1	1.21E-3	7.99E-2	3.92E-4	-1.09E-1	1.79E-1
GWP-b	kg CO2 eq	-6.59E-2	1.92E-6	-1.54E-6	-6.59E-2	7.35E-7	8.15E-2	4.82E-7	3.38E-2	4.94E-2
GWP-luluc	kg CO2 eq	3.59E-4	1.12E-6	1.49E-7	3.60E-4	4.29E-7	1.63E-5	1.06E-8	-3.02E-4	7.47E-5
ODP	kg CFC11 eq	5.84E-8	7.27E-10	8.26E-12	5.92E-8	2.79E-10	4.73E-9	1.44E-11	-3.24E-8	3.18E-8
AP	mol H+ eq	9.92E-4	1.80E-5	1.47E-6	1.01E-3	6.90E-6	9.61E-5	3.52E-7	-4.48E-4	6.67E-4
EP-fw	kg P eq	9.27E-6	2.60E-8	8.24E-9	9.30E-6	9.96E-9	5.54E-7	4.73E-10	-5.44E-6	4.42E-6
EP-m	kg N eq	2.09E-4	6.43E-6	1.55E-7	2.16E-4	2.47E-6	2.71E-5	2.13E-7	-9.57E-5	1.50E-4
EP-T	mol N eq	2.21E-3	7.09E-5	1.85E-6	2.28E-3	2.72E-5	2.98E-4	1.40E-6	-1.08E-3	1.53E-3
POCP	kg NMVOC eq	7.36E-4	2.03E-5	6.28E-7	7.57E-4	7.77E-6	8.82E-5	4.83E-7	-3.41E-4	5.12E-4
ADP-mm	kg Sb eq	1.48E-4	8.16E-8	1.97E-8	1.48E-4	3.13E-8	3.67E-7	3.57E-10	-1.46E-6	1.47E-4
ADP-f	MJ	4.57E+0	4.84E-2	1.36E-3	4.62E+0	1.86E-2	2.35E-1	1.05E-3	-2.21E+0	2.66E+0
WDP	m3 depriv.	2.06E-1	1.49E-4	5.22E-5	2.06E-1	5.70E-5	7.87E-3	8.64E-6	-1.29E-1	8.50E-2
PM	disease inc.	9.82E-9	2.85E-10	9.08E-12	1.01E-8	1.09E-10	1.23E-9	7.24E-12	-5.90E-9	5.56E-9
IR	kBq U-235 eq	9.26E-3	2.12E-4	1.02E-6	9.47E-3	8.12E-5	8.62E-4	4.80E-6	-5.05E-3	5.38E-3
ETP-fw	CTUe	8.43E+0	3.93E-2	1.21E-2	8.48E+0	1.51E-2	1.54E+0	1.60E-2	-3.69E+0	6.36E+0
HTP-c	CTUh	2.11E-10	1.40E-12	6.17E-13	2.13E-10	5.37E-13	3.32E-11	3.03E-14	-7.34E-11	1.74E-10
HTP-nc	CTUh	4.81E-9	4.69E-11	1.57E-11	4.87E-9	1.80E-11	6.22E-10	3.10E-12	-1.29E-9	4.22E-9
SQP	Pt	7.54E+0	4.14E-2	2.24E-3	7.58E+0	1.59E-2	1.48E-1	2.69E-3	-1.09E+1	-3.19E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.56E+0	6.95E-4	2.40E-2	1.59E+0	2.67E-4	1.52E-2	3.83E-5	-1.86E+0	-2.64E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.56E+0	6.95E-4	2.40E-2	1.59E+0	2.67E-4	1.52E-2	3.83E-5	-1.86E+0	-2.64E-1
PENRE	MJ	4.90E+0	5.14E-2	1.44E-3	4.95E+0	1.97E-2	2.50E-1	1.12E-3	-2.39E+0	2.84E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.90E+0	5.14E-2	1.44E-3	4.95E+0	1.97E-2	2.50E-1	1.12E-3	-2.39E+0	2.84E+0
PET	MJ	6.46E+0	5.21E-2	2.55E-2	6.54E+0	2.00E-2	2.65E-1	1.15E-3	-4.25E+0	2.57E+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	3.18E-3	5.48E-6	1.46E-6	3.18E-3	2.10E-6	2.29E-4	1.28E-6	-2.18E-3	1.23E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.19E-5	1.24E-7	2.73E-13	2.20E-5	4.75E-8	4.32E-7	1.30E-9	-2.71E-6	1.98E-5
NHWD	kg	2.52E-2	3.00E-3	1.05E-6	2.82E-2	1.15E-3	1.08E-2	4.61E-3	-9.74E-3	3.51E-2
RWD	kg	8.71E-6	3.29E-7	1.10E-13	9.04E-6	1.26E-7	9.94E-7	6.82E-9	-4.81E-6	5.35E-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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