Environmental Profile

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

Ecochain v3.5.80

Product:	3021646 - KANION PVC Pipe connector 90 WT 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	3.93E-1	6.11E-3	1.45E-4	3.99E-1	4.45E-3	2.55E-1	1.45E-3	-2.23E-1	4.36E-1
GWP-f	kg CO2 eq	4.56E-1	6.11E-3	1.46E-4	4.62E-1	4.44E-3	1.78E-1	1.45E-3	-2.45E-1	4.02E-1
GWP-b	kg CO2 eq	-6.37E-2	3.71E-6	-1.54E-6	-6.37E-2	2.70E-6	7.66E-2	1.76E-6	2.18E-2	3.47E-2
GWP-luluc	kg CO2 eq	5.32E-4	2.16E-6	1.49E-7	5.35E-4	1.57E-6	5.51E-5	3.99E-8	-3.15E-4	2.76E-4
ODP	kg CFC11 eq	1.88E-7	1.41E-9	8.26E-12	1.89E-7	1.02E-9	1.51E-8	5.28E-11	-1.02E-7	1.04E-7
AP	mol H+ eq	2.24E-3	3.48E-5	1.47E-6	2.27E-3	2.53E-5	2.72E-4	1.30E-6	-9.23E-4	1.65E-3
EP-fw	kg P eq	2.06E-5	5.03E-8	8.24E-9	2.07E-5	3.66E-8	1.84E-6	1.76E-9	-9.60E-6	1.30E-5
EP-m	kg N eq	4.05E-4	1.24E-5	1.55E-7	4.18E-4	9.06E-6	6.92E-5	7.76E-7	-1.75E-4	3.21E-4
EP-T	mol N eq	4.45E-3	1.37E-4	1.85E-6	4.59E-3	9.98E-5	7.63E-4	5.14E-6	-1.91E-3	3.55E-3
POCP	kg NMVOC eq	1.48E-3	3.92E-5	6.28E-7	1.52E-3	2.85E-5	2.27E-4	1.78E-6	-6.46E-4	1.13E-3
ADP-mm	kg Sb eq	3.97E-4	1.58E-7	1.97E-8	3.97E-4	1.15E-7	1.06E-6	1.32E-9	-4.21E-6	3.94E-4
ADP-f	MJ	1.07E+1	9.37E-2	1.36E-3	1.08E+1	6.82E-2	7.20E-1	3.87E-3	-5.54E+0	6.09E+0
WDP	m3 depriv.	6.17E-1	2.88E-4	5.22E-5	6.18E-1	2.09E-4	2.73E-2	3.48E-5	-3.13E-1	3.32E-1
PM	disease inc.	1.73E-8	5.51E-10	9.08E-12	1.78E-8	4.01E-10	3.40E-9	2.66E-11	-8.19E-9	1.35E-8
IR	kBq U-235 eq	2.26E-2	4.10E-4	1.02E-6	2.31E-2	2.98E-4	2.55E-3	1.76E-5	-1.08E-2	1.51E-2
ETP-fw	CTUe	1.40E+1	7.61E-2	1.21E-2	1.41E+1	5.54E-2	5.28E+0	5.77E-2	-4.78E+0	1.47E+1
HTP-c	CTUh	4.38E-10	2.71E-12	6.17E-13	4.42E-10	1.97E-12	9.26E-11	1.14E-13	-1.40E-10	3.96E-10
HTP-nc	CTUh	1.20E-8	9.07E-11	1.57E-11	1.21E-8	6.60E-11	1.95E-9	1.12E-11	-3.62E-9	1.05E-8
SQP	Pt	8.06E+0	8.02E-2	2.24E-3	8.15E+0	5.84E-2	4.49E-1	9.86E-3	-9.32E+0	-6.58E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.37E+0	1.34E-3	2.40E-2	2.39E+0	9.79E-4	5.06E-2	1.39E-4	-1.65E+0	7.91E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.37E+0	1.34E-3	2.40E-2	2.39E+0	9.79E-4	5.06E-2	1.39E-4	-1.65E+0	7.91E-1
PENRE	MJ	1.15E+1	9.95E-2	1.44E-3	1.16E+1	7.24E-2	7.66E-1	4.10E-3	-5.98E+0	6.48E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.15E+1	9.95E-2	1.44E-3	1.16E+1	7.24E-2	7.66E-1	4.10E-3	-5.98E+0	6.48E+0
PET	MJ	1.39E+1	1.01E-1	2.55E-2	1.40E+1	7.34E-2	8.17E-1	4.24E-3	-7.63E+0	7.28E+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	7.94E-3	1.06E-5	1.46E-6	7.95E-3	7.72E-6	7.59E-4	4.69E-6	-3.86E-3	4.87E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.74E-5	2.40E-7	2.73E-13	5.76E-5	1.74E-7	1.21E-6	4.79E-9	-5.43E-6	5.36E-5
NHWD	kg	5.08E-2	5.81E-3	1.05E-6	5.66E-2	4.23E-3	2.90E-2	1.69E-2	-1.95E-2	8.72E-2
RWD	kg	2.00E-5	6.38E-7	1.10E-13	2.07E-5	4.64E-7	2.79E-6	2.50E-8	-9.87E-6	1.41E-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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