Environmental Profile

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

Ecochain v3.5.80

Product:	3024109 - KANION PVC Pipe connector 75 Graph. 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	2.39E-1	3.92E-3	1.45E-4	2.43E-1	2.58E-3	1.91E-1	8.30E-4	-1.28E-1	3.09E-1
GWP-f	kg CO2 eq	3.03E-1	3.92E-3	1.46E-4	3.07E-1	2.58E-3	1.10E-1	8.30E-4	-1.61E-1	2.59E-1
GWP-b	kg CO2 eq	-6.46E-2	2.38E-6	-1.54E-6	-6.46E-2	1.56E-6	8.15E-2	1.03E-6	3.34E-2	5.02E-2
GWP-luluc	kg CO2 eq	4.41E-4	1.39E-6	1.49E-7	4.42E-4	9.12E-7	3.31E-5	2.24E-8	-3.39E-4	1.37E-4
ODP	kg CFC11 eq	1.14E-7	9.03E-10	8.26E-12	1.15E-7	5.94E-10	9.31E-9	3.06E-11	-6.12E-8	6.35E-8
AP	mol H+ eq	1.48E-3	2.23E-5	1.47E-6	1.51E-3	1.47E-5	1.72E-4	7.47E-7	-6.64E-4	1.03E-3
EP-fw	kg P eq	1.39E-5	3.23E-8	8.24E-9	1.39E-5	2.12E-8	1.11E-6	1.00E-9	-7.58E-6	7.47E-6
EP-m	kg N eq	2.89E-4	7.99E-6	1.55E-7	2.97E-4	5.25E-6	4.51E-5	4.54E-7	-1.32E-4	2.16E-4
EP-T	mol N eq	3.09E-3	8.81E-5	1.85E-6	3.18E-3	5.79E-5	4.97E-4	2.97E-6	-1.47E-3	2.27E-3
POCP	kg NMVOC eq	1.01E-3	2.52E-5	6.28E-7	1.04E-3	1.65E-5	1.48E-4	1.03E-6	-4.77E-4	7.28E-4
ADP-mm	kg Sb eq	2.00E-4	1.01E-7	1.97E-8	2.00E-4	6.66E-8	6.70E-7	7.57E-10	-2.65E-6	1.98E-4
ADP-f	MJ	6.89E+0	6.02E-2	1.36E-3	6.95E+0	3.95E-2	4.45E-1	2.24E-3	-3.53E+0	3.91E+0
WDP	m3 depriv.	3.73E-1	1.85E-4	5.22E-5	3.73E-1	1.21E-4	1.63E-2	1.77E-5	-2.12E-1	1.77E-1
PM	disease inc.	1.28E-8	3.54E-10	9.08E-12	1.32E-8	2.33E-10	2.17E-9	1.54E-11	-7.28E-9	8.31E-9
IR	kBq U-235 eq	1.44E-2	2.63E-4	1.02E-6	1.47E-2	1.73E-4	1.60E-3	1.02E-5	-7.73E-3	8.75E-3
ETP-fw	CTUe	1.07E+1	4.89E-2	1.21E-2	1.07E+1	3.21E-2	3.18E+0	3.44E-2	-4.49E+0	9.50E+0
HTP-c	CTUh	2.94E-10	1.74E-12	6.17E-13	2.96E-10	1.14E-12	5.65E-11	6.40E-14	-1.04E-10	2.50E-10
HTP-nc	CTUh	7.50E-9	5.83E-11	1.57E-11	7.57E-9	3.83E-11	1.19E-9	6.63E-12	-2.35E-9	6.45E-9
SQP	Pt	7.87E+0	5.15E-2	2.24E-3	7.92E+0	3.38E-2	2.76E-1	5.71E-3	-1.11E+1	-2.85E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.93E+0	8.63E-4	2.40E-2	1.96E+0	5.67E-4	3.06E-2	8.17E-5	-1.93E+0	6.17E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.93E+0	8.63E-4	2.40E-2	1.96E+0	5.67E-4	3.06E-2	8.17E-5	-1.93E+0	6.17E-2
PENRE	MJ	7.40E+0	6.39E-2	1.44E-3	7.46E+0	4.20E-2	4.73E-1	2.37E-3	-3.80E+0	4.18E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.40E+0	6.39E-2	1.44E-3	7.46E+0	4.20E-2	4.73E-1	2.37E-3	-3.80E+0	4.18E+0
PET	MJ	9.33E+0	6.47E-2	2.55E-2	9.42E+0	4.25E-2	5.04E-1	2.45E-3	-5.73E+0	4.24E+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	4.98E-3	6.81E-6	1.46E-6	4.99E-3	4.47E-6	4.58E-4	2.72E-6	-3.05E-3	2.40E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.01E-5	1.54E-7	2.73E-13	3.03E-5	1.01E-7	7.69E-7	2.75E-9	-3.77E-6	2.74E-5
NHWD	kg	3.55E-2	3.73E-3	1.05E-6	3.93E-2	2.45E-3	1.81E-2	9.80E-3	-1.42E-2	5.54E-2
RWD	kg	1.30E-5	4.09E-7	1.10E-13	1.34E-5	2.69E-7	1.78E-6	1.45E-8	-7.16E-6	8.31E-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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