Environmental Profile

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

Ecochain v3.5.80

Product:	3021645 - KANION PVC Pipe connector 90 BN 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	3.10E-1	5.17E-3	1.45E-4	3.16E-1	3.79E-3	2.17E-1	1.22E-3	-1.84E-1	3.53E-1
GWP-f	kg CO2 eq	3.74E-1	5.17E-3	1.46E-4	3.79E-1	3.79E-3	1.41E-1	1.22E-3	-2.04E-1	3.22E-1
GWP-b	kg CO2 eq	-6.40E-2	3.14E-6	-1.54E-6	-6.40E-2	2.30E-6	7.57E-2	1.51E-6	1.99E-2	3.15E-2
GWP-luluc	kg CO2 eq	4.24E-4	1.83E-6	1.49E-7	4.26E-4	1.34E-6	4.75E-5	3.30E-8	-2.82E-4	1.92E-4
ODP	kg CFC11 eq	1.63E-7	1.19E-9	8.26E-12	1.64E-7	8.73E-10	1.31E-8	4.49E-11	-8.63E-8	9.21E-8
AP	mol H+ eq	1.77E-3	2.94E-5	1.47E-6	1.80E-3	2.16E-5	2.33E-4	1.10E-6	-7.93E-4	1.27E-3
EP-fw	kg P eq	1.63E-5	4.25E-8	8.24E-9	1.64E-5	3.12E-8	1.59E-6	1.47E-9	-8.31E-6	9.70E-6
EP-m	kg N eq	3.22E-4	1.05E-5	1.55E-7	3.33E-4	7.72E-6	5.90E-5	6.67E-7	-1.51E-4	2.49E-4
EP-T	mol N eq	3.49E-3	1.16E-4	1.85E-6	3.61E-3	8.50E-5	6.50E-4	4.37E-6	-1.65E-3	2.70E-3
POCP	kg NMVOC eq	1.18E-3	3.32E-5	6.28E-7	1.22E-3	2.43E-5	1.94E-4	1.51E-6	-5.53E-4	8.83E-4
ADP-mm	kg Sb eq	1.07E-4	1.34E-7	1.97E-8	1.07E-4	9.80E-8	9.09E-7	1.11E-9	-3.62E-6	1.04E-4
ADP-f	MJ	9.04E+0	7.93E-2	1.36E-3	9.12E+0	5.81E-2	6.18E-1	3.29E-3	-4.65E+0	5.15E+0
WDP	m3 depriv.	5.16E-1	2.43E-4	5.22E-5	5.16E-1	1.78E-4	2.36E-2	2.64E-5	-2.68E-1	2.72E-1
PM	disease inc.	1.41E-8	4.66E-10	9.08E-12	1.46E-8	3.42E-10	2.90E-9	2.26E-11	-7.20E-9	1.07E-8
IR	kBq U-235 eq	1.83E-2	3.47E-4	1.02E-6	1.87E-2	2.54E-4	2.20E-3	1.50E-5	-9.35E-3	1.18E-2
ETP-fw	CTUe	9.73E+0	6.44E-2	1.21E-2	9.80E+0	4.72E-2	4.60E+0	5.04E-2	-4.17E+0	1.03E+1
HTP-c	CTUh	3.13E-10	2.29E-12	6.17E-13	3.16E-10	1.68E-12	7.63E-11	9.43E-14	-1.23E-10	2.71E-10
HTP-nc	CTUh	8.54E-9	7.68E-11	1.57E-11	8.64E-9	5.63E-11	1.67E-9	9.73E-12	-3.30E-9	7.07E-9
SQP	Pt	7.63E+0	6.79E-2	2.24E-3	7.70E+0	4.97E-2	3.83E-1	8.40E-3	-8.87E+0	-7.29E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.20E+0	1.14E-3	2.40E-2	2.23E+0	8.34E-4	4.37E-2	1.20E-4	-1.55E+0	7.21E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.20E+0	1.14E-3	2.40E-2	2.23E+0	8.34E-4	4.37E-2	1.20E-4	-1.55E+0	7.21E-1
PENRE	MJ	9.70E+0	8.42E-2	1.44E-3	9.78E+0	6.17E-2	6.58E-1	3.49E-3	-5.01E+0	5.50E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.70E+0	8.42E-2	1.44E-3	9.78E+0	6.17E-2	6.58E-1	3.49E-3	-5.01E+0	5.50E+0
PET	MJ	1.19E+1	8.53E-2	2.55E-2	1.20E+1	6.25E-2	7.01E-1	3.61E-3	-6.56E+0	6.22E+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	6.32E-3	8.98E-6	1.46E-6	6.33E-3	6.58E-6	6.55E-4	4.00E-6	-3.33E-3	3.66E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.94E-5	2.03E-7	2.73E-13	1.96E-5	1.49E-7	1.03E-6	4.05E-9	-4.48E-6	1.63E-5
NHWD	kg	4.05E-2	4.92E-3	1.05E-6	4.54E-2	3.60E-3	2.42E-2	1.44E-2	-1.70E-2	7.06E-2
RWD	kg	1.64E-5	5.39E-7	1.10E-13	1.70E-5	3.95E-7	2.39E-6	2.13E-8	-8.52E-6	1.12E-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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