Environmental Profile

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

Ecochain v3.5.80

Product:	3021644 - KANION PVC Pipe connector 90 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	3.74E-1	5.65E-3	1.45E-4	3.80E-1	4.11E-3	2.45E-1	1.32E-3	-2.09E-1	4.21E-1
GWP-f	kg CO2 eq	4.38E-1	5.65E-3	1.46E-4	4.43E-1	4.10E-3	1.69E-1	1.32E-3	-2.31E-1	3.86E-1
GWP-b	kg CO2 eq	-6.39E-2	3.43E-6	-1.54E-6	-6.39E-2	2.49E-6	7.66E-2	1.64E-6	2.19E-2	3.46E-2
GWP-luluc	kg CO2 eq	4.99E-4	2.00E-6	1.49E-7	5.01E-4	1.45E-6	5.20E-5	3.52E-8	-3.05E-4	2.49E-4
ODP	kg CFC11 eq	1.81E-7	1.30E-9	8.26E-12	1.82E-7	9.45E-10	1.44E-8	4.86E-11	-9.44E-8	1.03E-7
AP	mol H+ eq	2.11E-3	3.22E-5	1.47E-6	2.14E-3	2.34E-5	2.57E-4	1.19E-6	-8.69E-4	1.55E-3
EP-fw	kg P eq	1.95E-5	4.65E-8	8.24E-9	1.95E-5	3.38E-8	1.74E-6	1.58E-9	-9.06E-6	1.22E-5
EP-m	kg N eq	3.88E-4	1.15E-5	1.55E-7	3.99E-4	8.36E-6	6.54E-5	7.26E-7	-1.66E-4	3.08E-4
EP-T	mol N eq	4.16E-3	1.27E-4	1.85E-6	4.29E-3	9.21E-5	7.21E-4	4.73E-6	-1.81E-3	3.30E-3
POCP	kg NMVOC eq	1.42E-3	3.63E-5	6.28E-7	1.46E-3	2.63E-5	2.15E-4	1.63E-6	-6.11E-4	1.09E-3
ADP-mm	kg Sb eq	3.47E-4	1.46E-7	1.97E-8	3.47E-4	1.06E-7	9.97E-7	1.20E-9	-3.92E-6	3.44E-4
ADP-f	MJ	1.05E+1	8.67E-2	1.36E-3	1.06E+1	6.30E-2	6.77E-1	3.56E-3	-5.20E+0	6.13E+0
WDP	m3 depriv.	5.76E-1	2.66E-4	5.22E-5	5.76E-1	1.93E-4	2.59E-2	2.67E-5	-2.92E-1	3.11E-1
PM	disease inc.	1.70E-8	5.10E-10	9.08E-12	1.75E-8	3.70E-10	3.19E-9	2.45E-11	-7.84E-9	1.33E-8
IR	kBq U-235 eq	2.21E-2	3.79E-4	1.02E-6	2.24E-2	2.75E-4	2.41E-3	1.63E-5	-1.01E-2	1.50E-2
ETP-fw	CTUe	1.29E+1	7.04E-2	1.21E-2	1.30E+1	5.11E-2	5.06E+0	5.53E-2	-4.58E+0	1.36E+1
HTP-c	CTUh	4.02E-10	2.50E-12	6.17E-13	4.05E-10	1.82E-12	8.38E-11	1.01E-13	-1.33E-10	3.58E-10
HTP-nc	CTUh	1.10E-8	8.39E-11	1.57E-11	1.11E-8	6.10E-11	1.84E-9	1.07E-11	-3.35E-9	9.67E-9
SQP	Pt	7.95E+0	7.41E-2	2.24E-3	8.03E+0	5.39E-2	4.19E-1	9.10E-3	-9.29E+0	-7.74E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.34E+0	1.24E-3	2.40E-2	2.36E+0	9.03E-4	4.79E-2	1.31E-4	-1.64E+0	7.75E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.34E+0	1.24E-3	2.40E-2	2.36E+0	9.03E-4	4.79E-2	1.31E-4	-1.64E+0	7.75E-1
PENRE	MJ	1.13E+1	9.20E-2	1.44E-3	1.13E+1	6.69E-2	7.20E-1	3.77E-3	-5.61E+0	6.53E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.13E+1	9.20E-2	1.44E-3	1.13E+1	6.69E-2	7.20E-1	3.77E-3	-5.61E+0	6.53E+0
PET	MJ	1.36E+1	9.33E-2	2.55E-2	1.37E+1	6.78E-2	7.68E-1	3.91E-3	-7.24E+0	7.31E+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	7.28E-3	9.81E-6	1.46E-6	7.29E-3	7.13E-6	7.21E-4	4.34E-6	-3.64E-3	4.39E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.06E-5	2.22E-7	2.73E-13	5.09E-5	1.61E-7	1.14E-6	4.36E-9	-5.16E-6	4.70E-5
NHWD	kg	4.63E-2	5.37E-3	1.05E-6	5.17E-2	3.90E-3	2.71E-2	1.56E-2	-1.84E-2	7.99E-2
RWD	kg	2.02E-5	5.89E-7	1.10E-13	2.08E-5	4.28E-7	2.62E-6	2.31E-8	-9.27E-6	1.46E-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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