Environmental Profile

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

Ecochain v3.5.80

Product:	3024174 - KANION PVC Reducer 75/50 Graphite 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	3.19E-1	7.24E-3	5.48E-4	3.27E-1	2.40E-3	2.31E-1	8.01E-4	-9.51E-2	4.66E-1
GWP-f	kg CO2 eq	3.81E-1	7.23E-3	5.54E-4	3.89E-1	2.40E-3	1.20E-1	8.01E-4	-1.96E-1	3.16E-1
GWP-b	kg CO2 eq	-6.28E-2	4.39E-6	-5.84E-6	-6.28E-2	1.45E-6	1.11E-1	9.40E-7	1.02E-1	1.50E-1
GWP-luluc	kg CO2 eq	8.48E-4	2.56E-6	5.66E-7	8.51E-4	8.48E-7	3.13E-5	2.30E-8	-8.10E-4	7.40E-5
ODP	kg CFC11 eq	1.08E-7	1.67E-9	3.13E-11	1.10E-7	5.52E-10	9.09E-9	2.85E-11	-6.28E-8	5.66E-8
AP	mol H+ eq	1.95E-3	4.12E-5	5.58E-6	2.00E-3	1.36E-5	1.90E-4	7.07E-7	-9.60E-4	1.25E-3
EP-fw	kg P eq	1.88E-5	5.95E-8	3.12E-8	1.89E-5	1.97E-8	1.06E-6	9.98E-10	-1.32E-5	6.78E-6
EP-m	kg N eq	4.31E-4	1.47E-5	5.87E-7	4.47E-4	4.88E-6	5.44E-5	4.09E-7	-2.03E-4	3.04E-4
EP-T	mol N eq	4.50E-3	1.62E-4	7.02E-6	4.67E-3	5.38E-5	5.98E-4	2.79E-6	-2.28E-3	3.04E-3
POCP	kg NMVOC eq	1.34E-3	4.64E-5	2.38E-6	1.39E-3	1.54E-5	1.78E-4	9.68E-7	-6.74E-4	9.06E-4
ADP-mm	kg Sb eq	4.41E-4	1.87E-7	7.45E-8	4.41E-4	6.20E-8	7.51E-7	7.34E-10	-2.94E-6	4.39E-4
ADP-f	MJ	7.80E+0	1.11E-1	5.14E-3	7.92E+0	3.68E-2	4.68E-1	2.10E-3	-4.05E+0	4.37E+0
WDP	m3 depriv.	3.69E-1	3.41E-4	1.98E-4	3.70E-1	1.13E-4	1.48E-2	2.40E-5	-2.99E-1	8.51E-2
PM	disease inc.	1.89E-8	6.53E-10	3.44E-11	1.96E-8	2.16E-10	2.51E-9	1.44E-11	-1.35E-8	8.80E-9
IR	kBq U-235 eq	1.75E-2	4.85E-4	3.85E-6	1.80E-2	1.61E-4	1.73E-3	9.45E-6	-1.16E-2	8.30E-3
ETP-fw	CTUe	2.14E+1	9.01E-2	4.58E-2	2.16E+1	2.99E-2	2.85E+0	2.92E-2	-9.56E+0	1.49E+1
HTP-c	CTUh	3.83E-10	3.21E-12	2.34E-12	3.88E-10	1.06E-12	6.73E-11	6.50E-14	-1.40E-10	3.17E-10
HTP-nc	CTUh	9.83E-9	1.07E-10	5.93E-11	1.00E-8	3.56E-11	1.18E-9	5.75E-12	-3.53E-9	7.69E-9
SQP	Pt	1.07E+1	9.50E-2	8.48E-3	1.08E+1	3.15E-2	2.92E-1	5.32E-3	-2.33E+1	-1.22E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.72E+0	1.59E-3	9.10E-2	2.82E+0	5.28E-4	2.91E-2	7.26E-5	-4.14E+0	-1.29E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.72E+0	1.59E-3	9.10E-2	2.82E+0	5.28E-4	2.91E-2	7.26E-5	-4.14E+0	-1.29E+0
PENRE	MJ	8.38E+0	1.18E-1	5.47E-3	8.50E+0	3.90E-2	4.98E-1	2.22E-3	-4.36E+0	4.68E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.38E+0	1.18E-1	5.47E-3	8.50E+0	3.90E-2	4.98E-1	2.22E-3	-4.36E+0	4.68E+0
PET	MJ	1.11E+1	1.19E-1	9.65E-2	1.13E+1	3.96E-2	5.27E-1	2.30E-3	-8.50E+0	3.39E+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	5.97E-3	1.26E-5	5.53E-6	5.98E-3	4.16E-6	4.28E-4	2.52E-6	-5.50E-3	9.21E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.18E-5	2.84E-7	1.03E-12	6.21E-5	9.40E-8	8.81E-7	2.64E-9	-4.59E-6	5.85E-5
NHWD	kg	4.88E-2	6.88E-3	3.99E-6	5.57E-2	2.28E-3	2.00E-2	9.11E-3	-1.90E-2	6.81E-2
RWD	kg	1.62E-5	7.55E-7	4.15E-13	1.70E-5	2.50E-7	2.03E-6	1.35E-8	-1.09E-5	8.41E-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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