Environmental Profile

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

Ecochain v3.5.80

Product:	3043664 - Gutter PVC bracket KANION 70 graphite
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	8.20E-2	1.63E-3	1.45E-4	8.38E-2	8.96E-4	8.05E-2	2.93E-4	-4.70E-2	1.18E-1
GWP-f	kg CO2 eq	1.14E-1	1.62E-3	1.46E-4	1.16E-1	8.95E-4	4.12E-2	2.93E-4	-6.03E-2	9.83E-2
GWP-b	kg CO2 eq	-3.26E-2	9.87E-7	-1.54E-6	-3.26E-2	5.43E-7	3.93E-2	3.54E-7	1.34E-2	2.01E-2
GWP-luluc	kg CO2 eq	1.75E-4	5.75E-7	1.49E-7	1.76E-4	3.17E-7	1.14E-5	8.14E-9	-1.35E-4	5.25E-5
ODP	kg CFC11 eq	3.88E-8	3.74E-10	8.26E-12	3.92E-8	2.06E-10	3.19E-9	1.06E-11	-2.17E-8	2.09E-8
AP	mol H+ eq	5.73E-4	9.26E-6	1.47E-6	5.84E-4	5.10E-6	6.08E-5	2.62E-7	-2.51E-4	3.99E-4
EP-fw	kg P eq	5.27E-6	1.34E-8	8.24E-9	5.29E-6	7.36E-9	3.82E-7	3.59E-10	-2.87E-6	2.81E-6
EP-m	kg N eq	1.13E-4	3.31E-6	1.55E-7	1.17E-4	1.82E-6	1.62E-5	1.56E-7	-5.10E-5	8.39E-5
EP-T	mol N eq	1.21E-3	3.65E-5	1.85E-6	1.25E-3	2.01E-5	1.79E-4	1.04E-6	-5.68E-4	8.84E-4
POCP	kg NMVOC eq	3.97E-4	1.04E-5	6.28E-7	4.08E-4	5.75E-6	5.32E-5	3.59E-7	-1.85E-4	2.82E-4
ADP-mm	kg Sb eq	9.90E-5	4.20E-8	1.97E-8	9.91E-5	2.32E-8	2.36E-7	2.68E-10	-9.56E-7	9.84E-5
ADP-f	MJ	2.53E+0	2.49E-2	1.36E-3	2.56E+0	1.37E-2	1.56E-1	7.80E-4	-1.30E+0	1.43E+0
WDP	m3 depriv.	1.31E-1	7.65E-5	5.22E-5	1.31E-1	4.22E-5	5.53E-3	7.40E-6	-7.69E-2	5.98E-2
PM	disease inc.	5.12E-9	1.47E-10	9.08E-12	5.28E-9	8.08E-11	7.71E-10	5.37E-12	-2.90E-9	3.23E-9
IR	kBq U-235 eq	5.31E-3	1.09E-4	1.02E-6	5.42E-3	6.00E-5	5.61E-4	3.54E-6	-2.87E-3	3.18E-3
ETP-fw	CTUe	4.34E+0	2.03E-2	1.21E-2	4.37E+0	1.12E-2	1.07E+0	1.15E-2	-1.75E+0	3.72E+0
HTP-c	CTUh	1.21E-10	7.21E-13	6.17E-13	1.23E-10	3.97E-13	2.10E-11	2.31E-14	-4.09E-11	1.03E-10
HTP-nc	CTUh	2.95E-9	2.41E-11	1.57E-11	2.99E-9	1.33E-11	4.13E-10	2.24E-12	-8.27E-10	2.59E-9
SQP	Pt	3.69E+0	2.13E-2	2.24E-3	3.71E+0	1.18E-2	9.78E-2	1.99E-3	-4.89E+0	-1.07E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.35E-1	3.58E-4	2.40E-2	8.59E-1	1.97E-4	1.05E-2	2.78E-5	-8.34E-1	3.58E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.35E-1	3.58E-4	2.40E-2	8.59E-1	1.97E-4	1.05E-2	2.78E-5	-8.34E-1	3.58E-2
PENRE	MJ	2.72E+0	2.65E-2	1.44E-3	2.75E+0	1.46E-2	1.66E-1	8.27E-4	-1.40E+0	1.53E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.72E+0	2.65E-2	1.44E-3	2.75E+0	1.46E-2	1.66E-1	8.27E-4	-1.40E+0	1.53E+0
PET	MJ	3.55E+0	2.68E-2	2.55E-2	3.61E+0	1.48E-2	1.76E-1	8.55E-4	-2.23E+0	1.57E+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	1.85E-3	2.82E-6	1.46E-6	1.86E-3	1.55E-6	1.57E-4	9.44E-7	-1.14E-3	8.75E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.44E-5	6.38E-8	2.73E-13	1.44E-5	3.51E-8	2.73E-7	9.70E-10	-1.46E-6	1.33E-5
NHWD	kg	1.40E-2	1.55E-3	1.05E-6	1.55E-2	8.51E-4	6.54E-3	3.40E-3	-5.50E-3	2.08E-2
RWD	kg	4.81E-6	1.70E-7	1.10E-13	4.98E-6	9.34E-8	6.31E-7	5.04E-9	-2.68E-6	3.03E-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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