

# Environmental Profile

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

Ecochain v3.5.80



Product: 3021612 - KANION PVC Angle ext. 100x135 BN  
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                                                                |    |    |     |     | Use stage                                                                                                             |     |     |     |     |     |     | End-of-Life stage                                                             |    |    |    |   |
| A1 Raw material supply A2 Transport A3 Manufacturing                         |    |    |     |     | B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment<br>B6 Operational energy use B7 Operational water use |     |     |     |     |     |     | C1 De-construction demolition C2 Transport C3 Waste processing<br>C4 Disposal |    |    |    |   |
| Construction process stage                                                   |    |    |     |     | Benefits and loads beyond the system boundaries                                                                       |     |     |     |     |     |     |                                                                               |    |    |    |   |
| A4 Transport gate to site<br>A5 Assembly / Construction installation process |    |    |     |     | 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

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# Results

| Environmental impact | Unit         | A1       | A2       | A3       | A1-A3    | C2       | C3       | C4       | D         | Total    |
|----------------------|--------------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|
| GWP-total            | kg CO2 eq    | 1.45E+0  | 1.38E-2  | 4.28E-2  | 1.51E+0  | 7.03E-3  | 1.12E+0  | 2.31E-3  | -4.64E-2  | 2.59E+0  |
| GWP-f                | kg CO2 eq    | 1.69E+0  | 1.38E-2  | 4.32E-2  | 1.75E+0  | 7.03E-3  | 4.57E-1  | 2.31E-3  | -9.50E-1  | 1.27E+0  |
| GWP-b                | kg CO2 eq    | -2.48E-1 | 8.36E-6  | -4.56E-4 | -2.49E-1 | 4.27E-6  | 6.65E-1  | 2.84E-6  | 9.10E-1   | 1.33E+0  |
| GWP-luluc            | kg CO2 eq    | 5.85E-3  | 4.87E-6  | 4.41E-5  | 5.89E-3  | 2.49E-6  | 1.12E-4  | 6.17E-8  | -6.67E-3  | -6.61E-4 |
| ODP                  | kg CFC11 eq  | 4.22E-7  | 3.17E-9  | 2.44E-9  | 4.27E-7  | 1.62E-9  | 3.68E-8  | 8.43E-11 | -2.32E-7  | 2.34E-7  |
| AP                   | mol H+ eq    | 8.42E-3  | 7.84E-5  | 4.36E-4  | 8.94E-3  | 4.00E-5  | 8.76E-4  | 2.06E-6  | -5.77E-3  | 4.09E-3  |
| EP-fw                | kg P eq      | 9.02E-5  | 1.13E-7  | 2.43E-6  | 9.27E-5  | 5.78E-8  | 3.89E-6  | 2.76E-9  | -9.21E-5  | 4.59E-6  |
| EP-m                 | kg N eq      | 2.25E-3  | 2.81E-5  | 4.58E-5  | 2.33E-3  | 1.43E-5  | 2.77E-4  | 1.31E-6  | -1.28E-3  | 1.34E-3  |
| EP-T                 | mol N eq     | 2.24E-2  | 3.09E-4  | 5.48E-4  | 2.33E-2  | 1.58E-4  | 3.02E-3  | 8.20E-6  | -1.47E-2  | 1.18E-2  |
| POCP                 | kg NMVOC eq  | 6.05E-3  | 8.84E-5  | 1.85E-4  | 6.32E-3  | 4.51E-5  | 9.03E-4  | 2.83E-6  | -3.96E-3  | 3.31E-3  |
| ADP-mm               | kg Sb eq     | 2.05E-4  | 3.56E-7  | 5.81E-6  | 2.11E-4  | 1.82E-7  | 3.53E-6  | 2.09E-9  | -1.30E-5  | 2.02E-4  |
| ADP-f                | MJ           | 3.33E+1  | 2.11E-1  | 4.01E-1  | 3.39E+1  | 1.08E-1  | 1.97E+0  | 6.17E-3  | -1.82E+1  | 1.78E+1  |
| WDP                  | m3 depriv.   | 1.35E+0  | 6.49E-4  | 1.54E-2  | 1.37E+0  | 3.31E-4  | 5.05E-2  | 4.82E-5  | -1.76E+0  | -3.34E-1 |
| PM                   | disease inc. | 1.03E-7  | 1.24E-9  | 2.68E-9  | 1.06E-7  | 6.34E-10 | 1.20E-8  | 4.24E-11 | -9.86E-8  | 2.05E-8  |
| IR                   | kBq U-235 eq | 7.87E-2  | 9.24E-4  | 3.01E-4  | 7.99E-2  | 4.71E-4  | 7.70E-3  | 2.82E-5  | -7.23E-2  | 1.58E-2  |
| ETP-fw               | CTUe         | 1.29E+2  | 1.72E-1  | 3.57E+0  | 1.33E+2  | 8.76E-2  | 1.01E+1  | 9.30E-2  | -7.46E+1  | 6.83E+1  |
| HTP-c                | CTUh         | 1.19E-9  | 6.11E-12 | 1.82E-10 | 1.38E-9  | 3.12E-12 | 2.77E-10 | 1.76E-13 | -7.91E-10 | 8.70E-10 |
| HTP-nc               | CTUh         | 3.00E-8  | 2.05E-10 | 4.63E-9  | 3.49E-8  | 1.04E-10 | 4.60E-9  | 1.80E-11 | -2.27E-8  | 1.69E-8  |
| SQP                  | Pt           | 6.17E+1  | 1.81E-1  | 6.62E-1  | 6.25E+1  | 9.23E-2  | 1.18E+0  | 1.58E-2  | -1.83E+2  | -1.19E+2 |
| Resource use         | Unit         | A1       | A2       | A3       | A1-A3    | C2       | C3       | C4       | D         | Total    |
| PERE                 | MJ           | 1.18E+1  | 3.03E-3  | 7.10E+0  | 1.89E+1  | 1.55E-3  | 1.06E-1  | 2.27E-4  | -3.28E+1  | -1.38E+1 |
| PERM                 | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PERT                 | MJ           | 1.18E+1  | 3.03E-3  | 7.10E+0  | 1.89E+1  | 1.55E-3  | 1.06E-1  | 2.27E-4  | -3.28E+1  | -1.38E+1 |
| PENRE                | MJ           | 3.57E+1  | 2.24E-1  | 4.27E-1  | 3.64E+1  | 1.15E-1  | 2.09E+0  | 6.54E-3  | -1.95E+1  | 1.91E+1  |
| PENRM                | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PENRT                | MJ           | 3.57E+1  | 2.24E-1  | 4.27E-1  | 3.64E+1  | 1.15E-1  | 2.09E+0  | 6.54E-3  | -1.95E+1  | 1.91E+1  |
| PET                  | MJ           | 4.75E+1  | 2.27E-1  | 7.53E+0  | 5.53E+1  | 1.16E-1  | 2.20E+0  | 6.77E-3  | -5.23E+1  | 5.31E+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           | 2.52E-2  | 2.39E-5  | 4.31E-4  | 2.56E-2  | 1.22E-5  | 1.57E-3  | 7.52E-6  | -3.91E-2  | -1.19E-2 |

| Output flows and waste categories | Unit | A1      | A2      | A3       | A1-A3   | C2      | C3      | C4      | D        | Total   |
|-----------------------------------|------|---------|---------|----------|---------|---------|---------|---------|----------|---------|
| HWD                               | kg   | 5.45E-5 | 5.40E-7 | 8.07E-11 | 5.50E-5 | 2.76E-7 | 4.16E-6 | 7.58E-9 | -2.22E-5 | 3.73E-5 |
| NHWD                              | kg   | 2.49E-1 | 1.31E-2 | 3.12E-4  | 2.63E-1 | 6.68E-3 | 8.53E-2 | 2.70E-2 | -1.07E-1 | 2.75E-1 |
| RWD                               | kg   | 7.78E-5 | 1.44E-6 | 3.24E-11 | 7.92E-5 | 7.33E-7 | 9.69E-6 | 4.00E-8 | -6.86E-5 | 2.11E-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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