

# Environmental Profile

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

Ecochain v3.5.80



Product: 3003187 - Wadal PVC Branch 45° GY 125x75 S/S/S  
Unit: 1 piece  
Manufacturer: Wavin - PL -Buk - Extra products

With Wadal you opt for a tensile-resistant system whose connections cannot slide apart. There is a solution for every indoor drainage situation, thanks to the very extensive range of PVC adhesive fittings and pipes. KOMO certified.

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

This document and supporting material contain confidential and proprietary business information of Wavin - PL -Buk - Extra products. These materials may be printed or (photo) copied or otherwise used only with the written consent of Wavin - PL -Buk - Extra products.

# Results

| Environmental impact | Unit         | A1       | A2       | A3       | A1-A3    | C2       | C3       | C4       | D         | Total    |
|----------------------|--------------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|
| GWP-total            | kg CO2 eq    | 1.13E+0  | 1.88E-2  | 1.45E-4  | 1.15E+0  | 1.56E-2  | 8.18E-1  | 4.97E-3  | -7.07E-1  | 1.28E+0  |
| GWP-f                | kg CO2 eq    | 1.42E+0  | 1.88E-2  | 1.46E-4  | 1.44E+0  | 1.56E-2  | 4.89E-1  | 4.96E-3  | -7.69E-1  | 1.18E+0  |
| GWP-b                | kg CO2 eq    | -2.86E-1 | 1.14E-5  | -1.54E-6 | -2.86E-1 | 9.49E-6  | 3.29E-1  | 6.27E-6  | 6.27E-2   | 1.06E-1  |
| GWP-luluc            | kg CO2 eq    | 1.67E-3  | 6.66E-6  | 1.49E-7  | 1.68E-3  | 5.53E-6  | 1.99E-4  | 1.31E-7  | -1.05E-3  | 8.36E-4  |
| ODP                  | kg CFC11 eq  | 6.88E-7  | 4.34E-9  | 8.26E-12 | 6.92E-7  | 3.60E-9  | 5.53E-8  | 1.85E-10 | -3.49E-7  | 4.02E-7  |
| AP                   | mol H+ eq    | 6.82E-3  | 1.07E-4  | 1.47E-6  | 6.93E-3  | 8.90E-5  | 9.52E-4  | 4.51E-6  | -3.13E-3  | 4.85E-3  |
| EP-fw                | kg P eq      | 6.60E-5  | 1.55E-7  | 8.24E-9  | 6.62E-5  | 1.29E-7  | 6.66E-6  | 5.90E-9  | -3.24E-5  | 4.06E-5  |
| EP-m                 | kg N eq      | 1.24E-3  | 3.84E-5  | 1.55E-7  | 1.28E-3  | 3.19E-5  | 2.36E-4  | 2.79E-6  | -5.89E-4  | 9.65E-4  |
| EP-T                 | mol N eq     | 1.35E-2  | 4.23E-4  | 1.85E-6  | 1.39E-2  | 3.51E-4  | 2.60E-3  | 1.80E-5  | -6.41E-3  | 1.05E-2  |
| POCP                 | kg NMVOC eq  | 4.43E-3  | 1.21E-4  | 6.28E-7  | 4.56E-3  | 1.00E-4  | 7.77E-4  | 6.18E-6  | -2.16E-3  | 3.28E-3  |
| ADP-mm               | kg Sb eq     | 1.24E-3  | 4.87E-7  | 1.97E-8  | 1.24E-3  | 4.04E-7  | 3.73E-6  | 4.52E-9  | -1.48E-5  | 1.23E-3  |
| ADP-f                | MJ           | 3.41E+1  | 2.89E-1  | 1.36E-3  | 3.44E+1  | 2.40E-1  | 2.55E+0  | 1.35E-2  | -1.80E+1  | 1.92E+1  |
| WDP                  | m3 depriv.   | 2.11E+0  | 8.87E-4  | 5.22E-5  | 2.11E+0  | 7.36E-4  | 9.97E-2  | 8.85E-5  | -1.07E+0  | 1.14E+0  |
| PM                   | disease inc. | 5.13E-8  | 1.70E-9  | 9.08E-12 | 5.30E-8  | 1.41E-9  | 1.18E-8  | 9.31E-11 | -2.78E-8  | 3.84E-8  |
| IR                   | kBq U-235 eq | 7.59E-2  | 1.26E-3  | 1.02E-6  | 7.71E-2  | 1.05E-3  | 9.05E-3  | 6.21E-5  | -3.73E-2  | 5.00E-2  |
| ETP-fw               | CTUe         | 4.28E+1  | 2.35E-1  | 1.21E-2  | 4.31E+1  | 1.95E-1  | 1.96E+1  | 2.16E-1  | -1.56E+1  | 4.75E+1  |
| HTP-c                | CTUh         | 1.29E-9  | 8.35E-12 | 6.17E-13 | 1.30E-9  | 6.93E-12 | 2.91E-10 | 3.74E-13 | -5.02E-10 | 1.10E-9  |
| HTP-nc               | CTUh         | 3.81E-8  | 2.80E-10 | 1.57E-11 | 3.84E-8  | 2.32E-10 | 6.85E-9  | 4.13E-11 | -1.45E-8  | 3.11E-8  |
| SQP                  | Pt           | 3.25E+1  | 2.47E-1  | 2.24E-3  | 3.27E+1  | 2.05E-1  | 1.56E+0  | 3.46E-2  | -3.48E+1  | -3.10E-1 |
| Resource use         | Unit         | A1       | A2       | A3       | A1-A3    | C2       | C3       | C4       | D         | Total    |
| PERE                 | MJ           | 9.46E+0  | 4.14E-3  | 2.40E-2  | 9.49E+0  | 3.44E-3  | 1.83E-1  | 5.04E-4  | -6.04E+0  | 3.63E+0  |
| PERM                 | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PERT                 | MJ           | 9.46E+0  | 4.14E-3  | 2.40E-2  | 9.49E+0  | 3.44E-3  | 1.83E-1  | 5.04E-4  | -6.04E+0  | 3.63E+0  |
| PENRE                | MJ           | 3.66E+1  | 3.07E-1  | 1.44E-3  | 3.69E+1  | 2.55E-1  | 2.71E+0  | 1.44E-2  | -1.94E+1  | 2.05E+1  |
| PENRM                | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0        |
| PENRT                | MJ           | 3.66E+1  | 3.07E-1  | 1.44E-3  | 3.69E+1  | 2.55E-1  | 2.71E+0  | 1.44E-2  | -1.94E+1  | 2.05E+1  |
| PET                  | MJ           | 4.60E+1  | 3.11E-1  | 2.55E-2  | 4.64E+1  | 2.58E-1  | 2.89E+0  | 1.49E-2  | -2.54E+1  | 2.41E+1  |
| 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           | 2.47E-2  | 3.27E-5  | 1.46E-6  | 2.47E-2  | 2.72E-5  | 2.75E-3  | 1.66E-5  | -1.30E-2  | 1.46E-2  |

| Output flows and waste categories | Unit | A1      | A2      | A3       | A1-A3   | C2      | C3      | C4      | D        | Total   |
|-----------------------------------|------|---------|---------|----------|---------|---------|---------|---------|----------|---------|
| HWD                               | kg   | 1.81E-4 | 7.39E-7 | 2.73E-13 | 1.82E-4 | 6.14E-7 | 4.20E-6 | 1.65E-8 | -1.65E-5 | 1.70E-4 |
| NHWD                              | kg   | 1.53E-1 | 1.79E-2 | 1.05E-6  | 1.71E-1 | 1.49E-2 | 9.46E-2 | 5.95E-2 | -6.85E-2 | 2.72E-1 |
| RWD                               | kg   | 6.72E-5 | 1.96E-6 | 1.10E-13 | 6.92E-5 | 1.63E-6 | 9.75E-6 | 8.80E-8 | -3.38E-5 | 4.68E-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       |



Ecochain Technologies BV  
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands  
<https://www.ecochain.com>  
+31 20 3035 777