

# Environmental Profile

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

Ecochain v3.5.80



Product: 3003155 - Wadal PVC Tee 45° GY 90 S/S/SP  
Unit: 1 piece  
Manufacturer: Wavin - NL - Hardenberg - Verified  
Address: J.C. Kellerlaan 3  
7772 SG Hardenberg  
Netherlands

LCA standard: NMD Bepalingsmethode 1.1 (2022)  
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



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.

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 - NL - Hardenberg - Verified (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                            |    |    |     |     | D Reuse- Recovery- Recycling- potential                                                                               |     |     |     |     |     |     |                                                                               |    |    |    |   |
| A5 Assembly / Construction installation process      |    |    |     |     |                                                                                                                       |     |     |     |     |     |     |                                                                               |    |    |    |   |

# Results

| Environmental impact SBK set 1 | Unit         | A1       | A2       | A3       | A1-A3    | C2       | C3       | C4       | D         | Total    |
|--------------------------------|--------------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|
| ECI                            | euro         | 0.1      | 0        | 0.01     | 0.11     | 0        | 0.03     | 0        | -0.05     | 0.09     |
| ADPE                           | kg Sb-eq     | 9.25E-4  | 3.24E-7  | 1.43E-6  | 9.26E-4  | 3.04E-7  | 2.76E-6  | 3.39E-9  | -1.06E-5  | 9.19E-4  |
| ADPF                           | kg Sb-eq     | 1.08E-2  | 9.34E-5  | 2.46E-4  | 1.12E-2  | 8.55E-5  | 9.52E-4  | 4.70E-6  | -5.94E-3  | 6.27E-3  |
| GWP                            | kg CO2-eq    | 9.08E-1  | 1.27E-2  | 4.67E-2  | 9.68E-1  | 1.16E-2  | 3.25E-1  | 3.20E-3  | -5.10E-1  | 7.97E-1  |
| ODP                            | kg CFC-11-eq | 5.12E-7  | 2.25E-9  | 3.69E-9  | 5.18E-7  | 2.16E-9  | 4.00E-8  | 1.12E-10 | -2.58E-7  | 3.02E-7  |
| POCP                           | kg ethene-eq | 5.20E-4  | 7.66E-6  | 2.03E-5  | 5.48E-4  | 6.99E-6  | 7.53E-5  | 8.29E-7  | -2.65E-4  | 3.65E-4  |
| AP                             | kg SO2-eq    | 3.64E-3  | 5.58E-5  | 2.01E-4  | 3.90E-3  | 5.01E-5  | 5.56E-4  | 2.53E-6  | -1.75E-3  | 2.76E-3  |
| EP                             | kg PO4 3--eq | 4.69E-4  | 1.10E-5  | 2.58E-5  | 5.06E-4  | 1.00E-5  | 8.43E-5  | 9.97E-7  | -2.37E-4  | 3.64E-4  |
| HTP                            | kg 1,4-DB-eq | 3.55E-1  | 5.35E-3  | 2.17E-2  | 3.82E-1  | 4.98E-3  | 1.45E-1  | 2.66E-4  | -1.67E-1  | 3.66E-1  |
| FAETP                          | kg 1,4-DB-eq | 1.08E-2  | 1.56E-4  | 7.41E-4  | 1.17E-2  | 1.46E-4  | 2.20E-3  | 8.18E-5  | -4.69E-3  | 9.41E-3  |
| MAETP                          | kg 1,4-DB-eq | 2.51E+1  | 5.61E-1  | 2.92E+0  | 2.86E+1  | 5.21E-1  | 7.60E+0  | 1.00E-1  | -1.08E+1  | 2.60E+1  |
| TETP                           | kg 1,4-DB-eq | 2.63E-3  | 1.89E-5  | 1.61E-3  | 4.27E-3  | 1.76E-5  | 5.15E-4  | 8.93E-7  | -1.57E-3  | 3.23E-3  |
| Environmental impact           | Unit         | A1       | A2       | A3       | A1-A3    | C2       | C3       | C4       | D         | Total    |
| GWP-total                      | kg CO2 eq    | 9.39E-1  | 1.28E-2  | 5.35E-2  | 1.01E+0  | 1.17E-2  | 3.47E-1  | 3.73E-3  | -4.79E-1  | 8.89E-1  |
| GWP-f                          | kg CO2 eq    | 9.29E-1  | 1.28E-2  | 4.11E-2  | 9.83E-1  | 1.17E-2  | 3.27E-1  | 3.73E-3  | -5.22E-1  | 8.04E-1  |
| GWP-b                          | kg CO2 eq    | 9.29E-3  | 5.91E-6  | 8.48E-3  | 1.78E-2  | 7.13E-6  | 2.00E-2  | 4.71E-6  | 4.31E-2   | 8.10E-2  |
| GWP-luluc                      | kg CO2 eq    | 1.05E-3  | 4.69E-6  | 3.90E-3  | 4.96E-3  | 4.16E-6  | 1.48E-4  | 9.78E-8  | -6.49E-4  | 4.46E-3  |
| ODP                            | kg CFC11 eq  | 5.05E-7  | 2.83E-9  | 4.34E-9  | 5.12E-7  | 2.71E-9  | 4.12E-8  | 1.39E-10 | -2.56E-7  | 3.01E-7  |
| AP                             | mol H+ eq    | 4.43E-3  | 7.43E-5  | 2.51E-4  | 4.76E-3  | 6.69E-5  | 6.98E-4  | 3.38E-6  | -2.11E-3  | 3.41E-3  |
| EP-fw                          | kg P eq      | 4.50E-5  | 1.29E-7  | 7.20E-7  | 4.59E-5  | 9.66E-8  | 4.97E-6  | 4.43E-9  | -2.25E-5  | 2.84E-5  |
| EP-m                           | kg N eq      | 7.96E-4  | 2.62E-5  | 5.92E-5  | 8.81E-4  | 2.39E-5  | 1.70E-4  | 2.10E-6  | -3.78E-4  | 7.00E-4  |
| EP-T                           | mol N eq     | 8.57E-3  | 2.89E-4  | 6.53E-4  | 9.51E-3  | 2.64E-4  | 1.88E-3  | 1.35E-5  | -4.06E-3  | 7.60E-3  |
| POCP                           | kg NMVOC eq  | 2.74E-3  | 8.24E-5  | 1.86E-4  | 3.01E-3  | 7.54E-5  | 5.62E-4  | 4.64E-6  | -1.35E-3  | 2.30E-3  |
| ADP-mm                         | kg Sb eq     | 9.25E-4  | 3.24E-7  | 1.43E-6  | 9.26E-4  | 3.04E-7  | 2.76E-6  | 3.39E-9  | -1.06E-5  | 9.19E-4  |
| ADP-f                          | MJ           | 2.31E+1  | 1.93E-1  | 4.59E-1  | 2.37E+1  | 1.80E-1  | 1.88E+0  | 1.02E-2  | -1.25E+1  | 1.33E+1  |
| WDP                            | m3 depriv.   | 1.53E+0  | 6.91E-4  | 3.56E-1  | 1.89E+0  | 5.53E-4  | 7.47E-2  | 6.58E-5  | -7.91E-1  | 1.17E+0  |
| PM                             | disease inc. | 3.00E-8  | 1.15E-9  | 3.09E-9  | 3.42E-8  | 1.06E-9  | 8.62E-9  | 6.99E-11 | -1.64E-8  | 2.76E-8  |
| IR                             | kBq U-235 eq | 5.29E-2  | 8.09E-4  | 7.30E-4  | 5.44E-2  | 7.88E-4  | 6.67E-3  | 4.67E-5  | -2.62E-2  | 3.57E-2  |
| ETP-fw                         | CTUe         | 2.85E+1  | 1.72E-1  | 1.07E+0  | 2.98E+1  | 1.46E-1  | 1.47E+1  | 1.62E-1  | -1.05E+1  | 3.43E+1  |
| HTP-c                          | CTUh         | 7.70E-10 | 5.59E-12 | 3.69E-11 | 8.13E-10 | 5.21E-12 | 2.09E-10 | 2.81E-13 | -2.92E-10 | 7.35E-10 |
| HTP-nc                         | CTUh         | 2.55E-8  | 1.88E-10 | 1.15E-9  | 2.68E-8  | 1.74E-10 | 5.08E-9  | 3.11E-11 | -1.01E-8  | 2.20E-8  |
| SQP                            | Pt           | 4.88E+0  | 1.68E-1  | 3.43E-2  | 5.08E+0  | 1.54E-1  | 1.15E+0  | 2.60E-2  | -9.64E+0  | -3.24E+0 |

| Resource use                      | Unit | A1      | A2      | A3      | A1-A3   | C2      | C3      | C4      | D        | Total   |
|-----------------------------------|------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| PERE                              | MJ   | 1.54E+0 | 2.42E-3 | 2.23E+0 | 3.78E+0 | 2.59E-3 | 1.36E-1 | 3.79E-4 | -2.04E+0 | 1.87E+0 |
| PERM                              | MJ   | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0        | 0       |
| PERT                              | MJ   | 1.54E+0 | 2.42E-3 | 2.23E+0 | 3.78E+0 | 2.59E-3 | 1.36E-1 | 3.79E-4 | -2.04E+0 | 1.87E+0 |
| PENRE                             | MJ   | 2.48E+1 | 2.05E-1 | 4.97E-1 | 2.55E+1 | 1.91E-1 | 2.00E+0 | 1.08E-2 | -1.35E+1 | 1.42E+1 |
| PENRM                             | MJ   | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0        | 0       |
| PENRT                             | MJ   | 2.48E+1 | 2.05E-1 | 4.97E-1 | 2.55E+1 | 1.91E-1 | 2.00E+0 | 1.08E-2 | -1.35E+1 | 1.42E+1 |
| PET                               | MJ   | 2.63E+1 | 2.07E-1 | 2.73E+0 | 2.92E+1 | 1.94E-1 | 2.14E+0 | 1.12E-2 | -1.55E+1 | 1.61E+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   | 1.72E-2 | 2.35E-5 | 8.41E-3 | 2.56E-2 | 2.04E-5 | 2.05E-3 | 1.24E-5 | -9.29E-3 | 1.84E-2 |
| Output flows and waste categories | Unit | A1      | A2      | A3      | A1-A3   | C2      | C3      | C4      | D        | Total   |
| HWD                               | kg   | 1.33E-4 | 4.89E-7 | 4.88E-7 | 1.34E-4 | 4.61E-7 | 3.08E-6 | 1.24E-8 | -1.06E-5 | 1.27E-4 |
| NHWD                              | kg   | 9.69E-2 | 1.23E-2 | 7.53E-4 | 1.10E-1 | 1.12E-2 | 6.78E-2 | 4.47E-2 | -4.22E-2 | 1.91E-1 |
| RWD                               | kg   | 4.60E-5 | 1.27E-6 | 9.04E-7 | 4.81E-5 | 1.23E-6 | 7.15E-6 | 6.61E-8 | -2.33E-5 | 3.33E-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       |