

# Environmental Profile

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

Ecochain v3.5.64



Product: 3024668 - Tigris K1 Elbow 50 45°  
 Unit: 1 Piece  
 Manufacturer: Wavin - DE - Twist - Handmade

LCA standard: EN15804+A2 (2019)  
 Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off  
 Externally verified: Yes  
 Issue date: 29-11-2022  
 End of validity: 29-11-2027  
 Verifier: Martijn van Hövell - SGS Search



Wavin Tigris K1 is proven and perfected to deliver high performance and significant cost savings in a wide range of commercial plumbing and heating projects. Its patented design has been relentlessly engineered to optimise all the benefits of a composite metal-plastic press-fit system and deliver the optimum solution for sanitary, potable water and heating applications, including re-circulating systems.

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 - DE - Twist - Handmade (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	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 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF 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	Total
GWP-total	kg CO2 eq	1.71E+0	7.47E-3	2.97E-3	1.73E+0	1.73E+0
GWP-f	kg CO2 eq	1.84E+0	7.46E-3	2.18E-3	1.85E+0	1.85E+0
GWP-b	kg CO2 eq	-1.33E-1	4.53E-6	7.81E-4	-1.33E-1	-1.33E-1
GWP-luluc	kg CO2 eq	7.33E-3	2.64E-6	3.37E-6	7.33E-3	7.33E-3
ODP	kg CFC11 eq	2.81E-7	1.72E-9	3.34E-10	2.83E-7	2.83E-7
AP	mol H+ eq	1.06E-2	4.25E-5	1.81E-5	1.06E-2	1.06E-2
EP-fw	kg P eq	7.61E-5	6.14E-8	7.79E-8	7.63E-5	7.63E-5
EP-m	kg N eq	1.79E-3	1.52E-5	8.61E-6	1.82E-3	1.82E-3
EP-T	mol N eq	2.03E-2	1.68E-4	8.10E-5	2.05E-2	2.05E-2
POCP	kg NMVOC eq	7.90E-3	4.79E-5	2.26E-5	7.97E-3	7.97E-3
ADP-mm	kg Sb eq	5.59E-5	1.93E-7	1.61E-8	5.61E-5	5.61E-5
ADP-f	MJ	2.78E+1	1.15E-1	2.25E-2	2.80E+1	2.80E+1
WDP	m3 depriv.	1.13E+0	3.51E-4	2.93E-2	1.16E+0	1.16E+0
PM	disease inc.	1.16E-7	6.73E-10	4.73E-10	1.17E-7	1.17E-7
IR	kBq U-235 eq	6.76E-2	5.01E-4	1.09E-4	6.82E-2	6.82E-2
ETP-fw	CTUe	1.58E+2	9.30E-2	5.24E-2	1.58E+2	1.58E+2
HTP-c	CTUh	1.88E-8	3.31E-12	2.27E-12	1.88E-8	1.88E-8
HTP-nc	CTUh	6.18E-8	1.11E-10	3.87E-11	6.20E-8	6.20E-8
SQP	Pt	2.09E+1	9.80E-2	1.02E-2	2.10E+1	2.10E+1
Resource use	Unit	A1	A2	A3	A1-A3	Total
PERE	MJ	8.19E+0	1.64E-3	2.03E-3	8.19E+0	8.19E+0
PERM	MJ	0	0	0	0	0
PERT	MJ	8.19E+0	1.64E-3	2.03E-3	8.19E+0	8.19E+0
PENRE	MJ	2.98E+1	1.22E-1	2.35E-2	2.99E+1	2.99E+1
PENRM	MJ	0	0	0	0	0
PENRT	MJ	2.98E+1	1.22E-1	2.35E-2	2.99E+1	2.99E+1
PET	MJ	3.80E+1	1.23E-1	2.56E-2	3.81E+1	3.81E+1
SM	kg	0	0	0	0	0
RSF	MJ	0	0	0	0	0
NRSF	MJ	0	0	0	0	0
FW	m3	3.01E-2	1.30E-5	6.85E-4	3.08E-2	3.08E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	Total
HWD	kg	3.67E-5	2.93E-7	6.78E-8	3.70E-5	3.70E-5
NHWD	kg	1.36E+0	7.10E-3	5.63E-4	1.37E+0	1.37E+0
RWD	kg	6.42E-5	7.79E-7	1.67E-7	6.52E-5	6.52E-5
CRU	kg	0	0	0	0	0
MFR	kg	0	0	0	0	0
MER	kg	0	0	0	0	0
EE	MJ	0	0	0	0	0
EET	MJ	0	0	0	0	0
EEE	MJ	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