

# Environmental Profile

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

Ecochain v3.5.64



Product: 3027847 - Tigris K1 Coupler 63  
 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

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

# Results

Environmental impact	Unit	A1	A2	A3	A1-A3	Total
GWP-total	kg CO2 eq	2.74E+0	2.02E-2	5.07E-3	2.76E+0	2.76E+0
GWP-f	kg CO2 eq	3.26E+0	2.02E-2	3.73E-3	3.28E+0	3.28E+0
GWP-b	kg CO2 eq	-5.21E-1	1.23E-5	1.33E-3	-5.20E-1	-5.20E-1
GWP-luluc	kg CO2 eq	3.65E-3	7.15E-6	5.76E-6	3.67E-3	3.67E-3
ODP	kg CFC11 eq	4.85E-7	4.65E-9	5.70E-10	4.91E-7	4.91E-7
AP	mol H+ eq	1.98E-2	1.15E-4	3.10E-5	1.99E-2	1.99E-2
EP-fw	kg P eq	1.45E-4	1.66E-7	1.33E-7	1.45E-4	1.45E-4
EP-m	kg N eq	3.36E-3	4.12E-5	1.47E-5	3.41E-3	3.41E-3
EP-T	mol N eq	3.80E-2	4.54E-4	1.38E-4	3.86E-2	3.86E-2
POCP	kg NMVOC eq	1.48E-2	1.30E-4	3.85E-5	1.50E-2	1.50E-2
ADP-mm	kg Sb eq	9.91E-5	5.22E-7	2.76E-8	9.97E-5	9.97E-5
ADP-f	MJ	4.90E+1	3.10E-1	3.83E-2	4.93E+1	4.93E+1
WDP	m3 depriv.	1.56E+0	9.51E-4	5.01E-2	1.61E+0	1.61E+0
PM	disease inc.	2.24E-7	1.82E-9	8.08E-10	2.27E-7	2.27E-7
IR	kBq U-235 eq	1.28E-1	1.36E-3	1.86E-4	1.30E-1	1.30E-1
ETP-fw	CTUe	2.87E+2	2.52E-1	8.95E-2	2.87E+2	2.87E+2
HTP-c	CTUh	3.61E-8	8.96E-12	3.87E-12	3.61E-8	3.61E-8
HTP-nc	CTUh	1.18E-7	3.00E-10	6.61E-11	1.18E-7	1.18E-7
SQP	Pt	6.04E+1	2.65E-1	1.74E-2	6.07E+1	6.07E+1
Resource use	Unit	A1	A2	A3	A1-A3	Total
PERE	MJ	1.31E+1	4.45E-3	3.46E-3	1.31E+1	1.31E+1
PERM	MJ	0	0	0	0	0
PERT	MJ	1.31E+1	4.45E-3	3.46E-3	1.31E+1	1.31E+1
PENRE	MJ	5.22E+1	3.29E-1	4.02E-2	5.26E+1	5.26E+1
PENRM	MJ	0	0	0	0	0
PENRT	MJ	5.22E+1	3.29E-1	4.02E-2	5.26E+1	5.26E+1
PET	MJ	6.53E+1	3.34E-1	4.37E-2	6.57E+1	6.57E+1
SM	kg	0	0	0	0	0
RSF	MJ	0	0	0	0	0
NRSF	MJ	0	0	0	0	0
FW	m3	4.33E-2	3.51E-5	1.17E-3	4.45E-2	4.45E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	Total
HWD	kg	6.74E-5	7.93E-7	1.16E-7	6.83E-5	6.83E-5
NHWD	kg	2.61E+0	1.92E-2	9.62E-4	2.63E+0	2.63E+0
RWD	kg	1.21E-4	2.11E-6	2.85E-7	1.24E-4	1.24E-4
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