

Environmental Profile

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

Ecochain v3.5.64



Product: 3004504 - smartFIX Coupler Reduced 25x20
Unit: 1 Piece
Manufacturer: Wavin - DE - Twist - Handmade

The Wavin smartFIX system consists of the Tigris PEX/AL pipe, on a roll or in lengths, with push-fit fittings for installation work in tight spaces.

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



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					Use stage							End-of-Life stage				
A1 Raw material supply A2 Transport A3 Manufacturing					B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment B6 Operational energy use B7 Operational water use							C1 De-construction demolition C2 Transport C3 Waste processing C4 Disposal				
Construction process stage												Benefits and loads beyond the system boundaries				
A4 Transport gate to site A5 Assembly / Construction installation process												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	2.39E-1	1.43E-3	8.45E-4	2.41E-1	2.41E-1
GWP-f	kg CO2 eq	2.84E-1	1.43E-3	6.22E-4	2.86E-1	2.86E-1
GWP-b	kg CO2 eq	-4.74E-2	8.67E-7	2.22E-4	-4.72E-2	-4.72E-2
GWP-luluc	kg CO2 eq	2.00E-3	5.06E-7	9.60E-7	2.00E-3	2.00E-3
ODP	kg CFC11 eq	6.10E-8	3.29E-10	9.50E-11	6.14E-8	6.14E-8
AP	mol H+ eq	1.63E-3	8.14E-6	5.16E-6	1.64E-3	1.64E-3
EP-fw	kg P eq	1.08E-5	1.18E-8	2.22E-8	1.08E-5	1.08E-5
EP-m	kg N eq	2.65E-4	2.91E-6	2.45E-6	2.70E-4	2.70E-4
EP-T	mol N eq	3.10E-3	3.21E-5	2.31E-5	3.15E-3	3.15E-3
POCP	kg NMVOC eq	1.27E-3	9.17E-6	6.42E-6	1.28E-3	1.28E-3
ADP-mm	kg Sb eq	1.61E-5	3.70E-8	4.59E-9	1.61E-5	1.61E-5
ADP-f	MJ	4.88E+0	2.19E-2	6.39E-3	4.91E+0	4.91E+0
WDP	m3 depriv.	2.97E-1	6.73E-5	8.35E-3	3.06E-1	3.06E-1
PM	disease inc.	1.48E-8	1.29E-10	1.35E-10	1.50E-8	1.50E-8
IR	kBq U-235 eq	9.36E-3	9.58E-5	3.10E-5	9.48E-3	9.48E-3
ETP-fw	CTUe	3.22E+1	1.78E-2	1.49E-2	3.22E+1	3.22E+1
HTP-c	CTUh	1.47E-9	6.34E-13	6.45E-13	1.47E-9	1.47E-9
HTP-nc	CTUh	7.06E-9	2.12E-11	1.10E-11	7.10E-9	7.10E-9
SQP	Pt	5.35E+0	1.88E-2	2.89E-3	5.37E+0	5.37E+0
Resource use	Unit	A1	A2	A3	A1-A3	Total
PERE	MJ	1.78E+0	3.15E-4	5.77E-4	1.78E+0	1.78E+0
PERM	MJ	0	0	0	0	0
PERT	MJ	1.78E+0	3.15E-4	5.77E-4	1.78E+0	1.78E+0
PENRE	MJ	5.24E+0	2.33E-2	6.70E-3	5.27E+0	5.27E+0
PENRM	MJ	0	0	0	0	0
PENRT	MJ	5.24E+0	2.33E-2	6.70E-3	5.27E+0	5.27E+0
PET	MJ	7.03E+0	2.36E-2	7.28E-3	7.06E+0	7.06E+0
SM	kg	0	0	0	0	0
RSF	MJ	0	0	0	0	0
NRSF	MJ	0	0	0	0	0
FW	m3	7.40E-3	2.48E-6	1.95E-4	7.59E-3	7.59E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	Total
HWD	kg	5.25E-6	5.61E-8	1.93E-8	5.32E-6	5.32E-6
NHWD	kg	1.14E-1	1.36E-3	1.60E-4	1.16E-1	1.16E-1
RWD	kg	9.34E-6	1.49E-7	4.75E-8	9.54E-6	9.54E-6
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