

Environmental Profile

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

Ecochain v3.5.71



Product: 3019949 - AquaCell Shear Connector
 Unit: 1 piece
 Manufacturer: Wavin - UK - Chippenham - Verified

LCA standard: EN15804+A2 (2019)
 Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off
 Externally verified: Yes
 Issue date: 09-02-2023
 End of validity: 09-02-2028
 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 - UK - Chippenham - 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

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 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]; **EEE** = Exported energy electric [MJ]; **EET** = Exported energy thermic [MJ]

Statement of Confidentiality

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	8.23E-2	3.43E-3	6.46E-3	9.22E-2	1.08E-3	3.16E-2	5.09E-4	-5.02E-2	7.52E-2
GWP-f	kg CO2 eq	8.20E-2	3.43E-3	6.25E-3	9.17E-2	1.08E-3	3.16E-2	5.09E-4	-5.00E-2	7.48E-2
GWP-b	kg CO2 eq	3.54E-4	1.93E-6	2.01E-4	5.57E-4	6.55E-7	-4.33E-5	4.42E-7	-1.79E-4	3.36E-4
GWP-luluc	kg CO2 eq	2.03E-5	1.26E-6	4.68E-6	2.62E-5	3.82E-7	6.06E-6	8.80E-9	-1.02E-5	2.25E-5
ODP	kg CFC11 eq	2.53E-9	7.85E-10	6.27E-10	3.94E-9	2.49E-10	7.88E-10	1.28E-11	-2.38E-9	2.61E-9
AP	mol H+ eq	2.92E-4	2.44E-5	3.23E-5	3.49E-4	6.15E-6	3.31E-5	3.05E-7	-1.42E-4	2.47E-4
EP-fw	kg P eq	1.16E-6	2.74E-8	8.47E-8	1.27E-6	8.88E-9	1.75E-7	4.02E-10	-5.80E-7	8.72E-7
EP-m	kg N eq	4.81E-5	8.09E-6	6.89E-6	6.31E-5	2.20E-6	9.63E-6	1.97E-7	-2.50E-5	5.01E-5
EP-T	mol N eq	5.38E-4	8.93E-5	7.37E-5	7.02E-4	2.42E-5	1.06E-4	1.24E-6	-2.76E-4	5.57E-4
POCP	kg NMVOC eq	2.52E-4	2.51E-5	3.46E-5	3.12E-4	6.93E-6	3.35E-5	4.64E-7	-1.27E-4	2.26E-4
ADP-mm	kg Sb eq	9.20E-7	8.53E-8	1.34E-7	1.14E-6	2.79E-8	1.31E-7	3.09E-10	-3.47E-7	9.53E-7
ADP-f	MJ	2.96E+0	5.22E-2	6.90E-2	3.08E+0	1.66E-2	1.05E-1	9.33E-4	-1.57E+0	1.64E+0
WDP	m3 depriv.	5.65E-2	1.56E-4	2.22E-3	5.88E-2	5.08E-5	2.06E-3	5.23E-6	-2.83E-2	3.26E-2
PM	disease inc.	2.73E-9	2.99E-10	2.16E-10	3.24E-9	9.74E-11	5.46E-10	6.41E-12	-1.17E-9	2.72E-9
IR	kBq U-235 eq	1.76E-3	2.28E-4	1.86E-4	2.18E-3	7.24E-5	3.17E-4	4.32E-6	-7.68E-4	1.80E-3
ETP-fw	CTUe	4.33E-1	4.20E-2	1.65E-1	6.40E-1	1.35E-2	1.19E-1	7.81E-4	-2.06E-1	5.67E-1
HTP-c	CTUh	1.74E-11	1.54E-12	6.50E-12	2.55E-11	4.79E-13	1.46E-11	2.32E-14	-8.73E-12	3.19E-11
HTP-nc	CTUh	5.02E-10	4.94E-11	4.27E-10	9.78E-10	1.60E-11	1.78E-10	5.05E-13	-2.51E-10	9.21E-10
SQP	Pt	1.00E-1	4.30E-2	2.21E-2	1.65E-1	1.42E-2	8.40E-2	2.39E-3	-4.42E-2	2.21E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.08E-2	7.30E-4	3.25E-1	3.66E-1	2.38E-4	5.19E-3	3.58E-5	-2.03E-2	3.51E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.08E-2	7.30E-4	3.25E-1	3.66E-1	2.38E-4	5.19E-3	3.58E-5	-2.03E-2	3.51E-1
PENRE	MJ	3.18E+0	5.54E-2	7.33E-2	3.31E+0	1.76E-2	1.12E-1	9.90E-4	-1.69E+0	1.75E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.18E+0	5.54E-2	7.33E-2	3.31E+0	1.76E-2	1.12E-1	9.90E-4	-1.69E+0	1.75E+0
PET	MJ	3.22E+0	5.61E-2	3.98E-1	3.67E+0	1.78E-2	1.17E-1	1.03E-3	-1.71E+0	2.10E+0
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	8.39E-4	5.75E-6	6.25E-5	9.07E-4	1.87E-6	6.07E-5	1.15E-6	-4.16E-4	5.55E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.26E-7	1.30E-7	7.76E-7	1.23E-6	4.24E-8	1.71E-7	1.13E-9	-3.79E-7	1.07E-6
NHWD	kg	2.84E-3	3.10E-3	1.56E-4	6.09E-3	1.03E-3	5.17E-3	4.10E-3	-1.27E-3	1.51E-2
RWD	kg	1.77E-6	3.55E-7	2.06E-7	2.33E-6	1.13E-7	4.01E-7	6.08E-9	-6.90E-7	2.16E-6
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
EEE	MJ	0	0	0	0	0	0	0	0	0
EET	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