

Environmental Profile

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

Ecochain v3.5.64



Product: 3003809 - PE Concentric Reducer S12,5 110x75
 Unit: 1 piece
 Manufacturer: Wavin - IT - SM Maddalena

LCA standard: EN15804+A2 (2019)
 Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off
 Externally verified: Yes
 Issue date: 24-11-2022
 End of validity: 24-11-2027
 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 - IT - SM Maddalena (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 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]

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.80E-1	2.41E-2	1.41E-2	2.19E-1	2.48E-3	1.18E-1	1.37E-3	-1.20E-1	2.20E-1
GWP-f	kg CO2 eq	2.08E-1	2.41E-2	1.21E-2	2.45E-1	2.47E-3	8.19E-2	1.37E-3	-1.36E-1	1.94E-1
GWP-b	kg CO2 eq	-2.83E-2	1.36E-5	1.02E-3	-2.72E-2	1.50E-6	3.65E-2	1.03E-6	1.59E-2	2.52E-2
GWP-luluc	kg CO2 eq	1.65E-4	8.83E-6	1.02E-3	1.19E-3	8.76E-7	1.44E-5	1.97E-8	-1.56E-4	1.05E-3
ODP	kg CFC11 eq	1.29E-8	5.51E-9	1.21E-9	1.96E-8	5.70E-10	2.07E-9	2.92E-11	-7.57E-9	1.47E-8
AP	mol H+ eq	8.23E-4	1.69E-4	4.87E-5	1.04E-3	1.41E-5	8.51E-5	6.98E-7	-4.45E-4	6.95E-4
EP-fw	kg P eq	4.38E-6	1.93E-7	1.88E-7	4.76E-6	2.04E-8	4.21E-7	9.06E-10	-3.14E-6	2.06E-6
EP-m	kg N eq	1.55E-4	5.62E-5	8.22E-6	2.19E-4	5.04E-6	2.55E-5	4.94E-7	-8.74E-5	1.63E-4
EP-T	mol N eq	1.70E-3	6.20E-4	9.24E-5	2.41E-3	5.56E-5	2.80E-4	2.83E-6	-9.85E-4	1.77E-3
POCP	kg NMVOC eq	7.23E-4	1.74E-4	2.87E-5	9.26E-4	1.59E-5	8.80E-5	1.11E-6	-4.05E-4	6.26E-4
ADP-mm	kg Sb eq	2.84E-6	6.00E-7	2.94E-7	3.73E-6	6.40E-8	3.38E-7	7.00E-10	-9.75E-7	3.16E-6
ADP-f	MJ	6.99E+0	3.66E-1	1.59E-1	7.51E+0	3.80E-2	2.58E-1	2.14E-3	-3.92E+0	3.89E+0
WDP	m3 depriv.	1.51E-1	1.10E-3	5.62E-2	2.08E-1	1.17E-4	4.87E-3	9.78E-6	-9.66E-2	1.17E-1
PM	disease inc.	8.68E-9	2.10E-9	4.88E-10	1.13E-8	2.23E-10	1.38E-9	1.47E-11	-4.78E-9	8.12E-9
IR	kBq U-235 eq	6.73E-3	1.60E-3	1.48E-4	8.48E-3	1.66E-4	8.03E-4	9.95E-6	-3.44E-3	6.02E-3
ETP-fw	CTUe	3.39E+0	2.95E-1	2.51E-1	3.94E+0	3.08E-2	3.05E-1	1.88E-3	-1.89E+0	2.39E+0
HTP-c	CTUh	7.49E-11	1.08E-11	1.34E-11	9.90E-11	1.10E-12	3.51E-11	5.19E-14	-4.57E-11	8.96E-11
HTP-nc	CTUh	1.55E-9	3.47E-10	2.77E-10	2.18E-9	3.68E-11	4.39E-10	1.20E-12	-9.85E-10	1.67E-9
SQP	Pt	3.42E+0	3.03E-1	2.89E-2	3.75E+0	3.25E-2	2.03E-1	5.48E-3	-5.12E+0	-1.13E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.01E-1	5.13E-3	5.50E-1	1.16E+0	5.45E-4	1.24E-2	8.45E-5	-8.95E-1	2.74E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.01E-1	5.13E-3	5.50E-1	1.16E+0	5.45E-4	1.24E-2	8.45E-5	-8.95E-1	2.74E-1
PENRE	MJ	7.50E+0	3.89E-1	1.73E-1	8.06E+0	4.03E-2	2.75E-1	2.27E-3	-4.23E+0	4.15E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.50E+0	3.89E-1	1.73E-1	8.06E+0	4.03E-2	2.75E-1	2.27E-3	-4.23E+0	4.15E+0
PET	MJ	8.10E+0	3.94E-1	7.23E-1	9.22E+0	4.09E-2	2.88E-1	2.35E-3	-5.12E+0	4.42E+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	2.43E-3	4.05E-5	1.34E-3	3.81E-3	4.30E-6	1.46E-4	2.64E-6	-1.75E-3	2.21E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.55E-6	9.12E-7	1.54E-7	2.61E-6	9.71E-8	4.38E-7	2.56E-9	-1.45E-6	1.70E-6
NHWD	kg	1.17E-2	2.18E-2	1.50E-3	3.50E-2	2.35E-3	1.26E-2	9.41E-3	-5.45E-3	5.39E-2
RWD	kg	7.34E-6	2.49E-6	1.65E-7	1.00E-5	2.58E-7	1.03E-6	1.40E-8	-3.26E-6	8.04E-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
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0



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