Environmental Profile

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

Ecochain v3.5.71

Product:	3066540 - PVC Duct Pipe 60 S/S
Unit:	1 piece
Manufacturer:	Wavin - IE - Balbriggan - Verified

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	27-01-2023
End of validity:	27-01-2028
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 - IE - Balbriggan - 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]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

Statement of Confidentiality

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	5.32E+0	1.12E-1	5.43E-1	5.98E+0	8.70E-2	2.53E+0	2.34E-2	-3.15E+0	5.47E+0
GWP-f	kg CO2 eq	5.64E+0	1.12E-1	1.83E-1	5.94E+0	8.69E-2	2.16E+0	2.34E-2	-3.13E+0	5.09E+0
GWP-b	kg CO2 eq	-3.23E-1	3.33E-5	3.60E-1	3.64E-2	5.28E-5	3.67E-1	3.03E-5	-2.20E-2	3.81E-1
GWP-luluc	kg CO2 eq	4.54E-3	5.21E-5	6.25E-5	4.65E-3	3.08E-5	1.00E-3	6.40E-7	-2.09E-3	3.60E-3
ODP	kg CFC11 eq	3.18E-6	2.47E-8	2.07E-8	3.22E-6	2.00E-8	2.67E-7	9.75E-10	-1.57E-6	1.94E-6
AP	mol H+ eq	2.56E-2	1.69E-3	1.45E-3	2.87E-2	4.95E-4	4.68E-3	2.32E-5	-1.21E-2	2.18E-2
EP-fw	kg P eq	2.49E-4	7.59E-7	3.45E-6	2.54E-4	7.15E-7	3.33E-5	2.89E-8	-1.17E-4	1.71E-4
EP-m	kg N eq	4.32E-3	4.62E-4	2.10E-4	4.99E-3	1.77E-4	1.14E-3	1.40E-5	-2.11E-3	4.22E-3
EP-T	mol N eq	4.71E-2	5.12E-3	4.17E-3	5.64E-2	1.95E-3	1.26E-2	9.30E-5	-2.27E-2	4.84E-2
POCP	kg NMVOC eq	1.62E-2	1.37E-3	6.03E-4	1.82E-2	5.58E-4	3.79E-3	3.15E-5	-7.76E-3	1.48E-2
ADP-mm	kg Sb eq	1.66E-4	2.17E-6	5.91E-6	1.74E-4	2.25E-6	1.85E-5	2.29E-8	-6.42E-5	1.31E-4
ADP-f	MJ	1.45E+2	1.62E+0	2.35E+0	1.49E+2	1.33E+0	1.29E+1	7.05E-2	-7.62E+1	8.74E+1
WDP	m3 depriv.	9.52E+0	4.15E-3	8.69E-2	9.61E+0	4.09E-3	4.95E-1	3.82E-4	-4.53E+0	5.58E+0
PM	disease inc.	1.86E-7	7.79E-9	1.17E-8	2.05E-7	7.84E-9	5.93E-8	4.82E-10	-7.84E-8	1.95E-7
IR	kBq U-235 eq	3.08E-1	7.04E-3	2.34E-3	3.17E-1	5.83E-3	4.50E-2	3.23E-4	-1.47E-1	2.22E-1
ETP-fw	CTUe	9.60E+1	1.23E+0	4.91E+0	1.02E+2	1.08E+0	9.40E+1	1.03E+0	-4.55E+1	1.53E+2
HTP-c	CTUh	3.92E-9	5.41E-11	2.15E-10	4.18E-9	3.85E-11	1.41E-9	1.80E-12	-1.68E-9	3.96E-9
HTP-nc	CTUh	1.23E-7	1.34E-9	5.78E-9	1.31E-7	1.29E-9	3.36E-8	1.99E-10	-5.80E-8	1.08E-7
SQP	Pt	5.18E+1	1.03E+0	8.46E-1	5.37E+1	1.14E+0	8.17E+0	1.78E-1	-1.52E+1	4.79E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.20E+1	1.94E-2	6.00E+0	1.80E+1	1.91E-2	9.18E-1	2.50E-3	-4.74E+0	1.42E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.20E+1	1.94E-2	6.00E+0	1.80E+1	1.91E-2	9.18E-1	2.50E-3	-4.74E+0	1.42E+1
PENRE	MJ	1.56E+2	1.72E+0	2.57E+0	1.60E+2	1.42E+0	1.38E+1	7.48E-2	-8.21E+1	9.33E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.56E+2	1.72E+0	2.57E+0	1.60E+2	1.42E+0	1.38E+1	7.48E-2	-8.21E+1	9.33E+1
PET	MJ	1.68E+2	1.74E+0	8.57E+0	1.78E+2	1.44E+0	1.47E+1	7.73E-2	-8.68E+1	1.08E+2
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	1.01E-1	1.52E-4	2.14E-3	1.04E-1	1.51E-4	1.36E-2	8.64E-5	-4.75E-2	7.00E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.18E-4	3.32E-6	1.90E-3	2.02E-3	3.41E-6	2.08E-5	8.47E-8	-6.31E-5	1.98E-3
NHWD	kg	5.70E-1	7.07E-2	2.33E-2	6.63E-1	8.27E-2	4.85E-1	3.30E-1	-2.44E-1	1.32E+0
RWD	kg	2.70E-4	1.11E-5	3.02E-6	2.84E-4	9.07E-6	4.86E-5	4.61E-7	-1.29E-4	2.13E-4
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

Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
https://www.ecochain.com
+31 20 3035 777