Environmental Profile

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

Ecochain v3.5.71

Product:	3066530 - PVC ESB Pipe RD 160 L=6
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	3.41E+1	6.82E-1	3.30E+0	3.80E+1	5.38E-1	1.41E+1	1.45E-1	-1.94E+1	3.35E+1
GWP-f	kg CO2 eq	3.46E+1	6.81E-1	1.11E+0	3.64E+1	5.37E-1	1.33E+1	1.45E-1	-1.93E+1	3.11E+1
GWP-b	kg CO2 eq	-5.24E-1	2.05E-4	2.18E+0	1.66E+0	3.26E-4	7.93E-1	1.87E-4	-1.36E-1	2.32E+0
GWP-luluc	kg CO2 eq	2.71E-2	3.17E-4	3.79E-4	2.78E-2	1.90E-4	6.19E-3	3.97E-6	-1.27E-2	2.15E-2
ODP	kg CFC11 eq	1.95E-5	1.50E-7	1.26E-7	1.98E-5	1.24E-7	1.64E-6	6.03E-9	-9.71E-6	1.19E-5
AP	mol H+ eq	1.56E-1	1.02E-2	8.83E-3	1.75E-1	3.06E-3	2.87E-2	1.44E-4	-7.38E-2	1.33E-1
EP-fw	kg P eq	1.52E-3	4.62E-6	2.09E-5	1.55E-3	4.42E-6	2.05E-4	1.79E-7	-7.17E-4	1.04E-3
EP-m	kg N eq	2.62E-2	2.79E-3	1.28E-3	3.03E-2	1.10E-3	7.00E-3	8.65E-5	-1.28E-2	2.56E-2
EP-T	mol N eq	2.85E-1	3.09E-2	2.53E-2	3.41E-1	1.21E-2	7.72E-2	5.75E-4	-1.37E-1	2.94E-1
POCP	kg NMVOC eq	9.82E-2	8.28E-3	3.66E-3	1.10E-1	3.45E-3	2.32E-2	1.95E-4	-4.73E-2	8.98E-2
ADP-mm	kg Sb eq	1.03E-3	1.33E-5	3.59E-5	1.08E-3	1.39E-5	1.14E-4	1.42E-7	-3.96E-4	8.14E-4
ADP-f	MJ	8.90E+2	9.86E+0	1.43E+1	9.14E+2	8.25E+0	7.98E+1	4.36E-1	-4.69E+2	5.33E+2
WDP	m3 depriv.	5.85E+1	2.53E-2	5.28E-1	5.91E+1	2.53E-2	3.05E+0	2.42E-3	-2.80E+1	3.42E+1
PM	disease inc.	1.07E-6	4.75E-8	7.12E-8	1.19E-6	4.85E-8	3.65E-7	2.98E-9	-4.72E-7	1.14E-6
IR	kBq U-235 eq	1.88E+0	4.28E-2	1.42E-2	1.94E+0	3.60E-2	2.77E-1	2.00E-3	-9.04E-1	1.35E+0
ETP-fw	CTUe	5.86E+2	7.49E+0	2.98E+1	6.24E+2	6.70E+0	5.79E+2	6.35E+0	-2.75E+2	9.41E+2
HTP-c	CTUh	2.36E-8	3.29E-10	1.30E-9	2.52E-8	2.38E-10	8.65E-9	1.12E-11	-1.03E-8	2.39E-8
HTP-nc	CTUh	7.56E-7	8.17E-9	3.51E-8	7.99E-7	7.98E-9	2.07E-7	1.22E-9	-3.56E-7	6.59E-7
SQP	Pt	1.86E+2	6.28E+0	5.13E+0	1.97E+2	7.06E+0	5.04E+1	1.10E+0	-6.55E+1	1.90E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.37E+1	1.18E-1	3.65E+1	9.02E+1	1.18E-1	5.65E+0	1.54E-2	-2.35E+1	7.25E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.37E+1	1.18E-1	3.65E+1	9.02E+1	1.18E-1	5.65E+0	1.54E-2	-2.35E+1	7.25E+1
PENRE	MJ	9.55E+2	1.05E+1	1.56E+1	9.81E+2	8.76E+0	8.49E+1	4.62E-1	-5.06E+2	5.70E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.55E+2	1.05E+1	1.56E+1	9.81E+2	8.76E+0	8.49E+1	4.62E-1	-5.06E+2	5.70E+2
PET	MJ	1.01E+3	1.06E+1	5.21E+1	1.07E+3	8.87E+0	9.05E+1	4.78E-1	-5.29E+2	6.42E+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	6.23E-1	9.30E-4	1.30E-2	6.37E-1	9.33E-4	8.34E-2	5.33E-4	-2.93E-1	4.28E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.17E-4	2.03E-5	1.15E-2	1.23E-2	2.11E-5	1.28E-4	5.24E-7	-3.88E-4	1.20E-2
NHWD	kg	3.45E+0	4.32E-1	1.41E-1	4.03E+0	5.11E-1	2.97E+0	2.04E+0	-1.49E+0	8.06E+0
RWD	kg	1.65E-3	6.75E-5	1.83E-5	1.73E-3	5.61E-5	2.99E-4	2.85E-6	-7.97E-4	1.29E-3
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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