Environmental Profile

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

Ecochain v3.5.64

Ecochain

Product:	3010723 - ED Tech PP Pipe HTEM 90 L=2 S/PL
Unit:	1 piece
Manufacturer:	Wavin - IT - SM Maddalena

PP SWR (ED Tech) products made of PP for waste water discharge are the ideal solution for anyone who wants a quick and easy connection system. A push-fit system, made watertight using elastomeric seals. Triple-layer pipes, with a white inner layer for easier inspection. Low linear expansion.

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

WAVIN
An Orbia business.

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]

Statement of Confidentiality

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.75E+0	1.53E-1	1.33E-1	2.04E+0	3.05E-2	1.15E+0	1.23E-2	-1.24E+0	1.99E+0
GWP-f	kg CO2 eq	2.06E+0	1.53E-1	1.19E-1	2.33E+0	3.04E-2	8.31E-1	1.23E-2	-1.23E+0	1.97E+0
GWP-b	kg CO2 eq	-3.13E-1	9.29E-5	7.51E-3	-3.05E-1	1.85E-5	3.20E-1	1.09E-5	-4.17E-3	1.07E-2
GWP-luluc	kg CO2 eq	7.36E-4	5.41E-5	6.76E-3	7.55E-3	1.08E-5	1.71E-4	2.25E-7	-3.62E-4	7.37E-3
ODP	kg CFC11 eq	5.41E-8	3.52E-8	1.29E-8	1.02E-7	7.02E-9	2.26E-8	3.44E-10	-4.98E-8	8.24E-8
AP	mol H+ eq	8.07E-3	8.71E-4	4.01E-4	9.34E-3	1.73E-4	9.44E-4	8.08E-6	-3.62E-3	6.85E-3
EP-fw	kg P eq	3.39E-5	1.26E-6	1.59E-6	3.67E-5	2.51E-7	4.94E-6	1.02E-8	-1.49-5	2.70E-5
EP-m	kg N eq	1.31E-3	3.12E-4	7.66E-5	1.70E-3	6.21E-5	2.75E-4	5.18E-6	-6.65E-4	1.38E-3
EP-T	mol N eq	1.49E-2	3.43E-3	8.45E-4	1.91E-2	6.84E-4	3.03E-3	3.28E-5	-7.45E-3	1.54E-2
POCP	kg NMVOC eq	6.67E-3	9.82E-4	2.68E-4	7.92E-3	1.95E-4	9.55E-4	1.20E-5	-3.32E-3	5.77E-3
ADP-mm	kg Sb eq	4.71E-5	3.96E-6	2.17E-6	5.33E-5	7.88E-7	3.73E-6	8.08E-9	-8.98E-6	4.88E-5
ADP-f	MJ	7.15E+1	2.35E+0	1.64E+0	7.54E+1	4.67E-1	2.99E+0	2.49E-2	-3.83E+1	4.07E+1
WDP	m3 depriv.	1.45E+0	7.20E-3	3.76E-1	1.83E+0	1.43E-3	5.81E-2	1.26E-4	-6.62E-1	1.23E+0
PM	disease inc.	7.46E-8	1.38E-8	4.86E-9	9.33E-8	2.75E-9	1.56E-8	1.70E-10	-3.31E-8	7.86E-8
IR	kBq U-235 eq	4.31E-2	1.03E-2	1.60E-3	5.50E-2	2.04E-3	9.05E-3	1.15E-4	-1.95E-2	4.67E-2
ETP-fw	CTUe	1.37E+1	1.91E+0	1.97E+0	1.76E+1	3.80E-1	3.41E+0	2.06E-2	-6.13E+0	1.53E+1
HTP-c	CTUh	7.00E-10	6.78E-11	1.20E-10	8.87E-10	1.35E-11	4.01E-10	5.81E-13	-2.94E-10	1.01E-9
HTP-nc	CTUh	1.51E-8	2.27E-9	2.17E-9	1.95E-8	4.52E-10	4.96E-9	1.30E-11	-6.53E-9	1.84E-8
SQP	Pt	3.03E+1	2.01E+0	3.39E-1	3.27E+1	4.00E-1	2.39E+0	6.29E-2	-2.00E+1	1.56E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.08E+0	3.37E-2	3.65E+0	8.76E+0	6.71E-3	1.46E-1	9.05E-4	-3.38E+0	5.54E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.08E+0	3.37E-2	3.65E+0	8.76E+0	6.71E-3	1.46E-1	9.05E-4	-3.38E+0	5.54E+0
PENRE	MJ	7.67E+1	2.49E+0	1.79E+0	8.10E+1	4.96E-1	3.18E+0	2.64E-2	-4.12E+1	4.34E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.67E+1	2.49E+0	1.79E+0	8.10E+1	4.96E-1	3.18E+0	2.64E-2	-4.12E+1	4.34E+1
PET	MJ	8.18E+1	2.53E+0	5.44E+0	8.97E+1	5.03E-1	3.33E+0	2.73E-2	-4.46E+1	4.90E+1
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	2.27E-2	2.66E-4	8.93E-3	3.19E-2	5.29E-5	1.75E-3	3.05E-5	-1.01E-2	2.36E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.19E-5	6.00E-6	1.82E-6	1.98E-5	1.20E-6	4.89E-6	2.98E-8	-1.03E-5	1.56E-5
NHWD	kg	1.19E-1	1.45E-1	1.77E-2	2.82E-1	2.90E-2	1.48E-1	1.16E-1	-3.94E-2	5.36E-1
RWD	kg	4.01E-5	1.60E-5	1.94E-6	5.80E-5	3.18E-6	1.15E-5	1.63E-7	-1.81E-5	5.48E-5
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