Environmental Profile

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

Ecochain v3.5.64

Product:	3010730 - ED Tech PP Pipe HTEM 125 L=1 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

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	1.41E+0	1.21E-1	1.09E-1	1.64E+0	2.52E-2	1.06E+0	1.02E-2	-1.04E+0	1.70E+0
GWP-f	kg CO2 eq	1.74E+0	1.21E-1	9.73E-2	1.96E+0	2.51E-2	7.24E-1	1.02E-2	-1.03E+0	1.69E+0
GWP-b	kg CO2 eq	-3.29E-1	7.36E-5	6.15E-3	-3.23E-1	1.53E-5	3.34E-1	9.10E-6	-3.40E-3	7.95E-3
GWP-luluc	kg CO2 eq	6.79E-4	4.29E-5	5.54E-3	6.26E-3	8.90E-6	1.41E-4	1.88E-7	-3.19E-4	6.09E-3
ODP	kg CFC11 eq	5.62E-8	2.79E-8	1.06E-8	9.47E-8	5.80E-9	1.87E-8	2.87E-10	-4.35E-8	7.60E-8
AP	mol H+ eq	6.93E-3	6.91E-4	3.28E-4	7.95E-3	1.43E-4	7.85E-4	6.74E-6	-3.02E-3	5.86E-3
EP-fw	kg P eq	2.98E-5	9.98E-7	1.30E-6	3.21E-5	2.07E-7	4.07E-6	8.49E-9	-1.26E-5	2.38E-5
EP-m	kg N eq	1.13E-3	2.47E-4	6.27E-5	1.44E-3	5.13E-5	2.30E-4	4.47E-6	-5.62E-4	1.17E-3
EP-T	mol N eq	1.29E-2	2.72E-3	6.92E-4	1.63E-2	5.65E-4	2.53E-3	2.74E-5	-6.33E-3	1.31E-2
POCP	kg NMVOC eq	5.75E-3	7.79E-4	2.20E-4	6.74E-3	1.61E-4	7.96E-4	1.00E-5	-2.78E-3	4.93E-3
ADP-mm	kg Sb eq	5.55E-5	3.14E-6	1.78E-6	6.05E-5	6.51E-7	3.08E-6	6.73E-9	-7.99E-6	5.62E-5
ADP-f	MJ	5.99E+1	1.86E+0	1.34E+0	6.31E+1	3.86E-1	2.46E+0	2.07E-2	-3.17E+1	3.43E+1
WDP	m3 depriv.	1.22E+0	5.71E-3	3.08E-1	1.53E+0	1.18E-3	4.82E-2	1.05E-4	-5.45E-1	1.03E+0
PM	disease inc.	6.69E-8	1.09E-8	3.98E-9	8.19E-8	2.27E-9	1.28E-8	1.42E-10	-2.81E-8	6.90E-8
IR	kBq U-235 eq	3.98E-2	8.14E-3	1.31E-3	4.93E-2	1.69E-3	7.46E-3	9.56E-5	-1.64E-2	4.21E-2
ETP-fw	CTUe	1.25E+1	1.51E+0	1.61E+0	1.56E+1	3.13E-1	2.87E+0	1.76E-2	-5.35E+0	1.35E+1
HTP-c	CTUh	6.24E-10	5.38E-11	9.79E-11	7.76E-10	1.12E-11	3.33E-10	4.86E-13	-2.56E-10	8.64E-10
HTP-nc	CTUh	1.32E-8	1.80E-9	1.78E-9	1.68E-8	3.74E-10	4.11E-9	1.09E-11	-5.54E-9	1.57E-8
SQP	Pt	3.14E+1	1.59E+0	2.77E-1	3.33E+1	3.30E-1	1.97E+0	5.24E-2	-1.93E+1	1.63E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.14E+0	2.67E-2	2.99E+0	8.16E+0	5.54E-3	1.21E-1	7.58E-4	-3.25E+0	5.03E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.14E+0	2.67E-2	2.99E+0	8.16E+0	5.54E-3	1.21E-1	7.58E-4	-3.25E+0	5.03E+0
PENRE	MJ	6.43E+1	1.98E+0	1.47E+0	6.77E+1	4.10E-1	2.62E+0	2.20E-2	-3.42E+1	3.66E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.43E+1	1.98E+0	1.47E+0	6.77E+1	4.10E-1	2.62E+0	2.20E-2	-3.42E+1	3.66E+1
PET	MJ	6.94E+1	2.00E+0	4.45E+0	7.59E+1	4.15E-1	2.74E+0	2.28E-2	-3.74E+1	4.16E+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	1.94E-2	2.11E-4	7.32E-3	2.69E-2	4.37E-5	1.49E-3	2.55E-5	-8.36E-3	2.01E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.10E-5	4.76E-6	1.49E-6	1.73E-5	9.87E-7	4.06E-6	2.48E-8	-8.99E-6	1.33E-5
NHWD	kg	1.05E-1	1.15E-1	1.45E-2	2.34E-1	2.39E-2	1.23E-1	9.70E-2	-3.40E-2	4.45E-1
RWD	kg	3.87E-5	1.27E-5	1.59E-6	5.30E-5	2.63E-6	9.49E-6	1.36E-7	-1.54E-5	4.98E-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

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