Environmental Profile

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

Ecochain v3.5.64

Product:	3010758 - ED Tech PP Pipe HTDM 110 L=1 S/S
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	1.49E+0	1.22E-1	1.05E-1	1.72E+0	2.44E-2	9.33E-1	9.99E-3	-9.96E-1	1.69E+0
GWP-f	kg CO2 eq	1.69E+0	1.22E-1	9.40E-2	1.91E+0	2.44E-2	7.26E-1	9.99E-3	-9.93E-1	1.67E+0
GWP-b	kg CO2 eq	-2.02E-1	7.42E-5	5.95E-3	-1.96E-1	1.48E-5	2.07E-1	8.89E-6	-3.26E-3	7.17E-3
GWP-luluc	kg CO2 eq	6.17E-4	4.32E-5	5.35E-3	6.01E-3	8.63E-6	1.35E-4	1.83E-7	-2.59E-4	5.90E-3
ODP	kg CFC11 eq	5.94E-8	2.82E-8	1.02E-8	9.78E-8	5.62E-9	1.80E-8	2.80E-10	-4.16E-8	8.00E-8
AP	mol H+ eq	6.75E-3	6.96E-4	3.17E-4	7.77E-3	1.39E-4	7.56E-4	6.57E-6	-2.83E-3	5.84E-3
EP-fw	kg P eq	2.89E-5	1.01E-6	1.25E-6	3.11E-5	2.01E-7	3.92E-6	8.30E-9	-1.15E-5	2.38E-5
EP-m	kg N eq	1.09E-3	2.49E-4	6.06E-5	1.40E-3	4.97E-5	2.21E-4	4.47E-6	-5.18E-4	1.15E-3
EP-T	mol N eq	1.24E-2	2.74E-3	6.69E-4	1.58E-2	5.48E-4	2.43E-3	2.67E-5	-5.82E-3	1.30E-2
POCP	kg NMVOC eq	5.54E-3	7.84E-4	2.12E-4	6.54E-3	1.57E-4	7.65E-4	9.79E-6	-2.58E-3	4.88E-3
ADP-mm	kg Sb eq	6.50E-5	3.16E-6	1.72E-6	6.99E-5	6.31E-7	2.96E-6	6.57E-9	-7.85E-6	6.56E-5
ADP-f	MJ	5.82E+1	1.88E+0	1.30E+0	6.14E+1	3.74E-1	2.37E+0	2.02E-2	-3.05E+1	3.36E+1
WDP	m3 depriv.	1.18E+0	5.75E-3	2.97E-1	1.49E+0	1.15E-3	4.68E-2	1.03E-4	-5.22E-1	1.01E+0
PM	disease inc.	6.37E-8	1.10E-8	3.85E-9	7.86E-8	2.20E-9	1.23E-8	1.38E-10	-2.53E-8	6.80E-8
IR	kBq U-235 eq	4.01E-2	8.20E-3	1.26E-3	4.96E-2	1.64E-3	7.17E-3	9.33E-5	-1.53E-2	4.32E-2
ETP-fw	CTUe	1.23E+1	1.52E+0	1.56E+0	1.54E+1	3.04E-1	2.81E+0	1.75E-2	-4.74E+0	1.38E+1
HTP-c	CTUh	5.71E-10	5.42E-11	9.46E-11	7.20E-10	1.08E-11	3.19E-10	4.75E-13	-2.11E-10	8.38E-10
HTP-nc	CTUh	1.27E-8	1.82E-9	1.72E-9	1.63E-8	3.62E-10	3.97E-9	1.07E-11	-5.03E-9	1.56E-8
SQP	Pt	2.07E+1	1.60E+0	2.68E-1	2.26E+1	3.20E-1	1.90E+0	5.11E-2	-1.14E+1	1.35E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.57E+0	2.69E-2	2.89E+0	6.49E+0	5.37E-3	1.16E-1	7.41E-4	-2.04E+0	4.58E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.57E+0	2.69E-2	2.89E+0	6.49E+0	5.37E-3	1.16E-1	7.41E-4	-2.04E+0	4.58E+0
PENRE	MJ	6.24E+1	1.99E+0	1.42E+0	6.58E+1	3.97E-1	2.53E+0	2.15E-2	-3.29E+1	3.59E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.24E+1	1.99E+0	1.42E+0	6.58E+1	3.97E-1	2.53E+0	2.15E-2	-3.29E+1	3.59E+1
PET	MJ	6.60E+1	2.02E+0	4.30E+0	7.23E+1	4.03E-1	2.64E+0	2.22E-2	-3.49E+1	4.05E+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	1.90E-2	2.12E-4	7.07E-3	2.63E-2	4.24E-5	1.47E-3	2.48E-5	-7.96E-3	1.99E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.04E-5	4.80E-6	1.44E-6	1.66E-5	9.57E-7	3.92E-6	2.42E-8	-8.35E-6	1.32E-5
NHWD	kg	9.91E-2	1.16E-1	1.40E-2	2.29E-1	2.32E-2	1.19E-1	9.46E-2	-2.89E-2	4.37E-1
RWD	kg	3.98E-5	1.28E-5	1.54E-6	5.41E-5	2.55E-6	9.10E-6	1.33E-7	-1.42E-5	5.17E-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