Environmental Profile

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

Ecochain v3.5.64

Product:	3080380 - ED Tech PP Pipe HTDM 50 L=2 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	8.19E-1	6.90E-2	6.11E-2	9.49E-1	1.37E-2	5.08E-1	5.54E-3	-5.51E-1	9.26E-1
GWP-f	kg CO2 eq	9.35E-1	6.89E-2	5.45E-2	1.06E+0	1.37E-2	3.89E-1	5.54E-3	-5.49E-1	9.18E-1
GWP-b	kg CO2 eq	-1.16E-1	4.19E-5	3.45E-3	-1.13E-1	8.31E-6	1.19E-1	4.92E-6	-1.84E-3	4.50E-3
GWP-luluc	kg CO2 eq	3.38E-4	2.44E-5	3.10E-3	3.47E-3	4.85E-6	7.65E-5	1.02E-7	-1.41E-4	3.41E-3
ODP	kg CFC11 eq	2.93E-8	1.59E-8	5.94E-9	5.12E-8	3.16E-9	1.01E-8	1.56E-10	-2.23E-8	4.23E-8
AP	mol H+ eq	3.78E-3	3.93E-4	1.84E-4	4.36E-3	7.80E-5	4.25E-4	3.66E-6	-1.58E-3	3.29E-3
EP-fw	kg P eq	1.59E-5	5.67E-7	7.28E-7	1.72E-5	1.13E-7	2.21E-6	4.62E-9	-6.39E-6	1.31E-5
EP-m	kg N eq	6.02E-4	1.41E-4	3.52E-5	7.77E-4	2.79E-5	1.24E-4	2.41E-6	-2.89E-4	6.43E-4
EP-T	mol N eq	6.85E-3	1.55E-3	3.88E-4	8.78E-3	3.08E-4	1.37E-3	1.49E-5	-3.25E-3	7.23E-3
POCP	kg NMVOC eq	3.04E-3	4.43E-4	1.23E-4	3.61E-3	8.79E-5	4.30E-4	5.44E-6	-1.44E-3	2.69E-3
ADP-mm	kg Sb eq	2.93E-5	1.78E-6	9.98E-7	3.21E-5	3.54E-7	1.67E-6	3.66E-9	-4.14E-6	3.00E-5
ADP-f	MJ	3.21E+1	1.06E+0	7.52E-1	3.40E+1	2.10E-1	1.34E+0	1.13E-2	-1.70E+1	1.85E+1
WDP	m3 depriv.	6.60E-1	3.25E-3	1.72E-1	8.35E-1	6.45E-4	2.62E-2	5.94E-5	-2.93E-1	5.69E-1
PM	disease inc.	3.54E-8	6.22E-9	2.23E-9	4.38E-8	1.24E-9	6.97E-9	7.69E-11	-1.41E-8	3.81E-8
IR	kBq U-235 eq	2.11E-2	4.63E-3	7.33E-4	2.64E-2	9.19E-4	4.04E-3	5.18E-5	-8.44E-3	2.30E-2
ETP-fw	CTUe	6.70E+0	8.59E-1	9.03E-1	8.47E+0	1.71E-1	1.55E+0	9.51E-3	-2.66E+0	7.54E+0
HTP-c	CTUh	3.26E-10	3.06E-11	5.49E-11	4.12E-10	6.07E-12	1.82E-10	2.65E-13	-1.15E-10	4.85E-10
HTP-nc	CTUh	7.11E-9	1.02E-9	9.96E-10	9.13E-9	2.03E-10	2.24E-9	5.92E-12	-2.81E-9	8.77E-9
SQP	Pt	1.19E+1	9.06E-1	1.56E-1	1.30E+1	1.80E-1	1.07E+0	2.84E-2	-5.79E+0	8.49E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.05E+0	1.52E-2	1.67E+0	3.74E+0	3.02E-3	6.55E-2	4.09E-4	-1.07E+0	2.74E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.05E+0	1.52E-2	1.67E+0	3.74E+0	3.02E-3	6.55E-2	4.09E-4	-1.07E+0	2.74E+0
PENRE	MJ	3.45E+1	1.12E+0	8.22E-1	3.64E+1	2.23E-1	1.42E+0	1.19E-2	-1.83E+1	1.97E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.45E+1	1.12E+0	8.22E-1	3.64E+1	2.23E-1	1.42E+0	1.19E-2	-1.83E+1	1.97E+1
PET	MJ	3.65E+1	1.14E+0	2.50E+0	4.02E+1	2.26E-1	1.49E+0	1.24E-2	-1.94E+1	2.25E+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	1.05E-2	1.20E-4	4.10E-3	1.48E-2	2.38E-5	8.07E-4	1.38E-5	-4.46E-3	1.12E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.66E-6	2.71E-6	8.36E-7	9.20E-6	5.38E-7	2.20E-6	1.35E-8	-4.47E-6	7.48E-6
NHWD	kg	5.77E-2	6.56E-2	8.11E-3	1.31E-1	1.30E-2	6.70E-2	5.27E-2	-1.58E-2	2.48E-1
RWD	kg	2.03E-5	7.20E-6	8.92E-7	2.84E-5	1.43E-6	5.14E-6	7.38E-8	-7.80E-6	2.72E-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