Environmental Profile

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

Ecochain v3.5.64

Product:	3080372 - ED Tech PP Pipe HTDM 32 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	5.81E-1	4.52E-2	4.05E-2	6.67E-1	9.35E-3	3.05E-1	3.76E-3	-3.72E-1	6.13E-1
GWP-f	kg CO2 eq	6.24E-1	4.52E-2	3.62E-2	7.05E-1	9.35E-3	2.57E-1	3.76E-3	-3.71E-1	6.05E-1
GWP-b	kg CO2 eq	-4.55E-2	2.74E-5	2.29E-3	-4.32E-2	5.68E-6	4.77E-2	3.33E-6	-1.27E-3	3.19E-3
GWP-luluc	kg CO2 eq	3.06E-3	1.60E-5	2.06E-3	5.13E-3	3.31E-6	5.23E-5	6.98E-8	-8.74E-5	5.10E-3
ODP	kg CFC11 eq	1.70E-8	1.04E-8	3.94E-9	3.14E-8	2.15E-9	6.88E-9	1.06E-10	-1.46E-8	2.59E-8
AP	mol H+ eq	2.50E-3	2.57E-4	1.22E-4	2.88E-3	5.32E-5	2.87E-4	2.48E-6	-1.06E-3	2.16E-3
EP-fw	kg P eq	1.04E-5	3.72E-7	4.83E-7	1.13E-5	7.69E-8	1.51E-6	3.15E-9	-4.26E-6	8.58E-6
EP-m	kg N eq	4.16E-4	9.20E-5	2.33E-5	5.31E-4	1.90E-5	8.33E-5	1.60E-6	-1.91E-4	4.44E-4
EP-T	mol N eq	4.51E-3	1.01E-3	2.58E-4	5.78E-3	2.10E-4	9.16E-4	1.01E-5	-2.13E-3	4.79E-3
POCP	kg NMVOC eq	2.00E-3	2.90E-4	8.17E-5	2.37E-3	6.00E-5	2.90E-4	3.70E-6	-9.61E-4	1.76E-3
ADP-mm	kg Sb eq	1.59E-5	1.17E-6	6.62E-7	1.78E-5	2.42E-7	1.14E-6	2.49E-9	-2.68E-6	1.65E-5
ADP-f	MJ	2.16E+1	6.93E-1	4.99E-1	2.28E+1	1.43E-1	9.12E-1	7.65E-3	-1.16E+1	1.23E+1
WDP	m3 depriv.	4.46E-1	2.13E-3	1.14E-1	5.63E-1	4.40E-4	1.78E-2	4.15E-5	-2.00E-1	3.81E-1
PM	disease inc.	2.22E-8	4.08E-9	1.48E-9	2.77E-8	8.44E-10	4.74E-9	5.22E-11	-9.21E-9	2.41E-8
IR	kBq U-235 eq	1.32E-2	3.03E-3	4.87E-4	1.67E-2	6.27E-4	2.75E-3	3.52E-5	-5.64E-3	1.45E-2
ETP-fw	CTUe	4.38E+0	5.63E-1	6.00E-1	5.55E+0	1.17E-1	1.05E+0	6.35E-3	-1.66E+0	5.05E+0
HTP-c	CTUh	2.07E-10	2.00E-11	3.64E-11	2.63E-10	4.15E-12	1.23E-10	1.81E-13	-7.25E-11	3.18E-10
HTP-nc	CTUh	4.70E-9	6.71E-10	6.61E-10	6.03E-9	1.39E-10	1.52E-9	4.00E-12	-1.84E-9	5.86E-9
SQP	Pt	4.90E+0	5.93E-1	1.03E-1	5.59E+0	1.23E-1	7.31E-1	1.93E-2	-2.66E+0	3.80E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.24E-1	9.94E-3	1.11E+0	2.05E+0	2.06E-3	4.48E-2	2.77E-4	-5.09E-1	1.58E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	9.24E-1	9.94E-3	1.11E+0	2.05E+0	2.06E-3	4.48E-2	2.77E-4	-5.09E-1	1.58E+0
PENRE	MJ	2.32E+1	7.36E-1	5.46E-1	2.45E+1	1.52E-1	9.72E-1	8.11E-3	-1.25E+1	1.31E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.32E+1	7.36E-1	5.46E-1	2.45E+1	1.52E-1	9.72E-1	8.11E-3	-1.25E+1	1.31E+1
PET	MJ	2.41E+1	7.46E-1	1.66E+0	2.65E+1	1.54E-1	1.02E+0	8.39E-3	-1.30E+1	1.47E+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	7.19E-3	7.84E-5	2.72E-3	9.99E-3	1.62E-5	5.37E-4	9.38E-6	-3.03E-3	7.51E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.44E-6	1.77E-6	5.55E-7	5.77E-6	3.67E-7	1.49E-6	9.18E-9	-2.91E-6	4.73E-6
NHWD	kg	3.67E-2	4.30E-2	5.38E-3	8.51E-2	8.89E-3	4.51E-2	3.58E-2	-1.01E-2	1.65E-1
RWD	kg	1.23E-5	4.71E-6	5.92E-7	1.76E-5	9.76E-7	3.50E-6	5.01E-8	-5.17E-6	1.70E-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