Environmental Profile

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

Ecochain v3.5.64

Product:	3080371 - ED Tech PP Pipe HTDM 32 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	3.17E-1	2.44E-2	2.16E-2	3.63E-1	5.09E-3	1.78E-1	2.07E-3	-2.05E-1	3.43E-1
GWP-f	kg CO2 eq	3.46E-1	2.44E-2	1.93E-2	3.89E-1	5.08E-3	1.46E-1	2.07E-3	-2.04E-1	3.39E-1
GWP-b	kg CO2 eq	-3.04E-2	1.48E-5	1.22E-3	-2.92E-2	3.09E-6	3.14E-2	1.83E-6	-6.83E-4	1.57E-3
GWP-luluc	kg CO2 eq	1.55E-3	8.64E-6	1.10E-3	2.65E-3	1.80E-6	2.83E-5	3.85E-8	-4.96E-5	2.63E-3
ODP	kg CFC11 eq	1.13E-8	5.63E-9	2.10E-9	1.90E-8	1.17E-9	3.74E-9	5.80E-11	-8.27E-9	1.57E-8
AP	mol H+ eq	1.40E-3	1.39E-4	6.50E-5	1.60E-3	2.90E-5	1.56E-4	1.36E-6	-5.80E-4	1.21E-3
EP-fw	kg P eq	5.93E-6	2.01E-7	2.57E-7	6.39E-6	4.18E-8	8.18E-7	1.73E-9	-2.34E-6	4.91E-6
EP-m	kg N eq	2.33E-4	4.98E-5	1.24E-5	2.95E-4	1.04E-5	4.55E-5	9.02E-7	-1.05E-4	2.46E-4
EP-T	mol N eq	2.54E-3	5.48E-4	1.37E-4	3.23E-3	1.14E-4	5.01E-4	5.54E-6	-1.17E-3	2.67E-3
POCP	kg NMVOC eq	1.12E-3	1.57E-4	4.35E-5	1.32E-3	3.26E-5	1.58E-4	2.03E-6	-5.28E-4	9.87E-4
ADP-mm	kg Sb eq	1.17E-5	6.32E-7	3.53E-7	1.27E-5	1.31E-7	6.17E-7	1.37E-9	-1.56E-6	1.19E-5
ADP-f	MJ	1.19E+1	3.75E-1	2.66E-1	1.25E+1	7.80E-2	4.94E-1	4.19E-3	-6.32E+0	6.78E+0
WDP	m3 depriv.	2.46E-1	1.15E-3	6.09E-2	3.08E-1	2.39E-4	9.71E-3	2.34E-5	-1.09E-1	2.09E-1
PM	disease inc.	1.27E-8	2.20E-9	7.89E-10	1.57E-8	4.59E-10	2.57E-9	2.87E-11	-5.09E-9	1.37E-8
IR	kBq U-235 eq	7.84E-3	1.64E-3	2.59E-4	9.74E-3	3.41E-4	1.49E-3	1.93E-5	-3.11E-3	8.48E-3
ETP-fw	CTUe	2.58E+0	3.04E-1	3.19E-1	3.20E+0	6.33E-2	5.78E-1	3.57E-3	-9.29E-1	2.92E+0
HTP-c	CTUh	1.18E-10	1.08E-11	1.94E-11	1.48E-10	2.25E-12	6.72E-11	9.98E-14	-4.10E-11	1.76E-10
HTP-nc	CTUh	2.67E-9	3.63E-10	3.52E-10	3.38E-9	7.55E-11	8.28E-10	2.22E-12	-1.01E-9	3.28E-9
SQP	Pt	3.19E+0	3.21E-1	5.50E-2	3.56E+0	6.67E-2	3.96E-1	1.06E-2	-1.74E+0	2.29E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.80E-1	5.38E-3	5.92E-1	1.18E+0	1.12E-3	2.43E-2	1.52E-4	-3.23E-1	8.80E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.80E-1	5.38E-3	5.92E-1	1.18E+0	1.12E-3	2.43E-2	1.52E-4	-3.23E-1	8.80E-1
PENRE	MJ	1.27E+1	3.98E-1	2.91E-1	1.34E+1	8.28E-2	5.27E-1	4.45E-3	-6.81E+0	7.23E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.27E+1	3.98E-1	2.91E-1	1.34E+1	8.28E-2	5.27E-1	4.45E-3	-6.81E+0	7.23E+0
PET	MJ	1.33E+1	4.03E-1	8.83E-1	1.46E+1	8.39E-2	5.51E-1	4.60E-3	-7.13E+0	8.11E+0
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	4.02E-3	4.24E-5	1.45E-3	5.51E-3	8.83E-6	3.00E-4	5.14E-6	-1.65E-3	4.17E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.05E-6	9.59E-7	2.95E-7	3.30E-6	2.00E-7	8.14E-7	5.04E-9	-1.65E-6	2.67E-6
NHWD	kg	2.07E-2	2.32E-2	2.87E-3	4.68E-2	4.84E-3	2.46E-2	1.96E-2	-5.68E-3	9.02E-2
RWD	kg	7.61E-6	2.55E-6	3.15E-7	1.05E-5	5.31E-7	1.90E-6	2.75E-8	-2.87E-6	1.01E-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