Environmental Profile

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

Ecochain v3.5.64

Product:	3010760 - ED Tech PP Pipe HTDM 110 L=3 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	3.88E+0	3.17E-1	2.87E-1	4.48E+0	6.45E-2	2.23E+0	2.60E-2	-2.59E+0	4.22E+0
GWP-f	kg CO2 eq	4.33E+0	3.17E-1	2.56E-1	4.90E+0	6.45E-2	1.77E+0	2.60E-2	-2.58E+0	4.18E+0
GWP-b	kg CO2 eq	-4.49E-1	1.93E-4	1.62E-2	-4.32E-1	3.92E-5	4.64E-1	2.30E-5	-8.78E-3	2.26E-2
GWP-luluc	kg CO2 eq	1.45E-3	1.12E-4	1.46E-2	1.61E-2	2.28E-5	3.61E-4	4.76E-7	-6.62E-4	1.59E-2
ODP	kg CFC11 eq	1.14E-7	7.31E-8	2.79E-8	2.15E-7	1.49E-8	4.77E-8	7.29E-10	-1.02E-7	1.76E-7
AP	mol H+ eq	1.69E-2	1.81E-3	8.64E-4	1.95E-2	3.67E-4	1.99E-3	1.71E-5	-7.44E-3	1.45E-2
EP-fw	kg P eq	7.03E-5	2.61E-6	3.42E-6	7.63E-5	5.31E-7	1.04E-5	2.15E-8	-3.02E-5	5.72E-5
EP-m	kg N eq	2.72E-3	6.46E-4	1.65E-4	3.53E-3	1.31E-4	5.79E-4	1.10E-5	-1.35E-3	2.90E-3
EP-T	mol N eq	3.09E-2	7.12E-3	1.82E-3	3.98E-2	1.45E-3	6.37E-3	6.95E-5	-1.51E-2	3.26E-2
POCP	kg NMVOC eq	1.39E-2	2.04E-3	5.78E-4	1.65E-2	4.14E-4	2.01E-3	2.55E-5	-6.77E-3	1.22E-2
ADP-mm	kg Sb eq	1.06E-4	8.20E-6	4.69E-6	1.19E-4	1.67E-6	7.87E-6	1.71E-8	-1.87E-5	1.10E-4
ADP-f	MJ	1.51E+2	4.87E+0	3.53E+0	1.59E+2	9.90E-1	6.31E+0	5.27E-2	-8.03E+1	8.60E+1
WDP	m3 depriv.	3.05E+0	1.49E-2	8.10E-1	3.87E+0	3.04E-3	1.23E-1	2.67E-4	-1.39E+0	2.61E+0
PM	disease inc.	1.54E-7	2.86E-8	1.05E-8	1.93E-7	5.82E-9	3.28E-8	3.60E-10	-6.60E-8	1.66E-7
IR	kBq U-235 eq	9.08E-2	2.13E-2	3.44E-3	1.15E-1	4.33E-3	1.91E-2	2.43E-4	-3.97E-2	9.94E-2
ETP-fw	CTUe	2.85E+1	3.95E+0	4.24E+0	3.67E+1	8.04E-1	7.22E+0	4.37E-2	-1.21E+1	3.26E+1
HTP-c	CTUh	1.39E-9	1.41E-10	2.58E-10	1.78E-9	2.86E-11	8.45E-10	1.23E-12	-5.42E-10	2.12E-9
HTP-nc	CTUh	3.13E-8	4.71E-9	4.68E-9	4.07E-8	9.58E-10	1.05E-8	2.74E-11	-1.31E-8	3.90E-8
SQP	Pt	4.65E+1	4.16E+0	7.30E-1	5.14E+1	8.47E-1	5.05E+0	1.33E-1	-2.68E+1	3.06E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.19E+0	6.98E-2	7.87E+0	1.61E+1	1.42E-2	3.09E-1	1.92E-3	-4.85E+0	1.16E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.19E+0	6.98E-2	7.87E+0	1.61E+1	1.42E-2	3.09E-1	1.92E-3	-4.85E+0	1.16E+1
PENRE	MJ	1.62E+2	5.17E+0	3.86E+0	1.71E+2	1.05E+0	6.72E+0	5.59E-2	-8.65E+1	9.18E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.62E+2	5.17E+0	3.86E+0	1.71E+2	1.05E+0	6.72E+0	5.59E-2	-8.65E+1	9.18E+1
PET	MJ	1.70E+2	5.24E+0	1.17E+1	1.87E+2	1.06E+0	7.03E+0	5.78E-2	-9.14E+1	1.03E+2
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	4.77E-2	5.51E-4	1.93E-2	6.75E-2	1.12E-4	3.71E-3	6.47E-5	-2.11E-2	5.03E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.41E-5	1.24E-5	3.92E-6	4.05E-5	2.53E-6	1.03E-5	6.31E-8	-2.07E-5	3.27E-5
NHWD	kg	2.41E-1	3.02E-1	3.81E-2	5.81E-1	6.13E-2	3.13E-1	2.47E-1	-7.46E-2	1.13E+0
RWD	kg	8.46E-5	3.31E-5	4.19E-6	1.22E-4	6.73E-6	2.42E-5	3.45E-7	-3.65E-5	1.17E-4
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

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