Environmental Profile

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

Ecochain v3.5.64

Product:	3010753 - ED Tech PP Pipe HTDM 90 L=0,5 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	6.17E-1	5.49E-2	4.22E-2	7.14E-1	1.04E-2	4.92E-1	4.37E-3	-4.40E-1	7.81E-1
GWP-f	kg CO2 eq	7.64E-1	5.48E-2	3.77E-2	8.56E-1	1.04E-2	3.44E-1	4.38E-3	-4.38E-1	7.77E-1
GWP-b	kg CO2 eq	-1.46E-1	3.33E-5	2.38E-3	-1.44E-1	6.34E-6	1.48E-1	3.91E-6	-1.36E-3	2.20E-3
GWP-luluc	kg CO2 eq	3.27E-4	1.94E-5	2.14E-3	2.49E-3	3.69E-6	5.74E-5	8.04E-8	-1.27E-4	2.43E-3
ODP	kg CFC11 eq	3.57E-8	1.26E-8	4.10E-9	5.24E-8	2.40E-9	7.73E-9	1.22E-10	-1.99E-8	4.28E-8
AP	mol H+ eq	3.17E-3	3.12E-4	1.27E-4	3.61E-3	5.94E-5	3.28E-4	2.88E-6	-1.25E-3	2.75E-3
EP-fw	kg P eq	1.41E-5	4.51E-7	5.03E-7	1.50E-5	8.59E-8	1.66E-6	3.64E-9	-5.12E-6	1.16E-5
EP-m	kg N eq	5.14E-4	1.12E-4	2.43E-5	6.50E-4	2.13E-5	9.71E-5	2.09E-6	-2.34E-4	5.37E-4
EP-T	mol N eq	5.85E-3	1.23E-3	2.68E-4	7.35E-3	2.34E-4	1.07E-3	1.17E-5	-2.65E-3	6.02E-3
POCP	kg NMVOC eq	2.59E-3	3.52E-4	8.51E-5	3.03E-3	6.70E-5	3.34E-4	4.28E-6	-1.15E-3	2.29E-3
ADP-mm	kg Sb eq	4.22E-5	1.42E-6	6.90E-7	4.43E-5	2.70E-7	1.26E-6	2.87E-9	-3.87E-6	4.20E-5
ADP-f	MJ	2.58E+1	8.42E-1	5.20E-1	2.72E+1	1.60E-1	1.01E+0	8.83E-3	-1.32E+1	1.52E+1
WDP	m3 depriv.	5.30E-1	2.58E-3	1.19E-1	6.52E-1	4.92E-4	2.02E-2	4.50E-5	-2.23E-1	4.50E-1
PM	disease inc.	3.21E-8	4.95E-9	1.54E-9	3.86E-8	9.42E-10	5.27E-9	6.04E-11	-1.15E-8	3.34E-8
IR	kBq U-235 eq	2.10E-2	3.68E-3	5.07E-4	2.52E-2	7.00E-4	3.06E-3	4.08E-5	-6.83E-3	2.21E-2
ETP-fw	CTUe	6.33E+0	6.83E-1	6.24E-1	7.64E+0	1.30E-1	1.25E+0	8.04E-3	-2.28E+0	6.74E+0
HTP-c	CTUh	2.90E-10	2.43E-11	3.79E-11	3.52E-10	4.63E-12	1.38E-10	2.09E-13	-1.01E-10	3.93E-10
HTP-nc	CTUh	6.13E-9	8.15E-10	6.88E-10	7.64E-9	1.55E-10	1.71E-9	4.79E-12	-2.29E-9	7.22E-9
SQP	Pt	1.43E+1	7.20E-1	1.07E-1	1.51E+1	1.37E-1	8.04E-1	2.24E-2	-7.15E+0	8.94E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.34E+0	1.21E-2	1.16E+0	3.51E+0	2.30E-3	4.94E-2	3.27E-4	-1.25E+0	2.32E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.34E+0	1.21E-2	1.16E+0	3.51E+0	2.30E-3	4.94E-2	3.27E-4	-1.25E+0	2.32E+0
PENRE	MJ	2.77E+1	8.93E-1	5.68E-1	2.92E+1	1.70E-1	1.07E+0	9.37E-3	-1.43E+1	1.62E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.77E+1	8.93E-1	5.68E-1	2.92E+1	1.70E-1	1.07E+0	9.37E-3	-1.43E+1	1.62E+1
PET	MJ	3.00E+1	9.06E-1	1.73E+0	3.27E+1	1.72E-1	1.12E+0	9.70E-3	-1.55E+1	1.85E+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	8.82E-3	9.52E-5	2.83E-3	1.18E-2	1.81E-5	6.74E-4	1.09E-5	-3.43E-3	9.03E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.43E-6	2.15E-6	5.78E-7	8.16E-6	4.10E-7	1.69E-6	1.06E-8	-3.98E-6	6.29E-6
NHWD	kg	4.94E-2	5.22E-2	5.60E-3	1.07E-1	9.93E-3	5.18E-2	4.11E-2	-1.36E-2	1.96E-1
RWD	kg	2.21E-5	5.72E-6	6.17E-7	2.84E-5	1.09E-6	3.88E-6	5.79E-8	-6.48E-6	2.70E-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

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