Environmental Profile

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

Ecochain v3.5.64

Product:	3010719 - ED Tech PP Pipe HTEM 75 L=2 S/PL
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	1.24E+0	1.06E-1	9.25E-2	1.44E+0	2.14E-2	7.95E-1	8.64E-3	-8.70E-1	1.39E+0
GWP-f	kg CO2 eq	1.45E+0	1.05E-1	8.26E-2	1.64E+0	2.14E-2	5.83E-1	8.64E-3	-8.67E-1	1.38E+0
GWP-b	kg CO2 eq	-2.07E-1	6.40E-5	5.22E-3	-2.01E-1	1.30E-5	2.12E-1	7.65E-6	-2.93E-3	7.51E-3
GWP-luluc	kg CO2 eq	5.11E-4	3.73E-5	4.70E-3	5.25E-3	7.57E-6	1.20E-4	1.58E-7	-2.53E-4	5.12E-3
ODP	kg CFC11 eq	3.77E-8	2.43E-8	8.99E-9	7.10E-8	4.93E-9	1.59E-8	2.42E-10	-3.49E-8	5.72E-8
AP	mol H+ eq	5.71E-3	6.01E-4	2.79E-4	6.59E-3	1.22E-4	6.61E-4	5.67E-6	-2.54E-3	4.84E-3
EP-fw	kg P eq	2.38E-5	8.68E-7	1.10E-6	2.58E-5	1.76E-7	3.47E-6	7.16E-9	-1.05E-5	1.89E-5
EP-m	kg N eq	9.19E-4	2.15E-4	5.32E-5	1.19E-3	4.36E-5	1.92E-4	3.63E-6	-4.66E-4	9.61E-4
EP-T	mol N eq	1.04E-2	2.37E-3	5.88E-4	1.34E-2	4.80E-4	2.12E-3	2.31E-5	-5.21E-3	1.08E-2
POCP	kg NMVOC eq	4.68E-3	6.77E-4	1.86E-4	5.54E-3	1.37E-4	6.69E-4	8.46E-6	-2.33E-3	4.03E-3
ADP-mm	kg Sb eq	3.26E-5	2.73E-6	1.51E-6	3.68E-5	5.53E-7	2.62E-6	5.68E-9	-6.30E-6	3.37E-5
ADP-f	MJ	5.02E+1	1.62E+0	1.14E+0	5.29E+1	3.28E-1	2.10E+0	1.75E-2	-2.69E+1	2.85E+1
WDP	m3 depriv.	1.02E+0	4.97E-3	2.61E-1	1.28E+0	1.01E-3	4.08E-2	8.98E-5	-4.65E-1	8.60E-1
PM	disease inc.	5.19E-8	9.52E-9	3.38E-9	6.48E-8	1.93E-9	1.09E-8	1.19E-10	-2.32E-8	5.45E-8
IR	kBq U-235 eq	3.02E-2	7.08E-3	1.11E-3	3.84E-2	1.43E-3	6.35E-3	8.05E-5	-1.37E-2	3.26E-2
ETP-fw	CTUe	9.65E+0	1.31E+0	1.37E+0	1.23E+1	2.66E-1	2.39E+0	1.44E-2	-4.25E+0	1.07E+1
HTP-c	CTUh	4.95E-10	4.68E-11	8.31E-11	6.25E-10	9.48E-12	2.81E-10	4.09E-13	-2.06E-10	7.10E-10
HTP-nc	CTUh	1.06E-8	1.57E-9	1.51E-9	1.37E-8	3.18E-10	3.48E-9	9.10E-12	-4.57E-9	1.30E-8
SQP	Pt	2.01E+1	1.38E+0	2.36E-1	2.18E+1	2.81E-1	1.68E+0	4.42E-2	-1.38E+1	9.96E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.39E+0	2.32E-2	2.54E+0	5.95E+0	4.71E-3	1.03E-1	6.35E-4	-2.33E+0	3.73E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.39E+0	2.32E-2	2.54E+0	5.95E+0	4.71E-3	1.03E-1	6.35E-4	-2.33E+0	3.73E+0
PENRE	MJ	5.38E+1	1.72E+0	1.24E+0	5.68E+1	3.48E-1	2.23E+0	1.85E-2	-2.90E+1	3.04E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.38E+1	1.72E+0	1.24E+0	5.68E+1	3.48E-1	2.23E+0	1.85E-2	-2.90E+1	3.04E+1
PET	MJ	5.72E+1	1.74E+0	3.78E+0	6.27E+1	3.53E-1	2.34E+0	1.92E-2	-3.13E+1	3.41E+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	1.60E-2	1.83E-4	6.21E-3	2.24E-2	3.71E-5	1.22E-3	2.14E-5	-7.11E-3	1.65E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.32E-6	4.14E-6	1.27E-6	1.37E-5	8.39E-7	3.43E-6	2.09E-8	-7.23E-6	1.08E-5
NHWD	kg	8.49E-2	1.00E-1	1.23E-2	1.98E-1	2.03E-2	1.04E-1	8.18E-2	-2.76E-2	3.76E-1
RWD	kg	2.80E-5	1.10E-5	1.35E-6	4.03E-5	2.23E-6	8.07E-6	1.14E-7	-1.27E-5	3.81E-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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