Environmental Profile

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

Ecochain v3.5.64

Product:	3080359 - ED Tech PP Pipe HTEM 32 L=1 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	2.84E-1	2.31E-2	2.03E-2	3.28E-1	4.78E-3	1.73E-1	1.93E-3	-1.93E-1	3.14E-1
GWP-f	kg CO2 eq	3.23E-1	2.31E-2	1.81E-2	3.64E-1	4.78E-3	1.32E-1	1.93E-3	-1.92E-1	3.10E-1
GWP-b	kg CO2 eq	-4.00E-2	1.40E-5	1.14E-3	-3.88E-2	2.90E-6	4.11E-2	1.71E-6	-6.52E-4	1.61E-3
GWP-luluc	kg CO2 eq	1.54E-3	8.18E-6	1.03E-3	2.58E-3	1.69E-6	2.68E-5	3.60E-8	-5.20E-5	2.56E-3
ODP	kg CFC11 eq	9.17E-9	5.33E-9	1.97E-9	1.65E-8	1.10E-9	3.54E-9	5.41E-11	-7.68E-9	1.35E-8
AP	mol H+ eq	1.30E-3	1.32E-4	6.11E-5	1.50E-3	2.72E-5	1.48E-4	1.27E-6	-5.57E-4	1.11E-3
EP-fw	kg P eq	5.48E-6	1.90E-7	2.42E-7	5.91E-6	3.93E-8	7.73E-7	1.62E-9	-2.28E-6	4.45E-6
EP-m	kg N eq	2.18E-4	4.71E-5	1.17E-5	2.77E-4	9.74E-6	4.29E-5	8.16E-7	-1.02E-4	2.29E-4
EP-T	mol N eq	2.38E-3	5.19E-4	1.29E-4	3.02E-3	1.07E-4	4.72E-4	5.17E-6	-1.14E-3	2.47E-3
POCP	kg NMVOC eq	1.04E-3	1.48E-4	4.09E-5	1.23E-3	3.07E-5	1.49E-4	1.89E-6	-5.09E-4	9.07E-4
ADP-mm	kg Sb eq	8.34E-6	5.98E-7	3.31E-7	9.27E-6	1.24E-7	5.84E-7	1.28E-9	-1.41E-6	8.58E-6
ADP-f	MJ	1.11E+1	3.55E-1	2.50E-1	1.17E+1	7.34E-2	4.68E-1	3.92E-3	-5.97E+0	6.27E+0
WDP	m3 depriv.	2.30E-1	1.09E-3	5.72E-2	2.88E-1	2.25E-4	9.11E-3	2.21E-5	-1.03E-1	1.94E-1
PM	disease inc.	1.18E-8	2.09E-9	7.41E-10	1.47E-8	4.31E-10	2.43E-9	2.68E-11	-5.00E-9	1.25E-8
IR	kBq U-235 eq	6.89E-3	1.55E-3	2.43E-4	8.69E-3	3.21E-4	1.41E-3	1.80E-5	-2.99E-3	7.45E-3
ETP-fw	CTUe	2.35E+0	2.88E-1	3.00E-1	2.94E+0	5.96E-2	5.36E-1	3.25E-3	-9.17E-1	2.62E+0
HTP-c	CTUh	1.14E-10	1.03E-11	1.82E-11	1.42E-10	2.12E-12	6.39E-11	9.32E-14	-4.25E-11	1.66E-10
HTP-nc	CTUh	2.49E-9	3.44E-10	3.30E-10	3.17E-9	7.10E-11	7.80E-10	2.05E-12	-9.91E-10	3.03E-9
SQP	Pt	3.92E+0	3.04E-1	5.16E-2	4.28E+0	6.28E-2	3.75E-1	9.89E-3	-2.41E+0	2.32E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.79E-1	5.09E-3	5.56E-1	1.24E+0	1.05E-3	2.29E-2	1.41E-4	-4.20E-1	8.44E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.79E-1	5.09E-3	5.56E-1	1.24E+0	1.05E-3	2.29E-2	1.41E-4	-4.20E-1	8.44E-1
PENRE	MJ	1.19E+1	3.77E-1	2.73E-1	1.25E+1	7.79E-2	4.98E-1	4.16E-3	-6.44E+0	6.69E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.19E+1	3.77E-1	2.73E-1	1.25E+1	7.79E-2	4.98E-1	4.16E-3	-6.44E+0	6.69E+0
PET	MJ	1.26E+1	3.82E-1	8.29E-1	1.38E+1	7.89E-2	5.21E-1	4.30E-3	-6.86E+0	7.54E+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	3.72E-3	4.02E-5	1.36E-3	5.12E-3	8.30E-6	2.75E-4	4.80E-6	-1.57E-3	3.84E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.90E-6	9.08E-7	2.77E-7	3.09E-6	1.88E-7	7.66E-7	4.71E-9	-1.57E-6	2.48E-6
NHWD	kg	1.97E-2	2.20E-2	2.69E-3	4.44E-2	4.55E-3	2.32E-2	1.83E-2	-5.78E-3	8.47E-2
RWD	kg	6.47E-6	2.41E-6	2.96E-7	9.18E-6	4.99E-7	1.80E-6	2.56E-8	-2.76E-6	8.74E-6
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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