Environmental Profile

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

Ecochain v3.5.64

Product:	3080363 - ED Tech PP Pipe HTEM 40 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

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	3.64E-1	2.88E-2	2.53E-2	4.18E-1	5.93E-3	2.11E-1	2.41E-3	-2.40E-1	3.97E-1
GWP-f	kg CO2 eq	4.04E-1	2.87E-2	2.26E-2	4.55E-1	5.92E-3	1.69E-1	2.42E-3	-2.39E-1	3.93E-1
GWP-b	kg CO2 eq	-4.09E-2	1.75E-5	1.43E-3	-3.94E-2	3.60E-6	4.21E-2	2.14E-6	-8.04E-4	1.89E-3
GWP-luluc	kg CO2 eq	1.57E-3	1.02E-5	1.29E-3	2.86E-3	2.10E-6	3.31E-5	4.47E-8	-6.10E-5	2.84E-3
ODP	kg CFC11 eq	1.24E-8	6.62E-9	2.46E-9	2.15E-8	1.37E-9	4.37E-9	6.75E-11	-9.70E-9	1.76E-8
AP	mol H+ eq	1.61E-3	1.64E-4	7.62E-5	1.85E-3	3.37E-5	1.83E-4	1.59E-6	-6.85E-4	1.38E-3
EP-fw	kg P eq	6.82E-6	2.36E-7	3.01E-7	7.36E-6	4.88E-8	9.55E-7	2.02E-9	-2.78E-6	5.58E-6
EP-m	kg N eq	2.68E-4	5.86E-5	1.46E-5	3.42E-4	1.21E-5	5.32E-5	1.04E-6	-1.25E-4	2.83E-4
EP-T	mol N eq	2.95E-3	6.46E-4	1.61E-4	3.75E-3	1.33E-4	5.85E-4	6.45E-6	-1.39E-3	3.08E-3
POCP	kg NMVOC eq	1.31E-3	1.85E-4	5.10E-5	1.54E-3	3.80E-5	1.85E-4	2.36E-6	-6.25E-4	1.14E-3
ADP-mm	kg Sb eq	1.25E-5	7.43E-7	4.13E-7	1.37E-5	1.53E-7	7.20E-7	1.59E-9	-1.80E-6	1.28E-5
ADP-f	MJ	1.39E+1	4.41E-1	3.11E-1	1.47E+1	9.09E-2	5.77E-1	4.89E-3	-7.42E+0	7.93E+0
WDP	m3 depriv.	2.86E-1	1.35E-3	7.14E-2	3.59E-1	2.79E-4	1.13E-2	2.64E-5	-1.28E-1	2.43E-1
PM	disease inc.	1.47E-8	2.59E-9	9.24E-10	1.82E-8	5.35E-10	3.00E-9	3.34E-11	-6.07E-9	1.57E-8
IR	kBq U-235 eq	8.94E-3	1.93E-3	3.04E-4	1.12E-2	3.98E-4	1.75E-3	2.25E-5	-3.68E-3	9.66E-3
ETP-fw	CTUe	2.91E+0	3.58E-1	3.74E-1	3.64E+0	7.38E-2	6.71E-1	4.13E-3	-1.11E+0	3.28E+0
HTP-c	CTUh	1.35E-10	1.27E-11	2.27E-11	1.70E-10	2.63E-12	7.81E-11	1.16E-13	-5.02E-11	2.01E-10
HTP-nc	CTUh	3.06E-9	4.27E-10	4.12E-10	3.90E-9	8.80E-11	9.65E-10	2.58E-12	-1.21E-9	3.74E-9
SQP	Pt	4.16E+0	3.77E-1	6.44E-2	4.60E+0	7.78E-2	4.62E-1	1.23E-2	-2.47E+0	2.68E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.40E-1	6.33E-3	6.94E-1	1.44E+0	1.30E-3	2.83E-2	1.78E-4	-4.42E-1	1.03E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.40E-1	6.33E-3	6.94E-1	1.44E+0	1.30E-3	2.83E-2	1.78E-4	-4.42E-1	1.03E+0
PENRE	MJ	1.49E+1	4.68E-1	3.40E-1	1.57E+1	9.66E-2	6.15E-1	5.18E-3	-8.00E+0	8.47E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.49E+1	4.68E-1	3.40E-1	1.57E+1	9.66E-2	6.15E-1	5.18E-3	-8.00E+0	8.47E+0
PET	MJ	1.57E+1	4.75E-1	1.03E+0	1.72E+1	9.79E-2	6.43E-1	5.36E-3	-8.44E+0	9.50E+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	4.62E-3	4.99E-5	1.70E-3	6.37E-3	1.03E-5	3.47E-4	5.99E-6	-1.94E-3	4.79E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.36E-6	1.13E-6	3.46E-7	3.83E-6	2.33E-7	9.49E-7	5.87E-9	-1.95E-6	3.06E-6
NHWD	kg	2.34E-2	2.73E-2	3.36E-3	5.41E-2	5.64E-3	2.87E-2	2.28E-2	-6.90E-3	1.04E-1
RWD	kg	8.59E-6	3.00E-6	3.69E-7	1.20E-5	6.18E-7	2.22E-6	3.20E-8	-3.40E-6	1.14E-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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