Environmental Profile

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

Ecochain v3.5.64

Product:	3080358 - ED Tech PP Pipe HTEM 32 L=0,5 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	1.61E-1	1.28E-2	1.08E-2	1.84E-1	2.70E-3	1.05E-1	1.09E-3	-1.09E-1	1.84E-1
GWP-f	kg CO2 eq	1.86E-1	1.28E-2	9.65E-3	2.08E-1	2.70E-3	7.73E-2	1.09E-3	-1.09E-1	1.81E-1
GWP-b	kg CO2 eq	-2.66E-2	7.75E-6	6.10E-4	-2.60E-2	1.64E-6	2.72E-2	9.68E-7	-3.63E-4	8.09E-4
GWP-luluc	kg CO2 eq	1.50E-3	4.52E-6	5.49E-4	2.05E-3	9.55E-7	1.51E-5	2.08E-8	-2.93E-5	2.04E-3
ODP	kg CFC11 eq	6.45E-9	2.94E-9	1.05E-9	1.04E-8	6.22E-10	2.00E-9	3.08E-11	-4.44E-9	8.65E-9
AP	mol H+ eq	8.06E-4	7.27E-5	3.25E-5	9.11E-4	1.54E-5	8.37E-5	7.26E-7	-3.14E-4	6.97E-4
EP-fw	kg P eq	3.39E-6	1.05E-7	1.29E-7	3.62E-6	2.22E-8	4.35E-7	9.31E-10	-1.28E-6	2.80E-6
EP-m	kg N eq	1.35E-4	2.60E-5	6.22E-6	1.67E-4	5.50E-6	2.44E-5	4.74E-7	-5.75E-5	1.40E-4
EP-T	mol N eq	1.42E-3	2.87E-4	6.86E-5	1.78E-3	6.06E-5	2.69E-4	2.94E-6	-6.46E-4	1.47E-3
POCP	kg NMVOC eq	6.13E-4	8.20E-5	2.18E-5	7.17E-4	1.73E-5	8.47E-5	1.08E-6	-2.87E-4	5.33E-4
ADP-mm	kg Sb eq	6.17E-6	3.30E-7	1.77E-7	6.68E-6	6.98E-8	3.29E-7	7.31E-10	-8.32E-7	6.24E-6
ADP-f	MJ	6.27E+0	1.96E-1	1.33E-1	6.60E+0	4.14E-2	2.63E-1	2.23E-3	-3.36E+0	3.54E+0
WDP	m3 depriv.	1.34E-1	6.01E-4	3.05E-2	1.65E-1	1.27E-4	5.16E-3	1.37E-5	-5.79E-2	1.13E-1
PM	disease inc.	7.32E-9	1.15E-9	3.95E-10	8.86E-9	2.44E-10	1.37E-9	1.52E-11	-2.82E-9	7.67E-9
IR	kBq U-235 eq	4.32E-3	8.56E-4	1.30E-4	5.31E-3	1.81E-4	7.97E-4	1.02E-5	-1.69E-3	4.61E-3
ETP-fw	CTUe	1.55E+0	1.59E-1	1.60E-1	1.87E+0	3.36E-2	3.07E-1	1.89E-3	-5.30E-1	1.68E+0
HTP-c	CTUh	7.57E-11	5.66E-12	9.70E-12	9.10E-11	1.20E-12	3.68E-11	5.39E-14	-2.38E-11	1.05E-10
HTP-nc	CTUh	1.57E-9	1.90E-10	1.76E-10	1.93E-9	4.01E-11	4.43E-10	1.18E-12	-5.61E-10	1.86E-9
SQP	Pt	2.58E+0	1.68E-1	2.75E-2	2.77E+0	3.54E-2	2.11E-1	5.62E-3	-1.36E+0	1.66E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.41E-1	2.81E-3	2.96E-1	7.40E-1	5.94E-4	1.29E-2	8.00E-5	-2.41E-1	5.12E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.41E-1	2.81E-3	2.96E-1	7.40E-1	5.94E-4	1.29E-2	8.00E-5	-2.41E-1	5.12E-1
PENRE	MJ	6.73E+0	2.08E-1	1.45E-1	7.08E+0	4.40E-2	2.81E-1	2.36E-3	-3.62E+0	3.78E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.73E+0	2.08E-1	1.45E-1	7.08E+0	4.40E-2	2.81E-1	2.36E-3	-3.62E+0	3.78E+0
PET	MJ	7.17E+0	2.11E-1	4.42E-1	7.82E+0	4.46E-2	2.94E-1	2.44E-3	-3.86E+0	4.30E+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	2.27E-3	2.22E-5	7.25E-4	3.02E-3	4.69E-6	1.60E-4	2.72E-6	-8.83E-4	2.30E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.20E-6	5.01E-7	1.48E-7	1.84E-6	1.06E-7	4.35E-7	2.69E-9	-8.97E-7	1.49E-6
NHWD	kg	1.35E-2	1.21E-2	1.43E-3	2.71E-2	2.57E-3	1.32E-2	1.04E-2	-3.24E-3	5.00E-2
RWD	kg	4.21E-6	1.33E-6	1.58E-7	5.70E-6	2.82E-7	1.01E-6	1.46E-8	-1.56E-6	5.44E-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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