Environmental Profile

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

Ecochain v3.5.64

Product:	3080364 - ED Tech PP Pipe HTEM 40 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	6.80E-1	5.46E-2	4.89E-2	7.84E-1	1.13E-2	3.87E-1	4.54E-3	-4.52E-1	7.34E-1
GWP-f	kg CO2 eq	7.53E-1	5.45E-2	4.37E-2	8.52E-1	1.12E-2	3.08E-1	4.54E-3	-4.50E-1	7.24E-1
GWP-b	kg CO2 eq	-7.63E-2	3.31E-5	2.76E-3	-7.35E-2	6.83E-6	7.89E-2	4.02E-6	-1.54E-3	3.91E-3
GWP-luluc	kg CO2 eq	3.11E-3	1.93E-5	2.49E-3	5.61E-3	3.98E-6	6.30E-5	8.38E-8	-1.16E-4	5.56E-3
ODP	kg CFC11 eq	1.99E-8	1.26E-8	4.76E-9	3.72E-8	2.59E-9	8.30E-9	1.27E-10	-1.78E-8	3.04E-8
AP	mol H+ eq	2.98E-3	3.11E-4	1.47E-4	3.43E-3	6.40E-5	3.46E-4	2.99E-6	-1.30E-3	2.55E-3
EP-fw	kg P eq	1.25E-5	4.49E-7	5.83E-7	1.35E-5	9.25E-8	1.82E-6	3.78E-9	-5.28E-6	1.01E-5
EP-m	kg N eq	4.98E-4	1.11E-4	2.82E-5	6.37E-4	2.29E-5	1.00E-4	1.91E-6	-2.36E-4	5.27E-4
EP-T	mol N eq	5.45E-3	1.22E-3	3.11E-4	6.98E-3	2.52E-4	1.11E-3	1.21E-5	-2.63E-3	5.72E-3
POCP	kg NMVOC eq	2.42E-3	3.50E-4	9.86E-5	2.87E-3	7.22E-5	3.49E-4	4.45E-6	-1.18E-3	2.11E-3
ADP-mm	kg Sb eq	1.80E-5	1.41E-6	8.00E-7	2.02E-5	2.91E-7	1.37E-6	2.99E-9	-3.25E-6	1.86E-5
ADP-f	MJ	2.61E+1	8.37E-1	6.03E-1	2.76E+1	1.73E-1	1.10E+0	9.19E-3	-1.40E+1	1.48E+1
WDP	m3 depriv.	5.35E-1	2.57E-3	1.38E-1	6.76E-1	5.30E-4	2.14E-2	4.93E-5	-2.43E-1	4.55E-1
PM	disease inc.	2.68E-8	4.92E-9	1.79E-9	3.35E-8	1.01E-9	5.71E-9	6.28E-11	-1.15E-8	2.87E-8
IR	kBq U-235 eq	1.57E-2	3.66E-3	5.88E-4	1.99E-2	7.54E-4	3.32E-3	4.23E-5	-6.95E-3	1.71E-2
ETP-fw	CTUe	5.20E+0	6.79E-1	7.24E-1	6.60E+0	1.40E-1	1.26E+0	7.61E-3	-2.09E+0	5.92E+0
HTP-c	CTUh	2.50E-10	2.42E-11	4.40E-11	3.18E-10	4.99E-12	1.48E-10	2.17E-13	-9.58E-11	3.76E-10
HTP-nc	CTUh	5.62E-9	8.10E-10	7.98E-10	7.23E-9	1.67E-10	1.83E-9	4.80E-12	-2.29E-9	6.94E-9
SQP	Pt	7.69E+0	7.16E-1	1.25E-1	8.54E+0	1.48E-1	8.81E-1	2.32E-2	-4.82E+0	4.77E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.37E+0	1.20E-2	1.34E+0	2.72E+0	2.48E-3	5.39E-2	3.33E-4	-8.55E-1	1.93E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.37E+0	1.20E-2	1.34E+0	2.72E+0	2.48E-3	5.39E-2	3.33E-4	-8.55E-1	1.93E+0
PENRE	MJ	2.80E+1	8.88E-1	6.59E-1	2.96E+1	1.83E-1	1.17E+0	9.76E-3	-1.51E+1	1.58E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.80E+1	8.88E-1	6.59E-1	2.96E+1	1.83E-1	1.17E+0	9.76E-3	-1.51E+1	1.58E+1
PET	MJ	2.94E+1	9.00E-1	2.00E+0	3.23E+1	1.86E-1	1.23E+0	1.01E-2	-1.60E+1	1.77E+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	8.56E-3	9.47E-5	3.29E-3	1.19E-2	1.95E-5	6.44E-4	1.13E-5	-3.69E-3	8.92E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.21E-6	2.14E-6	6.70E-7	7.02E-6	4.41E-7	1.80E-6	1.10E-8	-3.61E-6	5.66E-6
NHWD	kg	4.33E-2	5.19E-2	6.50E-3	1.02E-1	1.07E-2	5.43E-2	4.30E-2	-1.31E-2	1.97E-1
RWD	kg	1.46E-5	5.69E-6	7.15E-7	2.10E-5	1.17E-6	4.22E-6	6.02E-8	-6.40E-6	2.00E-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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