Environmental Profile

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

Ecochain v3.5.64

Product:	3080376 - ED Tech PP Pipe HTDM 40 L=2 S/S
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	7.37E-1	5.72E-2	5.06E-2	8.45E-1	1.17E-2	3.93E-1	4.76E-3	-4.71E-1	7.83E-1
GWP-f	kg CO2 eq	7.91E-1	5.71E-2	4.52E-2	8.94E-1	1.17E-2	3.33E-1	4.76E-3	-4.69E-1	7.74E-1
GWP-b	kg CO2 eq	-5.71E-2	3.47E-5	2.86E-3	-5.42E-2	7.10E-6	5.96E-2	4.22E-6	-1.58E-3	3.76E-3
GWP-luluc	kg CO2 eq	3.11E-3	2.02E-5	2.57E-3	5.71E-3	4.14E-6	6.52E-5	8.78E-8	-1.11E-4	5.66E-3
ODP	kg CFC11 eq	2.39E-8	1.32E-8	4.92E-9	4.20E-8	2.69E-9	8.59E-9	1.33E-10	-1.88E-8	3.46E-8
AP	mol H+ eq	3.14E-3	3.25E-4	1.52E-4	3.62E-3	6.66E-5	3.59E-4	3.13E-6	-1.33E-3	2.71E-3
EP-fw	kg P eq	1.32E-5	4.70E-7	6.03E-7	1.43E-5	9.62E-8	1.88E-6	3.96E-9	-5.35E-6	1.09E-5
EP-m	kg N eq	5.22E-4	1.16E-4	2.91E-5	6.68E-4	2.38E-5	1.04E-4	2.06E-6	-2.40E-4	5.58E-4
EP-T	mol N eq	5.72E-3	1.28E-3	3.21E-4	7.32E-3	2.63E-4	1.15E-3	1.27E-5	-2.68E-3	6.07E-3
POCP	kg NMVOC eq	2.55E-3	3.67E-4	1.02E-4	3.02E-3	7.51E-5	3.63E-4	4.66E-6	-1.21E-3	2.25E-3
ADP-mm	kg Sb eq	2.47E-5	1.48E-6	8.27E-7	2.70E-5	3.02E-7	1.42E-6	3.14E-9	-3.51E-6	2.52E-5
ADP-f	MJ	2.74E+1	8.77E-1	6.23E-1	2.89E+1	1.79E-1	1.14E+0	9.63E-3	-1.46E+1	1.57E+1
WDP	m3 depriv.	5.62E-1	2.69E-3	1.43E-1	7.07E-1	5.51E-4	2.23E-2	5.13E-5	-2.51E-1	4.80E-1
PM	disease inc.	2.83E-8	5.16E-9	1.85E-9	3.53E-8	1.06E-9	5.91E-9	6.58E-11	-1.16E-8	3.07E-8
IR	kBq U-235 eq	1.74E-2	3.83E-3	6.07E-4	2.19E-2	7.84E-4	3.43E-3	4.44E-5	-7.13E-3	1.90E-2
ETP-fw	CTUe	5.61E+0	7.12E-1	7.48E-1	7.07E+0	1.46E-1	1.32E+0	8.14E-3	-2.09E+0	6.46E+0
HTP-c	CTUh	2.56E-10	2.53E-11	4.54E-11	3.26E-10	5.19E-12	1.53E-10	2.27E-13	-9.20E-11	3.93E-10
HTP-nc	CTUh	5.92E-9	8.49E-10	8.25E-10	7.59E-9	1.74E-10	1.90E-9	5.07E-12	-2.31E-9	7.36E-9
SQP	Pt	6.21E+0	7.50E-1	1.29E-1	7.09E+0	1.54E-1	9.10E-1	2.43E-2	-3.48E+0	4.69E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.17E+0	1.26E-2	1.39E+0	2.57E+0	2.57E-3	5.58E-2	3.50E-4	-6.58E-1	1.97E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.17E+0	1.26E-2	1.39E+0	2.57E+0	2.57E-3	5.58E-2	3.50E-4	-6.58E-1	1.97E+0
PENRE	MJ	2.94E+1	9.31E-1	6.81E-1	3.10E+1	1.91E-1	1.21E+0	1.02E-2	-1.57E+1	1.67E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.94E+1	9.31E-1	6.81E-1	3.10E+1	1.91E-1	1.21E+0	1.02E-2	-1.57E+1	1.67E+1
PET	MJ	3.06E+1	9.43E-1	2.07E+0	3.36E+1	1.93E-1	1.27E+0	1.06E-2	-1.64E+1	1.87E+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	9.06E-3	9.92E-5	3.40E-3	1.26E-2	2.03E-5	6.85E-4	1.18E-5	-3.81E-3	9.46E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.47E-6	2.24E-6	6.92E-7	7.40E-6	4.59E-7	1.87E-6	1.16E-8	-3.75E-6	5.99E-6
NHWD	kg	4.49E-2	5.43E-2	6.71E-3	1.06E-1	1.11E-2	5.64E-2	4.50E-2	-1.28E-2	2.06E-1
RWD	kg	1.67E-5	5.96E-6	7.39E-7	2.34E-5	1.22E-6	4.36E-6	6.31E-8	-6.56E-6	2.25E-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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