Environmental Profile

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

Ecochain v3.5.64

Product:	3010781 - Ed Tech PP Bend HTB 87,5° 40
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	7.81E-2	5.66E-3	4.95E-3	8.87E-2	9.77E-4	6.01E-2	4.90E-4	-4.72E-2	1.03E-1
GWP-f	kg CO2 eq	9.27E-2	5.66E-3	4.24E-3	1.03E-1	9.76E-4	4.27E-2	4.90E-4	-5.31E-2	9.37E-2
GWP-b	kg CO2 eq	-1.46E-2	3.44E-6	3.58E-4	-1.43E-2	5.93E-7	1.73E-2	4.35E-7	5.91E-3	8.99E-3
GWP-luluc	kg CO2 eq	7.33E-5	2.00E-6	3.58E-4	4.33E-4	3.45E-7	5.36E-6	8.68E-9	-5.77E-5	3.81E-4
ODP	kg CFC11 eq	6.31E-9	1.30E-9	4.25E-10	8.04E-9	2.25E-10	7.95E-10	1.25E-11	-2.95E-9	6.12E-9
AP	mol H+ eq	3.88E-4	3.22E-5	1.71E-5	4.37E-4	5.56E-6	3.36E-5	3.00E-7	-1.65E-4	3.12E-4
EP-fw	kg P eq	2.06E-6	4.66E-8	6.58E-8	2.17E-6	8.03E-9	1.58E-7	3.96E-10	-1.10E-6	1.24E-6
EP-m	kg N eq	6.97E-5	1.15E-5	2.89E-6	8.41E-5	1.99E-6	1.03E-5	2.51E-7	-3.25E-5	6.42E-5
EP-T	mol N eq	7.76E-4	1.27E-4	3.24E-5	9.36E-4	2.19E-5	1.13E-4	1.21E-6	-3.65E-4	7.06E-4
POCP	kg NMVOC eq	3.25E-4	3.63E-5	1.01E-5	3.71E-4	6.27E-6	3.47E-5	4.52E-7	-1.46E-4	2.66E-4
ADP-mm	kg Sb eq	7.63E-6	1.46E-7	1.03E-7	7.88E-6	2.52E-8	1.27E-7	3.02E-10	-5.61E-7	7.47E-6
ADP-f	MJ	2.99E+0	8.69E-2	5.58E-2	3.13E+0	1.50E-2	9.72E-2	9.12E-4	-1.51E+0	1.73E+0
WDP	m3 depriv.	6.12E-2	2.67E-4	1.97E-2	8.12E-2	4.60E-5	1.97E-3	5.14E-6	-3.24E-2	5.08E-2
PM	disease inc.	4.09E-9	5.11E-10	1.71E-10	4.77E-9	8.81E-11	5.20E-10	6.26E-12	-1.85E-9	3.53E-9
IR	kBq U-235 eq	3.07E-3	3.80E-4	5.20E-5	3.51E-3	6.55E-5	3.02E-4	4.24E-6	-1.16E-3	2.72E-3
ETP-fw	CTUe	1.56E+0	7.05E-2	8.80E-2	1.71E+0	1.22E-2	1.38E-1	9.39E-4	-6.94E-1	1.17E+0
HTP-c	CTUh	3.47E-11	2.51E-12	4.69E-12	4.19E-11	4.33E-13	1.35E-11	2.30E-14	-1.64E-11	3.95E-11
HTP-nc	CTUh	8.02E-10	8.41E-11	9.73E-11	9.84E-10	1.45E-11	1.71E-10	5.37E-13	-3.71E-10	7.99E-10
SQP	Pt	1.66E+0	7.43E-2	1.02E-2	1.74E+0	1.28E-2	7.54E-2	2.33E-3	-2.16E+0	-3.23E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.82E-1	1.25E-3	1.93E-1	4.76E-1	2.15E-4	4.67E-3	3.60E-5	-3.69E-1	1.13E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.82E-1	1.25E-3	1.93E-1	4.76E-1	2.15E-4	4.67E-3	3.60E-5	-3.69E-1	1.13E-1
PENRE	MJ	3.20E+0	9.22E-2	6.08E-2	3.36E+0	1.59E-2	1.04E-1	9.67E-4	-1.63E+0	1.85E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.20E+0	9.22E-2	6.08E-2	3.36E+0	1.59E-2	1.04E-1	9.67E-4	-1.63E+0	1.85E+0
PET	MJ	3.49E+0	9.35E-2	2.54E-1	3.83E+0	1.61E-2	1.08E-1	1.00E-3	-2.00E+0	1.96E+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	1.10E-3	9.83E-6	4.69E-4	1.58E-3	1.70E-6	7.42E-5	1.12E-6	-5.97E-4	1.06E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.06E-7	2.22E-7	5.42E-8	1.08E-6	3.83E-8	1.75E-7	1.10E-9	-5.85E-7	7.11E-7
NHWD	kg	6.17E-3	5.38E-3	5.28E-4	1.21E-2	9.28E-4	5.01E-3	4.00E-3	-2.13E-3	1.99E-2
RWD	kg	3.44E-6	5.91E-7	5.79E-8	4.09E-6	1.02E-7	3.87E-7	5.95E-9	-1.12E-6	3.46E-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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