Environmental Profile

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

Ecochain v3.5.64

Product:	3018732 - Ed Tech PP Bend HTB 67,5° 50
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	1.03E-1	7.09E-3	6.30E-3	1.16E-1	1.23E-3	7.19E-2	6.13E-4	-5.73E-2	1.33E-1
GWP-f	kg CO2 eq	1.17E-1	7.08E-3	5.39E-3	1.30E-1	1.23E-3	5.26E-2	6.13E-4	-6.76E-2	1.17E-1
GWP-b	kg CO2 eq	-1.45E-2	4.30E-6	4.56E-4	-1.41E-2	7.45E-7	1.93E-2	5.44E-7	1.03E-2	1.55E-2
GWP-luluc	kg CO2 eq	1.05E-4	2.51E-6	4.55E-4	5.63E-4	4.34E-7	6.82E-6	1.08E-8	-9.09E-5	4.79E-4
ODP	kg CFC11 eq	7.80E-9	1.63E-9	5.41E-10	9.97E-9	2.83E-10	1.04E-9	1.56E-11	-3.81E-9	7.49E-9
AP	mol H+ eq	4.89E-4	4.04E-5	2.18E-5	5.51E-4	6.99E-6	4.34E-5	3.74E-7	-2.18E-4	3.84E-4
EP-fw	kg P eq	2.69E-6	5.83E-8	8.38E-8	2.83E-6	1.01E-8	2.02E-7	4.92E-10	-1.61E-6	1.43E-6
EP-m	kg N eq	9.02E-5	1.44E-5	3.67E-6	1.08E-4	2.50E-6	1.33E-5	3.09E-7	-4.30E-5	8.14E-5
EP-T	mol N eq	9.94E-4	1.59E-4	4.13E-5	1.19E-3	2.75E-5	1.47E-4	1.51E-6	-4.85E-4	8.85E-4
POCP	kg NMVOC eq	4.08E-4	4.55E-5	1.28E-5	4.67E-4	7.87E-6	4.51E-5	5.65E-7	-1.89E-4	3.31E-4
ADP-mm	kg Sb eq	8.98E-6	1.83E-7	1.31E-7	9.30E-6	3.17E-8	1.65E-7	3.77E-10	-6.98E-7	8.79E-6
ADP-f	MJ	3.77E+0	1.09E-1	7.10E-2	3.95E+0	1.88E-2	1.25E-1	1.14E-3	-1.92E+0	2.18E+0
WDP	m3 depriv.	7.71E-2	3.34E-4	2.51E-2	1.03E-1	5.78E-5	2.49E-3	6.18E-6	-4.49E-2	6.02E-2
PM	disease inc.	5.17E-9	6.39E-10	2.18E-10	6.03E-9	1.11E-10	6.75E-10	7.82E-12	-2.54E-9	4.28E-9
IR	kBq U-235 eq	3.83E-3	4.75E-4	6.62E-5	4.37E-3	8.23E-5	3.90E-4	5.30E-6	-1.60E-3	3.25E-3
ETP-fw	CTUe	2.26E+0	8.83E-2	1.12E-1	2.46E+0	1.53E-2	1.76E-1	1.16E-3	-1.08E+0	1.57E+0
HTP-c	CTUh	4.23E-11	3.14E-12	5.97E-12	5.14E-11	5.44E-13	1.73E-11	2.85E-14	-2.09E-11	4.84E-11
HTP-nc	CTUh	1.01E-9	1.05E-10	1.24E-10	1.24E-9	1.82E-11	2.19E-10	6.66E-13	-5.13E-10	9.65E-10
SQP	Pt	1.88E+0	9.30E-2	1.29E-2	1.98E+0	1.61E-2	9.64E-2	2.92E-3	-2.97E+0	-8.68E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.31E-1	1.56E-3	2.46E-1	5.79E-1	2.70E-4	5.95E-3	4.50E-5	-5.18E-1	6.72E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.31E-1	1.56E-3	2.46E-1	5.79E-1	2.70E-4	5.95E-3	4.50E-5	-5.18E-1	6.72E-2
PENRE	MJ	4.05E+0	1.15E-1	7.74E-2	4.24E+0	2.00E-2	1.33E-1	1.21E-3	-2.07E+0	2.32E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.05E+0	1.15E-1	7.74E-2	4.24E+0	2.00E-2	1.33E-1	1.21E-3	-2.07E+0	2.32E+0
PET	MJ	4.38E+0	1.17E-1	3.23E-1	4.82E+0	2.03E-2	1.39E-1	1.25E-3	-2.59E+0	2.39E+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	1.39E-3	1.23E-5	5.97E-4	1.99E-3	2.13E-6	9.27E-5	1.40E-6	-8.56E-4	1.23E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.01E-6	2.78E-7	6.90E-8	1.36E-6	4.81E-8	2.25E-7	1.37E-9	-7.42E-7	8.88E-7
NHWD	kg	7.87E-3	6.74E-3	6.72E-4	1.53E-2	1.17E-3	6.38E-3	5.01E-3	-2.76E-3	2.51E-2
RWD	kg	4.24E-6	7.39E-7	7.36E-8	5.06E-6	1.28E-7	5.03E-7	7.44E-9	-1.54E-6	4.15E-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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