Environmental Profile

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

Ecochain v3.5.64

Product:	3018734 - Ed Tech PP Bend HTB 15° 75
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	1.52E-1	9.37E-3	9.76E-3	1.71E-1	1.87E-3	1.16E-1	9.33E-4	-8.74E-2	2.02E-1
GWP-f	kg CO2 eq	1.81E-1	9.36E-3	8.35E-3	1.98E-1	1.87E-3	7.89E-2	9.33E-4	-1.05E-1	1.75E-1
GWP-b	kg CO2 eq	-2.91E-2	5.68E-6	7.05E-4	-2.84E-2	1.14E-6	3.72E-2	8.27E-7	1.75E-2	2.63E-2
GWP-luluc	kg CO2 eq	1.71E-4	3.31E-6	7.05E-4	8.79E-4	6.63E-7	1.05E-5	1.62E-8	-1.54E-4	7.36E-4
ODP	kg CFC11 eq	1.17E-8	2.16E-9	8.38E-10	1.47E-8	4.31E-10	1.62E-9	2.37E-11	-5.99E-9	1.08E-8
AP	mol H+ eq	7.49E-4	5.33E-5	3.37E-5	8.36E-4	1.07E-5	6.74E-5	5.68E-7	-3.47E-4	5.67E-4
EP-fw	kg P eq	4.19E-6	7.70E-8	1.30E-7	4.39E-6	1.54E-8	3.11E-7	7.44E-10	-2.65E-6	2.07E-6
EP-m	kg N eq	1.41E-4	1.91E-5	5.69E-6	1.66E-4	3.82E-6	2.07E-5	4.65E-7	-6.93E-5	1.21E-4
EP-T	mol N eq	1.54E-3	2.10E-4	6.39E-5	1.82E-3	4.21E-5	2.28E-4	2.30E-6	-7.82E-4	1.31E-3
POCP	kg NMVOC eq	6.31E-4	6.01E-5	1.99E-5	7.11E-4	1.20E-5	7.03E-5	8.59E-7	-3.01E-4	4.93E-4
ADP-mm	kg Sb eq	1.29E-5	2.42E-7	2.03E-7	1.33E-5	4.84E-8	2.58E-7	5.70E-10	-1.07E-6	1.26E-5
ADP-f	MJ	5.80E+0	1.44E-1	1.10E-1	6.06E+0	2.87E-2	1.93E-1	1.73E-3	-2.96E+0	3.32E+0
WDP	m3 depriv.	1.18E-1	4.41E-4	3.89E-2	1.57E-1	8.82E-5	3.81E-3	8.89E-6	-7.15E-2	8.95E-2
PM	disease inc.	8.02E-9	8.45E-10	3.37E-10	9.21E-9	1.69E-10	1.05E-9	1.19E-11	-4.17E-9	6.26E-9
IR	kBq U-235 eq	5.81E-3	6.28E-4	1.02E-4	6.54E-3	1.26E-4	6.07E-4	8.06E-6	-2.60E-3	4.68E-3
ETP-fw	CTUe	3.63E+0	1.17E-1	1.73E-1	3.92E+0	2.33E-2	2.71E-1	1.74E-3	-1.80E+0	2.41E+0
HTP-c	CTUh	6.69E-11	4.15E-12	9.24E-12	8.03E-11	8.30E-13	2.65E-11	4.29E-14	-3.54E-11	7.23E-11
HTP-nc	CTUh	1.55E-9	1.39E-10	1.92E-10	1.88E-9	2.78E-11	3.37E-10	1.00E-12	-8.40E-10	1.41E-9
SQP	Pt	3.50E+0	1.23E-1	2.00E-2	3.65E+0	2.46E-2	1.49E-1	4.43E-3	-5.33E+0	-1.51E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.03E-1	2.06E-3	3.80E-1	9.85E-1	4.12E-4	9.18E-3	6.85E-5	-9.21E-1	7.37E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.03E-1	2.06E-3	3.80E-1	9.85E-1	4.12E-4	9.18E-3	6.85E-5	-9.21E-1	7.37E-2
PENRE	MJ	6.22E+0	1.52E-1	1.20E-1	6.49E+0	3.05E-2	2.06E-1	1.84E-3	-3.19E+0	3.54E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.22E+0	1.52E-1	1.20E-1	6.49E+0	3.05E-2	2.06E-1	1.84E-3	-3.19E+0	3.54E+0
PET	MJ	6.82E+0	1.55E-1	5.00E-1	7.48E+0	3.09E-2	2.15E-1	1.90E-3	-4.11E+0	3.61E+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	2.11E-3	1.63E-5	9.23E-4	3.05E-3	3.25E-6	1.41E-4	2.13E-6	-1.38E-3	1.81E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.57E-6	3.67E-7	1.07E-7	2.04E-6	7.35E-8	3.49E-7	2.08E-9	-1.18E-6	1.28E-6
NHWD	kg	1.23E-2	8.90E-3	1.04E-3	2.23E-2	1.78E-3	9.83E-3	7.61E-3	-4.63E-3	3.69E-2
RWD	kg	6.39E-6	9.77E-7	1.14E-7	7.48E-6	1.95E-7	7.84E-7	1.13E-8	-2.51E-6	5.96E-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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