Environmental Profile

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

Ecochain v3.5.64

Product:	3010785 - Ed Tech PP Bend HTB 87,5° 110
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	4.07E-1	3.13E-2	2.97E-2	4.68E-1	5.50E-3	3.30E-1	2.69E-3	-2.57E-1	5.50E-1
GWP-f	kg CO2 eq	5.08E-1	3.13E-2	2.54E-2	5.65E-1	5.49E-3	2.07E-1	2.69E-3	-3.01E-1	4.80E-1
GWP-b	kg CO2 eq	-1.02E-1	1.90E-5	2.15E-3	-9.93E-2	3.34E-6	1.23E-1	2.37E-6	4.46E-2	6.80E-2
GWP-luluc	kg CO2 eq	4.54E-4	1.11E-5	2.15E-3	2.61E-3	1.94E-6	3.13E-5	4.65E-8	-4.14E-4	2.23E-3
ODP	kg CFC11 eq	2.71E-8	7.21E-9	2.55E-9	3.69E-8	1.27E-9	4.69E-9	6.79E-11	-1.63E-8	2.66E-8
AP	mol H+ eq	2.05E-3	1.78E-4	1.03E-4	2.33E-3	3.13E-5	1.95E-4	1.63E-6	-1.01E-3	1.55E-3
EP-fw	kg P eq	1.12E-5	2.57E-7	3.95E-7	1.18E-5	4.52E-8	9.21E-7	2.13E-9	-7.33E-6	5.46E-6
EP-m	kg N eq	3.87E-4	6.38E-5	1.73E-5	4.68E-4	1.12E-5	5.95E-5	1.24E-6	-2.00E-4	3.40E-4
EP-T	mol N eq	4.25E-3	7.03E-4	1.95E-4	5.15E-3	1.23E-4	6.54E-4	6.59E-6	-2.26E-3	3.67E-3
POCP	kg NMVOC eq	1.75E-3	2.01E-4	6.05E-5	2.01E-3	3.53E-5	2.03E-4	2.46E-6	-8.84E-4	1.37E-3
ADP-mm	kg Sb eq	2.70E-5	8.09E-7	6.19E-7	2.84E-5	1.42E-7	7.54E-7	1.64E-9	-2.82E-6	2.65E-5
ADP-f	MJ	1.65E+1	4.80E-1	3.35E-1	1.74E+1	8.43E-2	5.70E-1	4.96E-3	-8.67E+0	9.35E+0
WDP	m3 depriv.	3.33E-1	1.47E-3	1.18E-1	4.53E-1	2.59E-4	1.10E-2	2.56E-5	-2.03E-1	2.61E-1
PM	disease inc.	2.17E-8	2.82E-9	1.03E-9	2.56E-8	4.96E-10	3.08E-9	3.41E-11	-1.20E-8	1.72E-8
IR	kBq U-235 eq	1.46E-2	2.10E-3	3.12E-4	1.70E-2	3.69E-4	1.79E-3	2.31E-5	-7.27E-3	1.19E-2
ETP-fw	CTUe	9.30E+0	3.90E-1	5.28E-1	1.02E+1	6.85E-2	7.51E-1	4.71E-3	-4.84E+0	6.20E+0
HTP-c	CTUh	1.88E-10	1.39E-11	2.81E-11	2.30E-10	2.44E-12	7.86E-11	1.23E-13	-1.06E-10	2.05E-10
HTP-nc	CTUh	4.22E-9	4.65E-10	5.84E-10	5.27E-9	8.16E-11	9.81E-10	2.81E-12	-2.39E-9	3.95E-9
SQP	Pt	1.12E+1	4.11E-1	6.10E-2	1.17E+1	7.22E-2	4.43E-1	1.27E-2	-1.56E+1	-3.36E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.89E+0	6.89E-3	1.16E+0	3.05E+0	1.21E-3	2.72E-2	1.95E-4	-2.66E+0	4.22E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.89E+0	6.89E-3	1.16E+0	3.05E+0	1.21E-3	2.72E-2	1.95E-4	-2.66E+0	4.22E-1
PENRE	MJ	1.78E+1	5.10E-1	3.65E-1	1.86E+1	8.95E-2	6.07E-1	5.26E-3	-9.34E+0	9.98E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.78E+1	5.10E-1	3.65E-1	1.86E+1	8.95E-2	6.07E-1	5.26E-3	-9.34E+0	9.98E+0
PET	MJ	1.96E+1	5.17E-1	1.52E+0	2.17E+1	9.08E-2	6.34E-1	5.46E-3	-1.20E+1	1.04E+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	5.78E-3	5.43E-5	2.81E-3	8.64E-3	9.54E-6	3.82E-4	6.12E-6	-3.85E-3	5.19E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.16E-6	1.23E-6	3.25E-7	5.71E-6	2.16E-7	1.01E-6	5.98E-9	-3.30E-6	3.64E-6
NHWD	kg	3.35E-2	2.98E-2	3.17E-3	6.64E-2	5.23E-3	2.86E-2	2.18E-2	-1.37E-2	1.08E-1
RWD	kg	1.54E-5	3.27E-6	3.47E-7	1.90E-5	5.74E-7	2.30E-6	3.24E-8	-6.99E-6	1.49E-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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