Environmental Profile

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

Ecochain v3.5.64

Product:	3010784 - Ed Tech PP Bend HTB 87,5° 90
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	2.47E-1	1.86E-2	1.70E-2	2.82E-1	3.21E-3	2.01E-1	1.59E-3	-1.50E-1	3.38E-1
GWP-f	kg CO2 eq	3.05E-1	1.86E-2	1.45E-2	3.38E-1	3.20E-3	1.30E-1	1.59E-3	-1.78E-1	2.95E-1
GWP-b	kg CO2 eq	-5.82E-2	1.13E-5	1.23E-3	-5.69E-2	1.95E-6	7.11E-2	1.40E-6	2.77E-2	4.19E-2
GWP-luluc	kg CO2 eq	2.83E-4	6.57E-6	1.23E-3	1.51E-3	1.13E-6	1.81E-5	2.79E-8	-2.53E-4	1.28E-3
ODP	kg CFC11 eq	1.88E-8	4.28E-9	1.46E-9	2.45E-8	7.38E-10	2.75E-9	4.02E-11	-9.97E-9	1.81E-8
AP	mol H+ eq	1.26E-3	1.06E-4	5.85E-5	1.43E-3	1.82E-5	1.15E-4	9.65E-7	-5.92E-4	9.70E-4
EP-fw	kg P eq	6.97E-6	1.53E-7	2.25E-7	7.35E-6	2.64E-8	5.33E-7	1.27E-9	-4.40E-6	3.51E-6
EP-m	kg N eq	2.37E-4	3.78E-5	9.89E-6	2.84E-4	6.53E-6	3.51E-5	7.67E-7	-1.18E-4	2.09E-4
EP-T	mol N eq	2.61E-3	4.17E-4	1.11E-4	3.13E-3	7.19E-5	3.86E-4	3.90E-6	-1.33E-3	2.26E-3
POCP	kg NMVOC eq	1.06E-3	1.19E-4	3.45E-5	1.22E-3	2.06E-5	1.19E-4	1.46E-6	-5.18E-4	8.39E-4
ADP-mm	kg Sb eq	2.02E-5	4.80E-7	3.53E-7	2.10E-5	8.29E-8	4.39E-7	9.73E-10	-1.77E-6	1.98E-5
ADP-f	MJ	9.77E+0	2.85E-1	1.91E-1	1.02E+1	4.92E-2	3.31E-1	2.94E-3	-5.06E+0	5.56E+0
WDP	m3 depriv.	1.99E-1	8.74E-4	6.76E-2	2.68E-1	1.51E-4	6.48E-3	1.63E-5	-1.20E-1	1.54E-1
PM	disease inc.	1.35E-8	1.68E-9	5.86E-10	1.57E-8	2.89E-10	1.79E-9	2.02E-11	-7.09E-9	1.08E-8
IR	kBq U-235 eq	9.47E-3	1.25E-3	1.78E-4	1.09E-2	2.15E-4	1.04E-3	1.37E-5	-4.35E-3	7.81E-3
ETP-fw	CTUe	5.91E+0	2.31E-1	3.01E-1	6.44E+0	3.99E-2	4.53E-1	2.90E-3	-2.95E+0	3.99E+0
HTP-c	CTUh	1.16E-10	8.23E-12	1.61E-11	1.41E-10	1.42E-12	4.62E-11	7.37E-14	-6.23E-11	1.26E-10
HTP-nc	CTUh	2.64E-9	2.76E-10	3.33E-10	3.25E-9	4.76E-11	5.76E-10	1.70E-12	-1.42E-9	2.45E-9
SQP	Pt	6.59E+0	2.44E-1	3.48E-2	6.87E+0	4.21E-2	2.56E-1	7.52E-3	-9.32E+0	-2.14E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.11E+0	4.09E-3	6.61E-1	1.78E+0	7.05E-4	1.57E-2	1.15E-4	-1.59E+0	2.00E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.11E+0	4.09E-3	6.61E-1	1.78E+0	7.05E-4	1.57E-2	1.15E-4	-1.59E+0	2.00E-1
PENRE	MJ	1.05E+1	3.02E-1	2.08E-1	1.10E+1	5.22E-2	3.52E-1	3.12E-3	-5.46E+0	5.93E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.05E+1	3.02E-1	2.08E-1	1.10E+1	5.22E-2	3.52E-1	3.12E-3	-5.46E+0	5.93E+0
PET	MJ	1.16E+1	3.07E-1	8.69E-1	1.28E+1	5.29E-2	3.68E-1	3.23E-3	-7.05E+0	6.14E+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	3.55E-3	3.22E-5	1.60E-3	5.19E-3	5.56E-6	2.34E-4	3.62E-6	-2.30E-3	3.13E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.66E-6	7.29E-7	1.86E-7	3.58E-6	1.26E-7	5.93E-7	3.55E-9	-2.00E-6	2.30E-6
NHWD	kg	2.10E-2	1.77E-2	1.81E-3	4.05E-2	3.05E-3	1.68E-2	1.29E-2	-8.07E-3	6.52E-2
RWD	kg	1.03E-5	1.94E-6	1.98E-7	1.24E-5	3.34E-7	1.34E-6	1.92E-8	-4.20E-6	9.93E-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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