Environmental Profile

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

Ecochain v3.5.64

Product:	3010775 - Ed Tech PP Bend HTB 45° 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	1.57E-1	1.05E-2	1.10E-2	1.79E-1	2.08E-3	1.38E-1	1.03E-3	-9.79E-2	2.22E-1
GWP-f	kg CO2 eq	2.01E-1	1.05E-2	9.37E-3	2.21E-1	2.08E-3	8.53E-2	1.03E-3	-1.17E-1	1.92E-1
GWP-b	kg CO2 eq	-4.37E-2	6.39E-6	7.92E-4	-4.29E-2	1.26E-6	5.28E-2	9.12E-7	1.97E-2	2.96E-2
GWP-luluc	kg CO2 eq	1.97E-4	3.72E-6	7.91E-4	9.92E-4	7.37E-7	1.18E-5	1.82E-8	-1.79E-4	8.26E-4
ODP	kg CFC11 eq	1.27E-8	2.42E-9	9.41E-10	1.61E-8	4.80E-10	1.82E-9	2.62E-11	-6.72E-9	1.17E-8
AP	mol H+ eq	8.39E-4	5.99E-5	3.78E-5	9.37E-4	1.19E-5	7.55E-5	6.28E-7	-3.98E-4	6.27E-4
EP-fw	kg P eq	4.70E-6	8.66E-8	1.46E-7	4.93E-6	1.71E-8	3.49E-7	8.29E-10	-3.04E-6	2.26E-6
EP-m	kg N eq	1.59E-4	2.14E-5	6.39E-6	1.87E-4	4.25E-6	2.32E-5	5.02E-7	-8.00E-5	1.35E-4
EP-T	mol N eq	1.74E-3	2.36E-4	7.18E-5	2.05E-3	4.68E-5	2.56E-4	2.54E-6	-9.05E-4	1.45E-3
POCP	kg NMVOC eq	7.05E-4	6.75E-5	2.23E-5	7.95E-4	1.34E-5	7.88E-5	9.50E-7	-3.48E-4	5.40E-4
ADP-mm	kg Sb eq	1.34E-5	2.72E-7	2.28E-7	1.39E-5	5.39E-8	2.89E-7	6.34E-10	-1.18E-6	1.31E-5
ADP-f	MJ	6.40E+0	1.61E-1	1.23E-1	6.68E+0	3.20E-2	2.17E-1	1.91E-3	-3.32E+0	3.61E+0
WDP	m3 depriv.	1.31E-1	4.96E-4	4.36E-2	1.75E-1	9.81E-5	4.23E-3	1.07E-5	-8.05E-2	9.86E-2
PM	disease inc.	9.06E-9	9.49E-10	3.79E-10	1.04E-8	1.88E-10	1.18E-9	1.31E-11	-4.87E-9	6.90E-9
IR	kBq U-235 eq	6.33E-3	7.06E-4	1.15E-4	7.15E-3	1.40E-4	6.84E-4	8.90E-6	-2.97E-3	5.01E-3
ETP-fw	CTUe	4.09E+0	1.31E-1	1.95E-1	4.41E+0	2.60E-2	2.99E-1	1.89E-3	-2.06E+0	2.67E+0
HTP-c	CTUh	7.94E-11	4.67E-12	1.04E-11	9.45E-11	9.24E-13	3.04E-11	4.81E-14	-4.36E-11	8.22E-11
HTP-nc	CTUh	1.77E-9	1.56E-10	2.15E-10	2.14E-9	3.09E-11	3.78E-10	1.11E-12	-9.73E-10	1.58E-9
SQP	Pt	4.85E+0	1.38E-1	2.25E-2	5.01E+0	2.74E-2	1.67E-1	4.90E-3	-6.77E+0	-1.56E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.08E-1	2.32E-3	4.27E-1	1.24E+0	4.59E-4	1.03E-2	7.52E-5	-1.15E+0	9.69E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.08E-1	2.32E-3	4.27E-1	1.24E+0	4.59E-4	1.03E-2	7.52E-5	-1.15E+0	9.69E-2
PENRE	MJ	6.86E+0	1.71E-1	1.35E-1	7.16E+0	3.39E-2	2.31E-1	2.03E-3	-3.58E+0	3.85E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.86E+0	1.71E-1	1.35E-1	7.16E+0	3.39E-2	2.31E-1	2.03E-3	-3.58E+0	3.85E+0
PET	MJ	7.67E+0	1.74E-1	5.61E-1	8.40E+0	3.44E-2	2.41E-1	2.11E-3	-4.73E+0	3.95E+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	2.35E-3	1.83E-5	1.04E-3	3.40E-3	3.62E-6	1.54E-4	2.36E-6	-1.56E-3	2.00E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.81E-6	4.13E-7	1.20E-7	2.35E-6	8.18E-8	3.91E-7	2.31E-9	-1.36E-6	1.46E-6
NHWD	kg	1.43E-2	1.00E-2	1.17E-3	2.55E-2	1.98E-3	1.10E-2	8.41E-3	-5.61E-3	4.13E-2
RWD	kg	6.90E-6	1.10E-6	1.28E-7	8.13E-6	2.17E-7	8.83E-7	1.25E-8	-2.88E-6	6.37E-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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