Environmental Profile

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

Ecochain v3.5.64

Product:	3010774 - Ed Tech PP Bend HTB 45° 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	8.95E-2	6.28E-3	5.40E-3	1.01E-1	1.07E-3	6.65E-2	5.39E-4	-5.07E-2	1.19E-1
GWP-f	kg CO2 eq	1.04E-1	6.28E-3	4.62E-3	1.15E-1	1.07E-3	4.79E-2	5.39E-4	-5.94E-2	1.05E-1
GWP-b	kg CO2 eq	-1.46E-2	3.81E-6	3.90E-4	-1.42E-2	6.49E-7	1.86E-2	4.79E-7	8.75E-3	1.31E-2
GWP-luluc	kg CO2 eq	9.29E-5	2.22E-6	3.90E-4	4.85E-4	3.78E-7	5.90E-6	9.53E-9	-7.83E-5	4.13E-4
ODP	kg CFC11 eq	7.41E-9	1.45E-9	4.64E-10	9.32E-9	2.46E-10	8.99E-10	1.37E-11	-3.42E-9	7.06E-9
AP	mol H+ eq	4.39E-4	3.58E-5	1.86E-5	4.93E-4	6.09E-6	3.78E-5	3.30E-7	-1.90E-4	3.48E-4
EP-fw	kg P eq	2.42E-6	5.16E-8	7.18E-8	2.54E-6	8.79E-9	1.74E-7	4.35E-10	-1.39E-6	1.34E-6
EP-m	kg N eq	8.05E-5	1.28E-5	3.15E-6	9.65E-5	2.18E-6	1.16E-5	2.80E-7	-3.77E-5	7.29E-5
EP-T	mol N eq	8.89E-4	1.41E-4	3.54E-5	1.07E-3	2.40E-5	1.28E-4	1.33E-6	-4.25E-4	7.94E-4
POCP	kg NMVOC eq	3.66E-4	4.03E-5	1.10E-5	4.17E-4	6.86E-6	3.93E-5	4.98E-7	-1.66E-4	2.98E-4
ADP-mm	kg Sb eq	8.80E-6	1.62E-7	1.13E-7	9.08E-6	2.76E-8	1.43E-7	3.32E-10	-6.39E-7	8.61E-6
ADP-f	MJ	3.32E+0	9.63E-2	6.08E-2	3.48E+0	1.64E-2	1.08E-1	1.00E-3	-1.67E+0	1.93E+0
WDP	m3 depriv.	6.81E-2	2.96E-4	2.15E-2	9.00E-2	5.03E-5	2.18E-3	5.55E-6	-3.86E-2	5.36E-2
PM	disease inc.	4.68E-9	5.67E-10	1.87E-10	5.43E-9	9.64E-11	5.84E-10	6.89E-12	-2.22E-9	3.90E-9
IR	kBq U-235 eq	3.55E-3	4.21E-4	5.68E-5	4.02E-3	7.17E-5	3.38E-4	4.67E-6	-1.40E-3	3.04E-3
ETP-fw	CTUe	2.00E+0	7.82E-2	9.60E-2	2.17E+0	1.33E-2	1.56E-1	1.04E-3	-9.26E-1	1.42E+0
HTP-c	CTUh	3.89E-11	2.78E-12	5.12E-12	4.68E-11	4.74E-13	1.50E-11	2.53E-14	-1.87E-11	4.35E-11
HTP-nc	CTUh	9.14E-10	9.33E-11	1.06E-10	1.11E-9	1.59E-11	1.91E-10	5.93E-13	-4.47E-10	8.74E-10
SQP	Pt	1.80E+0	8.24E-2	1.11E-2	1.89E+0	1.40E-2	8.33E-2	2.57E-3	-2.67E+0	-6.81E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.12E-1	1.38E-3	2.10E-1	5.24E-1	2.35E-4	5.15E-3	3.97E-5	-4.63E-1	6.66E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.12E-1	1.38E-3	2.10E-1	5.24E-1	2.35E-4	5.15E-3	3.97E-5	-4.63E-1	6.66E-2
PENRE	MJ	3.56E+0	1.02E-1	6.64E-2	3.73E+0	1.74E-2	1.15E-1	1.06E-3	-1.80E+0	2.06E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.56E+0	1.02E-1	6.64E-2	3.73E+0	1.74E-2	1.15E-1	1.06E-3	-1.80E+0	2.06E+0
PET	MJ	3.87E+0	1.04E-1	2.77E-1	4.25E+0	1.76E-2	1.20E-1	1.10E-3	-2.27E+0	2.12E+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	1.24E-3	1.09E-5	5.11E-4	1.76E-3	1.86E-6	8.32E-5	1.24E-6	-7.36E-4	1.11E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	9.30E-7	2.46E-7	5.91E-8	1.24E-6	4.19E-8	1.96E-7	1.21E-9	-6.69E-7	8.06E-7
NHWD	kg	7.15E-3	5.97E-3	5.76E-4	1.37E-2	1.02E-3	5.56E-3	4.40E-3	-2.46E-3	2.22E-2
RWD	kg	3.99E-6	6.55E-7	6.31E-8	4.70E-6	1.12E-7	4.35E-7	6.55E-9	-1.35E-6	3.90E-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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