Environmental Profile

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

Ecochain v3.5.64

Product:	3010788 - Ed Tech Branch HTEA 45° 32x32
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	8.81E-2	5.28E-3	5.55E-3	9.89E-2	1.08E-3	6.42E-2	5.40E-4	-5.11E-2	1.14E-1
GWP-f	kg CO2 eq	1.03E-1	5.28E-3	4.75E-3	1.13E-1	1.08E-3	4.59E-2	5.40E-4	-5.91E-2	1.01E-1
GWP-b	kg CO2 eq	-1.46E-2	3.20E-6	4.01E-4	-1.41E-2	6.57E-7	1.83E-2	4.78E-7	8.03E-3	1.22E-2
GWP-luluc	kg CO2 eq	8.72E-5	1.87E-6	4.01E-4	4.90E-4	3.83E-7	6.00E-6	9.52E-9	-7.35E-5	4.23E-4
ODP	kg CFC11 eq	6.69E-9	1.22E-9	4.77E-10	8.39E-9	2.49E-10	9.01E-10	1.37E-11	-3.29E-9	6.26E-9
AP	mol H+ eq	4.27E-4	3.01E-5	1.92E-5	4.76E-4	6.16E-6	3.78E-5	3.29E-7	-1.89E-4	3.31E-4
EP-fw	kg P eq	2.31E-6	4.34E-8	7.38E-8	2.43E-6	8.90E-9	1.77E-7	4.34E-10	-1.34E-6	1.27E-6
EP-m	kg N eq	7.80E-5	1.08E-5	3.24E-6	9.20E-5	2.20E-6	1.16E-5	2.70E-7	-3.72E-5	6.88E-5
EP-T	mol N eq	8.63E-4	1.19E-4	3.64E-5	1.02E-3	2.43E-5	1.27E-4	1.33E-6	-4.19E-4	7.51E-4
POCP	kg NMVOC eq	3.57E-4	3.39E-5	1.13E-5	4.02E-4	6.94E-6	3.92E-5	4.98E-7	-1.65E-4	2.83E-4
ADP-mm	kg Sb eq	7.76E-6	1.37E-7	1.16E-7	8.01E-6	2.80E-8	1.44E-7	3.32E-10	-6.07E-7	7.58E-6
ADP-f	MJ	3.31E+0	8.10E-2	6.25E-2	3.45E+0	1.66E-2	1.09E-1	1.00E-3	-1.69E+0	1.89E+0
WDP	m3 depriv.	6.76E-2	2.49E-4	2.21E-2	8.99E-2	5.09E-5	2.19E-3	5.55E-6	-3.82E-2	5.40E-2
PM	disease inc.	4.49E-9	4.76E-10	1.92E-10	5.16E-9	9.76E-11	5.89E-10	6.88E-12	-2.17E-9	3.68E-9
IR	kBq U-235 eq	3.31E-3	3.54E-4	5.83E-5	3.72E-3	7.25E-5	3.41E-4	4.66E-6	-1.36E-3	2.78E-3
ETP-fw	CTUe	1.86E+0	6.58E-2	9.87E-2	2.02E+0	1.35E-2	1.53E-1	1.01E-3	-8.74E-1	1.32E+0
HTP-c	CTUh	3.75E-11	2.34E-12	5.26E-12	4.51E-11	4.80E-13	1.52E-11	2.52E-14	-1.84E-11	4.24E-11
HTP-nc	CTUh	8.81E-10	7.84E-11	1.09E-10	1.07E-9	1.61E-11	1.92E-10	5.85E-13	-4.37E-10	8.41E-10
SQP	Pt	1.76E+0	6.93E-2	1.14E-2	1.84E+0	1.42E-2	8.46E-2	2.57E-3	-2.55E+0	-6.08E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.04E-1	1.16E-3	2.16E-1	5.22E-1	2.38E-4	5.23E-3	3.95E-5	-4.40E-1	8.71E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.04E-1	1.16E-3	2.16E-1	5.22E-1	2.38E-4	5.23E-3	3.95E-5	-4.40E-1	8.71E-2
PENRE	MJ	3.54E+0	8.60E-2	6.82E-2	3.70E+0	1.76E-2	1.17E-1	1.06E-3	-1.82E+0	2.02E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.54E+0	8.60E-2	6.82E-2	3.70E+0	1.76E-2	1.17E-1	1.06E-3	-1.82E+0	2.02E+0
PET	MJ	3.85E+0	8.72E-2	2.85E-1	4.22E+0	1.79E-2	1.22E-1	1.10E-3	-2.26E+0	2.10E+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	1.21E-3	9.17E-6	5.26E-4	1.74E-3	1.88E-6	8.09E-5	1.24E-6	-7.17E-4	1.11E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.78E-7	2.07E-7	6.08E-8	1.15E-6	4.24E-8	1.96E-7	1.21E-9	-6.47E-7	7.39E-7
NHWD	kg	6.83E-3	5.02E-3	5.92E-4	1.24E-2	1.03E-3	5.59E-3	4.40E-3	-2.42E-3	2.11E-2
RWD	kg	3.66E-6	5.51E-7	6.49E-8	4.28E-6	1.13E-7	4.39E-7	6.55E-9	-1.31E-6	3.52E-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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