Environmental Profile

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

Ecochain v3.5.64

Product:	3010790 - Ed Tech Branch HTEA 45° 40x40
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	1.30E-1	9.73E-3	8.25E-3	1.48E-1	1.64E-3	1.10E-1	8.31E-4	-8.07E-2	1.80E-1
GWP-f	kg CO2 eq	1.59E-1	9.72E-3	7.06E-3	1.76E-1	1.64E-3	7.61E-2	8.32E-4	-9.04E-2	1.64E-1
GWP-b	kg CO2 eq	-2.94E-2	5.90E-6	5.96E-4	-2.88E-2	9.93E-7	3.38E-2	7.40E-7	9.78E-3	1.48E-2
GWP-luluc	kg CO2 eq	1.29E-4	3.44E-6	5.96E-4	7.29E-4	5.79E-7	8.88E-6	1.49E-8	-9.79E-5	6.40E-4
ODP	kg CFC11 eq	1.20E-8	2.24E-9	7.09E-10	1.49E-8	3.77E-10	1.33E-9	2.12E-11	-5.21E-9	1.14E-8
AP	mol H+ eq	6.82E-4	5.54E-5	2.85E-5	7.66E-4	9.32E-6	5.65E-5	5.11E-7	-2.79E-4	5.53E-4
EP-fw	kg P eq	3.65E-6	8.00E-8	1.10E-7	3.84E-6	1.35E-8	2.62E-7	6.77E-10	-1.85E-6	2.27E-6
EP-m	kg N eq	1.22E-4	1.98E-5	4.81E-6	1.47E-4	3.33E-6	1.73E-5	4.44E-7	-5.54E-5	1.12E-4
EP-T	mol N eq	1.36E-3	2.18E-4	5.41E-5	1.63E-3	3.67E-5	1.91E-4	2.06E-6	-6.24E-4	1.24E-3
POCP	kg NMVOC eq	5.69E-4	6.24E-5	1.68E-5	6.48E-4	1.05E-5	5.84E-5	7.69E-7	-2.49E-4	4.69E-4
ADP-mm	kg Sb eq	1.49E-5	2.52E-7	1.72E-7	1.53E-5	4.23E-8	2.11E-7	5.15E-10	-1.01E-6	1.46E-5
ADP-f	MJ	5.09E+0	1.49E-1	9.30E-2	5.33E+0	2.51E-2	1.62E-1	1.55E-3	-2.54E+0	2.98E+0
WDP	m3 depriv.	1.05E-1	4.58E-4	3.29E-2	1.38E-1	7.71E-5	3.32E-3	9.03E-6	-5.38E-2	8.78E-2
PM	disease inc.	7.28E-9	8.78E-10	2.85E-10	8.44E-9	1.48E-10	8.66E-10	1.06E-11	-3.17E-9	6.30E-9
IR	kBq U-235 eq	5.63E-3	6.52E-4	8.67E-5	6.37E-3	1.10E-4	5.02E-4	7.22E-6	-1.97E-3	5.02E-3
ETP-fw	CTUe	2.73E+0	1.21E-1	1.47E-1	3.00E+0	2.04E-2	2.37E-1	1.65E-3	-1.17E+0	2.09E+0
HTP-c	CTUh	6.31E-11	4.31E-12	7.82E-12	7.52E-11	7.26E-13	2.27E-11	3.94E-14	-2.91E-11	6.96E-11
HTP-nc	CTUh	1.43E-9	1.44E-10	1.62E-10	1.73E-9	2.43E-11	2.87E-10	9.27E-13	-6.32E-10	1.41E-9
SQP	Pt	3.21E+0	1.28E-1	1.69E-2	3.35E+0	2.15E-2	1.25E-1	3.97E-3	-3.93E+0	-4.25E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.35E-1	2.14E-3	3.22E-1	8.59E-1	3.60E-4	7.76E-3	6.14E-5	-6.63E-1	2.04E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.35E-1	2.14E-3	3.22E-1	8.59E-1	3.60E-4	7.76E-3	6.14E-5	-6.63E-1	2.04E-1
PENRE	MJ	5.45E+0	1.58E-1	1.01E-1	5.71E+0	2.67E-2	1.72E-1	1.65E-3	-2.74E+0	3.17E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.45E+0	1.58E-1	1.01E-1	5.71E+0	2.67E-2	1.72E-1	1.65E-3	-2.74E+0	3.17E+0
PET	MJ	5.99E+0	1.61E-1	4.23E-1	6.57E+0	2.70E-2	1.80E-1	1.71E-3	-3.41E+0	3.37E+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	1.92E-3	1.69E-5	7.81E-4	2.72E-3	2.84E-6	1.30E-4	1.91E-6	-9.96E-4	1.86E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.48E-6	3.82E-7	9.03E-8	1.95E-6	6.42E-8	2.94E-7	1.88E-9	-1.04E-6	1.27E-6
NHWD	kg	1.11E-2	9.25E-3	8.80E-4	2.12E-2	1.56E-3	8.42E-3	6.81E-3	-3.74E-3	3.43E-2
RWD	kg	6.42E-6	1.01E-6	9.64E-8	7.53E-6	1.71E-7	6.45E-7	1.01E-8	-1.93E-6	6.43E-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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