Environmental Profile

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

Ecochain v3.5.64

Product:	3010966 - Ed Tech Branch HTEA 45° 110x110
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	7.26E-1	5.24E-2	4.98E-2	8.28E-1	9.29E-3	5.25E-1	4.57E-3	-4.35E-1	9.32E-1
GWP-f	kg CO2 eq	8.55E-1	5.23E-2	4.26E-2	9.50E-1	9.28E-3	3.63E-1	4.57E-3	-5.01E-1	8.26E-1
GWP-b	kg CO2 eq	-1.30E-1	3.18E-5	3.60E-3	-1.27E-1	5.63E-6	1.62E-1	4.03E-6	6.72E-2	1.03E-1
GWP-luluc	kg CO2 eq	7.11E-4	1.85E-5	3.60E-3	4.33E-3	3.28E-6	5.22E-5	7.91E-8	-6.23E-4	3.76E-3
ODP	kg CFC11 eq	4.79E-8	1.21E-8	4.28E-9	6.42E-8	2.14E-9	7.75E-9	1.16E-10	-2.69E-8	4.74E-8
AP	mol H+ eq	3.46E-3	2.98E-4	1.72E-4	3.93E-3	5.29E-5	3.24E-4	2.77E-6	-1.62E-3	2.68E-3
EP-fw	kg P eq	1.85E-5	4.30E-7	6.62E-7	1.96E-5	7.63E-8	1.53E-6	3.62E-9	-1.14E-5	9.83E-6
EP-m	kg N eq	6.40E-4	1.07E-4	2.90E-5	7.75E-4	1.89E-5	9.86E-5	2.16E-6	-3.19E-4	5.76E-4
EP-T	mol N eq	7.05E-3	1.17E-3	3.26E-4	8.55E-3	2.08E-4	1.08E-3	1.12E-5	-3.59E-3	6.26E-3
POCP	kg NMVOC eq	2.93E-3	3.36E-4	1.01E-4	3.37E-3	5.96E-5	3.36E-4	4.19E-6	-1.42E-3	2.34E-3
ADP-mm	kg Sb eq	5.16E-5	1.35E-6	1.04E-6	5.40E-5	2.40E-7	1.25E-6	2.78E-9	-4.79E-6	5.07E-5
ADP-f	MJ	2.80E+1	8.03E-1	5.61E-1	2.93E+1	1.42E-1	9.48E-1	8.44E-3	-1.45E+1	1.60E+1
WDP	m3 depriv.	5.65E-1	2.46E-3	1.98E-1	7.66E-1	4.37E-4	1.86E-2	4.35E-5	-3.29E-1	4.56E-1
PM	disease inc.	3.61E-8	4.72E-9	1.72E-9	4.26E-8	8.38E-10	5.10E-9	5.80E-11	-1.87E-8	2.99E-8
IR	kBq U-235 eq	2.52E-2	3.51E-3	5.23E-4	2.93E-2	6.23E-4	2.95E-3	3.93E-5	-1.15E-2	2.14E-2
ETP-fw	CTUe	1.49E+1	6.52E-1	8.85E-1	1.64E+1	1.16E-1	1.27E+0	8.18E-3	-7.40E+0	1.04E+1
HTP-c	CTUh	3.02E-10	2.32E-11	4.72E-11	3.72E-10	4.12E-12	1.30E-10	2.09E-13	-1.59E-10	3.48E-10
HTP-nc	CTUh	7.05E-9	7.77E-10	9.79E-10	8.80E-9	1.38E-10	1.64E-9	4.83E-12	-3.75E-9	6.84E-9
SQP	Pt	1.53E+1	6.87E-1	1.02E-1	1.61E+1	1.22E-1	7.36E-1	2.16E-2	-2.20E+1	-5.02E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.63E+0	1.15E-2	1.94E+0	4.59E+0	2.04E-3	4.53E-2	3.33E-4	-3.79E+0	8.45E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.63E+0	1.15E-2	1.94E+0	4.59E+0	2.04E-3	4.53E-2	3.33E-4	-3.79E+0	8.45E-1
PENRE	MJ	3.00E+1	8.52E-1	6.12E-1	3.15E+1	1.51E-1	1.01E+0	8.96E-3	-1.56E+1	1.70E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.00E+1	8.52E-1	6.12E-1	3.15E+1	1.51E-1	1.01E+0	8.96E-3	-1.56E+1	1.70E+1
PET	MJ	3.26E+1	8.64E-1	2.55E+0	3.61E+1	1.53E-1	1.05E+0	9.29E-3	-1.94E+1	1.79E+1
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	9.80E-3	9.09E-5	4.72E-3	1.46E-2	1.61E-5	6.57E-4	1.04E-5	-6.13E-3	9.16E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.85E-6	2.05E-6	5.45E-7	9.44E-6	3.64E-7	1.68E-6	1.02E-8	-5.35E-6	6.15E-6
NHWD	kg	5.46E-2	4.98E-2	5.31E-3	1.10E-1	8.83E-3	4.78E-2	3.71E-2	-2.09E-2	1.83E-1
RWD	kg	2.71E-5	5.46E-6	5.82E-7	3.31E-5	9.69E-7	3.80E-6	5.52E-8	-1.11E-5	2.69E-5
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

Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
https://www.ecochain.com
+31 20 3035 777