Environmental Profile

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

Ecochain v3.5.64

Product:	3010793 - Ed Tech Branch Reduced HTEA 45° 75x40
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	2.30E-1	1.51E-2	1.52E-2	2.61E-1	2.90E-3	1.76E-1	1.45E-3	-1.39E-1	3.02E-1
GWP-f	kg CO2 eq	2.74E-1	1.51E-2	1.30E-2	3.02E-1	2.90E-3	1.23E-1	1.45E-3	-1.58E-1	2.71E-1
GWP-b	kg CO2 eq	-4.37E-2	9.16E-6	1.10E-3	-4.26E-2	1.76E-6	5.28E-2	1.28E-6	1.96E-2	2.98E-2
GWP-luluc	kg CO2 eq	2.26E-4	5.34E-6	1.09E-3	1.33E-3	1.03E-6	1.61E-5	2.56E-8	-1.86E-4	1.16E-3
ODP	kg CFC11 eq	1.78E-8	3.48E-9	1.30E-9	2.26E-8	6.68E-10	2.40E-9	3.68E-11	-8.74E-9	1.70E-8
AP	mol H+ eq	1.14E-3	8.60E-5	5.23E-5	1.28E-3	1.65E-5	1.01E-4	8.84E-7	-5.01E-4	8.97E-4
EP-fw	kg P eq	6.11E-6	1.24E-7	2.02E-7	6.44E-6	2.39E-8	4.73E-7	1.17E-9	-3.45E-6	3.49E-6
EP-m	kg N eq	2.07E-4	3.08E-5	8.84E-6	2.47E-4	5.91E-6	3.08E-5	7.24E-7	-9.88E-5	1.86E-4
EP-T	mol N eq	2.30E-3	3.39E-4	9.93E-5	2.74E-3	6.52E-5	3.39E-4	3.57E-6	-1.11E-3	2.03E-3
POCP	kg NMVOC eq	9.55E-4	9.69E-5	3.08E-5	1.08E-3	1.86E-5	1.04E-4	1.33E-6	-4.42E-4	7.65E-4
ADP-mm	kg Sb eq	2.08E-5	3.90E-7	3.16E-7	2.15E-5	7.50E-8	3.83E-7	8.91E-10	-1.62E-6	2.03E-5
ADP-f	MJ	8.83E+0	2.32E-1	1.71E-1	9.24E+0	4.45E-2	2.92E-1	2.69E-3	-4.51E+0	5.06E+0
WDP	m3 depriv.	1.81E-1	7.11E-4	6.04E-2	2.42E-1	1.37E-4	5.85E-3	1.52E-5	-9.97E-2	1.48E-1
PM	disease inc.	1.20E-8	1.36E-9	5.24E-10	1.39E-8	2.62E-10	1.57E-9	1.85E-11	-5.72E-9	1.00E-8
IR	kBq U-235 eq	8.82E-3	1.01E-3	1.59E-4	9.99E-3	1.95E-4	9.09E-4	1.25E-5	-3.55E-3	7.55E-3
ETP-fw	CTUe	4.78E+0	1.88E-1	2.69E-1	5.23E+0	3.62E-2	4.07E-1	2.72E-3	-2.21E+0	3.47E+0
HTP-c	CTUh	1.02E-10	6.69E-12	1.44E-11	1.23E-10	1.29E-12	4.08E-11	6.78E-14	-5.00E-11	1.15E-10
HTP-nc	CTUh	2.36E-9	2.24E-10	2.98E-10	2.88E-9	4.31E-11	5.12E-10	1.57E-12	-1.15E-9	2.30E-9
SQP	Pt	5.02E+0	1.98E-1	3.11E-2	5.25E+0	3.81E-2	2.26E-1	6.88E-3	-6.80E+0	-1.28E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.56E-1	3.32E-3	5.91E-1	1.45E+0	6.39E-4	1.40E-2	1.06E-4	-1.17E+0	2.99E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.56E-1	3.32E-3	5.91E-1	1.45E+0	6.39E-4	1.40E-2	1.06E-4	-1.17E+0	2.99E-1
PENRE	MJ	9.47E+0	2.46E-1	1.86E-1	9.90E+0	4.73E-2	3.11E-1	2.85E-3	-4.87E+0	5.40E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.47E+0	2.46E-1	1.86E-1	9.90E+0	4.73E-2	3.11E-1	2.85E-3	-4.87E+0	5.40E+0
PET	MJ	1.03E+1	2.49E-1	7.77E-1	1.14E+1	4.79E-2	3.25E-1	2.96E-3	-6.03E+0	5.70E+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	3.23E-3	2.62E-5	1.43E-3	4.69E-3	5.04E-6	2.16E-4	3.31E-6	-1.86E-3	3.05E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.36E-6	5.92E-7	1.66E-7	3.12E-6	1.14E-7	5.23E-7	3.25E-9	-1.73E-6	2.03E-6
NHWD	kg	1.83E-2	1.44E-2	1.62E-3	3.43E-2	2.76E-3	1.49E-2	1.18E-2	-6.51E-3	5.73E-2
RWD	kg	9.75E-6	1.58E-6	1.77E-7	1.15E-5	3.03E-7	1.17E-6	1.76E-8	-3.43E-6	9.56E-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

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