Environmental Profile

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

Ecochain v3.5.64

Product:	3010958 - Ed Tech Branch HTEA 45° 75x75
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	3.07E-1	1.93E-2	2.04E-2	3.47E-1	3.88E-3	2.32E-1	1.93E-3	-1.84E-1	4.01E-1
GWP-f	kg CO2 eq	3.65E-1	1.93E-2	1.75E-2	4.02E-1	3.88E-3	1.61E-1	1.93E-3	-2.11E-1	3.57E-1
GWP-b	kg CO2 eq	-5.82E-2	1.17E-5	1.47E-3	-5.67E-2	2.35E-6	7.11E-2	1.71E-6	2.76E-2	4.20E-2
GWP-luluc	kg CO2 eq	3.06E-4	6.83E-6	1.47E-3	1.79E-3	1.37E-6	2.16E-5	3.38E-8	-2.58E-4	1.55E-3
ODP	kg CFC11 eq	2.29E-8	4.45E-9	1.75E-9	2.91E-8	8.93E-10	3.23E-9	4.89E-11	-1.17E-8	2.16E-8
AP	mol H+ eq	1.51E-3	1.10E-4	7.04E-5	1.69E-3	2.21E-5	1.35E-4	1.17E-6	-6.77E-4	1.17E-3
EP-fw	kg P eq	8.10E-6	1.59E-7	2.71E-7	8.53E-6	3.19E-8	6.36E-7	1.54E-9	-4.73E-6	4.47E-6
EP-m	kg N eq	2.76E-4	3.93E-5	1.19E-5	3.27E-4	7.90E-6	4.13E-5	9.52E-7	-1.34E-4	2.44E-4
EP-T	mol N eq	3.05E-3	4.33E-4	1.34E-4	3.62E-3	8.71E-5	4.55E-4	4.75E-6	-1.51E-3	2.66E-3
POCP	kg NMVOC eq	1.27E-3	1.24E-4	4.15E-5	1.43E-3	2.49E-5	1.40E-4	1.78E-6	-5.95E-4	1.00E-3
ADP-mm	kg Sb eq	2.61E-5	4.99E-7	4.25E-7	2.70E-5	1.00E-7	5.16E-7	1.18E-9	-2.14E-6	2.55E-5
ADP-f	MJ	1.18E+1	2.96E-1	2.30E-1	1.23E+1	5.95E-2	3.93E-1	3.58E-3	-6.05E+0	6.75E+0
WDP	m3 depriv.	2.40E-1	9.09E-4	8.13E-2	3.23E-1	1.83E-4	7.82E-3	1.93E-5	-1.36E-1	1.95E-1
PM	disease inc.	1.59E-8	1.74E-9	7.05E-10	1.83E-8	3.50E-10	2.11E-9	2.46E-11	-7.79E-9	1.30E-8
IR	kBq U-235 eq	1.15E-2	1.29E-3	2.14E-4	1.30E-2	2.60E-4	1.22E-3	1.66E-5	-4.83E-3	9.68E-3
ETP-fw	CTUe	6.44E+0	2.40E-1	3.63E-1	7.04E+0	4.83E-2	5.42E-1	3.58E-3	-3.07E+0	4.56E+0
HTP-c	CTUh	1.34E-10	8.56E-12	1.93E-11	1.62E-10	1.72E-12	5.43E-11	8.94E-14	-6.76E-11	1.50E-10
HTP-nc	CTUh	3.10E-9	2.87E-10	4.01E-10	3.79E-9	5.76E-11	6.85E-10	2.08E-12	-1.56E-9	2.97E-9
SQP	Pt	6.73E+0	2.53E-1	4.19E-2	7.03E+0	5.09E-2	3.04E-1	9.16E-3	-9.34E+0	-1.95E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.15E+0	4.25E-3	7.95E-1	1.95E+0	8.54E-4	1.88E-2	1.41E-4	-1.60E+0	3.65E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.15E+0	4.25E-3	7.95E-1	1.95E+0	8.54E-4	1.88E-2	1.41E-4	-1.60E+0	3.65E-1
PENRE	MJ	1.27E+1	3.14E-1	2.51E-1	1.32E+1	6.32E-2	4.18E-1	3.79E-3	-6.52E+0	7.20E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.27E+1	3.14E-1	2.51E-1	1.32E+1	6.32E-2	4.18E-1	3.79E-3	-6.52E+0	7.20E+0
PET	MJ	1.38E+1	3.19E-1	1.05E+0	1.52E+1	6.40E-2	4.37E-1	3.93E-3	-8.12E+0	7.57E+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	4.26E-3	3.35E-5	1.93E-3	6.22E-3	6.73E-6	2.86E-4	4.41E-6	-2.54E-3	3.98E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.08E-6	7.57E-7	2.23E-7	4.07E-6	1.52E-7	7.01E-7	4.31E-9	-2.31E-6	2.61E-6
NHWD	kg	2.41E-2	1.84E-2	2.18E-3	4.46E-2	3.69E-3	2.00E-2	1.57E-2	-8.82E-3	7.52E-2
RWD	kg	1.26E-5	2.01E-6	2.38E-7	1.49E-5	4.05E-7	1.57E-6	2.34E-8	-4.66E-6	1.22E-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