Environmental Profile

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

Ecochain v3.5.64

Product:	3010959 - Ed Tech Branch Reduced HTEA 45° 90x40
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	2.68E-1	2.06E-2	1.76E-2	3.06E-1	3.39E-3	2.40E-1	1.70E-3	-1.59E-1	3.92E-1
GWP-f	kg CO2 eq	3.41E-1	2.06E-2	1.50E-2	3.76E-1	3.39E-3	1.50E-1	1.70E-3	-1.96E-1	3.35E-1
GWP-b	kg CO2 eq	-7.30E-2	1.25E-5	1.27E-3	-7.17E-2	2.06E-6	9.00E-2	1.51E-6	3.73E-2	5.56E-2
GWP-luluc	kg CO2 eq	3.60E-4	7.28E-6	1.27E-3	1.64E-3	1.20E-6	1.91E-5	3.01E-8	-3.28E-4	1.33E-3
ODP	kg CFC11 eq	2.43E-8	4.74E-9	1.51E-9	3.06E-8	7.81E-10	3.02E-9	4.33E-11	-1.18E-8	2.26E-8
AP	mol H+ eq	1.45E-3	1.17E-4	6.06E-5	1.63E-3	1.93E-5	1.26E-4	1.04E-6	-6.71E-4	1.10E-3
EP-fw	kg P eq	8.35E-6	1.69E-7	2.33E-7	8.75E-6	2.79E-8	5.67E-7	1.37E-9	-5.40E-6	3.95E-6
EP-m	kg N eq	2.76E-4	4.19E-5	1.02E-5	3.29E-4	6.91E-6	3.90E-5	8.75E-7	-1.36E-4	2.39E-4
EP-T	mol N eq	3.03E-3	4.62E-4	1.15E-4	3.60E-3	7.61E-5	4.29E-4	4.21E-6	-1.54E-3	2.57E-3
POCP	kg NMVOC eq	1.21E-3	1.32E-4	3.57E-5	1.38E-3	2.18E-5	1.32E-4	1.57E-6	-5.82E-4	9.54E-4
ADP-mm	kg Sb eq	2.68E-5	5.32E-7	3.66E-7	2.77E-5	8.77E-8	4.77E-7	1.05E-9	-2.11E-6	2.62E-5
ADP-f	MJ	1.07E+1	3.16E-1	1.98E-1	1.12E+1	5.20E-2	3.54E-1	3.17E-3	-5.45E+0	6.16E+0
WDP	m3 depriv.	2.19E-1	9.69E-4	6.99E-2	2.90E-1	1.60E-4	6.97E-3	1.74E-5	-1.37E-1	1.60E-1
PM	disease inc.	1.59E-8	1.86E-9	6.07E-10	1.84E-8	3.06E-10	1.94E-9	2.17E-11	-8.42E-9	1.22E-8
IR	kBq U-235 eq	1.16E-2	1.38E-3	1.84E-4	1.32E-2	2.27E-4	1.12E-3	1.47E-5	-5.19E-3	9.33E-3
ETP-fw	CTUe	7.55E+0	2.56E-1	3.12E-1	8.12E+0	4.22E-2	5.10E-1	3.26E-3	-3.76E+0	4.91E+0
HTP-c	CTUh	1.38E-10	9.12E-12	1.66E-11	1.64E-10	1.50E-12	4.94E-11	7.96E-14	-7.46E-11	1.40E-10
HTP-nc	CTUh	3.08E-9	3.06E-10	3.45E-10	3.73E-9	5.04E-11	6.22E-10	1.86E-12	-1.69E-9	2.72E-9
SQP	Pt	8.31E+0	2.70E-1	3.60E-2	8.62E+0	4.45E-2	2.72E-1	8.11E-3	-1.21E+1	-3.13E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.39E+0	4.53E-3	6.84E-1	2.08E+0	7.46E-4	1.67E-2	1.25E-4	-2.06E+0	3.69E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.39E+0	4.53E-3	6.84E-1	2.08E+0	7.46E-4	1.67E-2	1.25E-4	-2.06E+0	3.69E-2
PENRE	MJ	1.15E+1	3.35E-1	2.16E-1	1.20E+1	5.52E-2	3.77E-1	3.36E-3	-5.88E+0	6.57E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.15E+1	3.35E-1	2.16E-1	1.20E+1	5.52E-2	3.77E-1	3.36E-3	-5.88E+0	6.57E+0
PET	MJ	1.29E+1	3.40E-1	9.00E-1	1.41E+1	5.60E-2	3.94E-1	3.49E-3	-7.94E+0	6.61E+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	4.04E-3	3.57E-5	1.66E-3	5.74E-3	5.89E-6	2.65E-4	3.90E-6	-2.73E-3	3.29E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.25E-6	8.07E-7	1.92E-7	4.25E-6	1.33E-7	6.51E-7	3.82E-9	-2.37E-6	2.67E-6
NHWD	kg	2.53E-2	1.96E-2	1.87E-3	4.67E-2	3.22E-3	1.81E-2	1.39E-2	-9.59E-3	7.24E-2
RWD	kg	1.29E-5	2.15E-6	2.05E-7	1.53E-5	3.54E-7	1.45E-6	2.07E-8	-5.05E-6	1.21E-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

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