Environmental Profile

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

Ecochain v3.5.64

Product:	3010791 - Ed Tech Branch Reduced HTEA 45° 50x40
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	1.66E-1	1.17E-2	1.02E-2	1.88E-1	1.99E-3	1.26E-1	1.00E-3	-9.42E-2	2.23E-1
GWP-f	kg CO2 eq	1.95E-1	1.17E-2	8.73E-3	2.16E-1	1.99E-3	8.93E-2	1.00E-3	-1.12E-1	1.96E-1
GWP-b	kg CO2 eq	-2.92E-2	7.12E-6	7.37E-4	-2.85E-2	1.21E-6	3.71E-2	8.92E-7	1.75E-2	2.62E-2
GWP-luluc	kg CO2 eq	1.81E-4	4.15E-6	7.37E-4	9.22E-4	7.05E-7	1.10E-5	1.78E-8	-1.55E-4	7.79E-4
ODP	kg CFC11 eq	1.40E-8	2.70E-9	8.76E-10	1.76E-8	4.59E-10	1.69E-9	2.56E-11	-6.49E-9	1.33E-8
AP	mol H+ eq	8.27E-4	6.68E-5	3.52E-5	9.29E-4	1.13E-5	7.12E-5	6.15E-7	-3.61E-4	6.51E-4
EP-fw	kg P eq	4.60E-6	9.65E-8	1.36E-7	4.83E-6	1.64E-8	3.26E-7	8.12E-10	-2.71E-6	2.47E-6
EP-m	kg N eq	1.53E-4	2.39E-5	5.95E-6	1.83E-4	4.06E-6	2.19E-5	5.22E-7	-7.20E-5	1.37E-4
EP-T	mol N eq	1.68E-3	2.63E-4	6.69E-5	2.02E-3	4.47E-5	2.41E-4	2.48E-6	-8.12E-4	1.49E-3
POCP	kg NMVOC eq	6.88E-4	7.53E-5	2.08E-5	7.84E-4	1.28E-5	7.40E-5	9.27E-7	-3.14E-4	5.58E-4
ADP-mm	kg Sb eq	1.64E-5	3.03E-7	2.13E-7	1.69E-5	5.15E-8	2.69E-7	6.19E-10	-1.20E-6	1.61E-5
ADP-f	MJ	6.20E+0	1.80E-1	1.15E-1	6.50E+0	3.06E-2	2.03E-1	1.87E-3	-3.13E+0	3.60E+0
WDP	m3 depriv.	1.28E-1	5.53E-4	4.07E-2	1.69E-1	9.38E-5	4.06E-3	1.05E-5	-7.38E-2	9.91E-2
PM	disease inc.	8.86E-9	1.06E-9	3.53E-10	1.03E-8	1.80E-10	1.10E-9	1.28E-11	-4.28E-9	7.28E-9
IR	kBq U-235 eq	6.67E-3	7.87E-4	1.07E-4	7.57E-3	1.34E-4	6.35E-4	8.70E-6	-2.69E-3	5.65E-3
ETP-fw	CTUe	3.89E+0	1.46E-1	1.81E-1	4.22E+0	2.48E-2	2.93E-1	1.94E-3	-1.83E+0	2.71E+0
HTP-c	CTUh	7.41E-11	5.20E-12	9.67E-12	8.90E-11	8.83E-13	2.83E-11	4.72E-14	-3.64E-11	8.18E-11
HTP-nc	CTUh	1.73E-9	1.74E-10	2.01E-10	2.11E-9	2.96E-11	3.58E-10	1.11E-12	-8.63E-10	1.63E-9
SQP	Pt	3.57E+0	1.54E-1	2.09E-2	3.74E+0	2.62E-2	1.56E-1	4.78E-3	-5.34E+0	-1.41E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.16E-1	2.58E-3	3.98E-1	1.02E+0	4.39E-4	9.64E-3	7.39E-5	-9.23E-1	1.03E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.16E-1	2.58E-3	3.98E-1	1.02E+0	4.39E-4	9.64E-3	7.39E-5	-9.23E-1	1.03E-1
PENRE	MJ	6.65E+0	1.91E-1	1.25E-1	6.97E+0	3.25E-2	2.16E-1	1.98E-3	-3.38E+0	3.84E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.65E+0	1.91E-1	1.25E-1	6.97E+0	3.25E-2	2.16E-1	1.98E-3	-3.38E+0	3.84E+0
PET	MJ	7.27E+0	1.94E-1	5.23E-1	7.98E+0	3.29E-2	2.25E-1	2.06E-3	-4.30E+0	3.94E+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	2.33E-3	2.04E-5	9.66E-4	3.32E-3	3.46E-6	1.56E-4	2.30E-6	-1.42E-3	2.06E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.77E-6	4.60E-7	1.12E-7	2.35E-6	7.82E-8	3.70E-7	2.26E-9	-1.27E-6	1.52E-6
NHWD	kg	1.37E-2	1.12E-2	1.09E-3	2.59E-2	1.89E-3	1.04E-2	8.21E-3	-4.75E-3	4.17E-2
RWD	kg	7.49E-6	1.22E-6	1.19E-7	8.84E-6	2.08E-7	8.19E-7	1.22E-8	-2.61E-6	7.27E-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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