Environmental Profile

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

Ecochain v3.5.64

Product:	3011037 - Ed Tech PP Reducer Type B HTR 50x90
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	1.26E-1	9.41E-3	8.85E-3	1.44E-1	1.68E-3	1.00E-1	8.24E-4	-7.91E-2	1.68E-1
GWP-f	kg CO2 eq	1.55E-1	9.40E-3	7.58E-3	1.72E-1	1.67E-3	6.58E-2	8.24E-4	-9.08E-2	1.50E-1
GWP-b	kg CO2 eq	-2.91E-2	5.71E-6	6.40E-4	-2.84E-2	1.02E-6	3.46E-2	7.26E-7	1.18E-2	1.80E-2
GWP-luluc	kg CO2 eq	1.31E-4	3.33E-6	6.40E-4	7.74E-4	5.92E-7	9.41E-6	1.46E-8	-1.12E-4	6.72E-4
ODP	kg CFC11 eq	9.02E-9	2.17E-9	7.60E-10	1.19E-8	3.86E-10	1.40E-9	2.09E-11	-4.90E-9	8.86E-9
AP	mol H+ eq	6.40E-4	5.35E-5	3.06E-5	7.24E-4	9.53E-6	5.85E-5	5.02E-7	-2.96E-4	4.96E-4
EP-fw	kg P eq	3.42E-6	7.73E-8	1.18E-7	3.61E-6	1.38E-8	2.77E-7	6.64E-10	-2.06E-6	1.85E-6
EP-m	kg N eq	1.17E-4	1.92E-5	5.16E-6	1.42E-4	3.41E-6	1.78E-5	3.90E-7	-5.85E-5	1.05E-4
EP-T	mol N eq	1.30E-3	2.11E-4	5.80E-5	1.57E-3	3.76E-5	1.96E-4	2.03E-6	-6.59E-4	1.15E-3
POCP	kg NMVOC eq	5.36E-4	6.03E-5	1.80E-5	6.14E-4	1.07E-5	6.06E-5	7.58E-7	-2.61E-4	4.25E-4
ADP-mm	kg Sb eq	9.74E-6	2.43E-7	1.84E-7	1.02E-5	4.33E-8	2.25E-7	5.07E-10	-8.79E-7	9.56E-6
ADP-f	MJ	5.01E+0	1.44E-1	9.97E-2	5.25E+0	2.57E-2	1.71E-1	1.53E-3	-2.62E+0	2.83E+0
WDP	m3 depriv.	1.02E-1	4.43E-4	3.53E-2	1.38E-1	7.88E-5	3.36E-3	8.91E-6	-5.89E-2	8.27E-2
PM	disease inc.	6.71E-9	8.48E-10	3.06E-10	7.86E-9	1.51E-10	9.20E-10	1.05E-11	-3.43E-9	5.51E-9
IR	kBq U-235 eq	4.65E-3	6.31E-4	9.30E-5	5.37E-3	1.12E-4	5.33E-4	7.09E-6	-2.10E-3	3.93E-3
ETP-fw	CTUe	2.72E+0	1.17E-1	1.57E-1	3.00E+0	2.09E-2	2.29E-1	1.48E-3	-1.33E+0	1.92E+0
HTP-c	CTUh	5.85E-11	4.17E-12	8.39E-12	7.11E-11	7.42E-13	2.41E-11	3.86E-14	-3.05E-11	6.54E-11
HTP-nc	CTUh	1.33E-9	1.40E-10	1.74E-10	1.64E-9	2.49E-11	2.97E-10	8.78E-13	-6.85E-10	1.28E-9
SQP	Pt	3.22E+0	1.23E-1	1.82E-2	3.36E+0	2.20E-2	1.33E-1	3.91E-3	-4.29E+0	-7.72E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.40E-1	2.07E-3	3.45E-1	8.87E-1	3.69E-4	8.18E-3	5.96E-5	-7.30E-1	1.66E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.40E-1	2.07E-3	3.45E-1	8.87E-1	3.69E-4	8.18E-3	5.96E-5	-7.30E-1	1.66E-1
PENRE	MJ	5.37E+0	1.53E-1	1.09E-1	5.63E+0	2.73E-2	1.82E-1	1.62E-3	-2.82E+0	3.02E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.37E+0	1.53E-1	1.09E-1	5.63E+0	2.73E-2	1.82E-1	1.62E-3	-2.82E+0	3.02E+0
PET	MJ	5.91E+0	1.55E-1	4.54E-1	6.52E+0	2.76E-2	1.90E-1	1.68E-3	-3.55E+0	3.19E+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	1.80E-3	1.63E-5	8.38E-4	2.65E-3	2.91E-6	1.19E-4	1.88E-6	-1.10E-3	1.68E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.31E-6	3.69E-7	9.69E-8	1.78E-6	6.57E-8	3.03E-7	1.85E-9	-9.88E-7	1.16E-6
NHWD	kg	1.04E-2	8.94E-3	9.44E-4	2.03E-2	1.59E-3	8.64E-3	6.71E-3	-3.95E-3	3.33E-2
RWD	kg	5.00E-6	9.81E-7	1.03E-7	6.09E-6	1.75E-7	6.86E-7	9.96E-9	-2.02E-6	4.94E-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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