

# Environmental Profile

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

Ecochain v3.5.64



Product: 3010789 - Ed Tech Branch Reduced HTEA 45° 40x32  
 Unit: 1 piece  
 Manufacturer: Wavin - IT - SM Maddalena

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



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.

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

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# Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.13E-1	7.23E-3	6.60E-3	1.26E-1	1.31E-3	7.88E-2	6.61E-4	-6.20E-2	1.45E-1
GWP-f	kg CO2 eq	1.27E-1	7.23E-3	5.65E-3	1.40E-1	1.31E-3	5.96E-2	6.61E-4	-7.22E-2	1.29E-1
GWP-b	kg CO2 eq	-1.46E-2	4.39E-6	4.77E-4	-1.41E-2	7.93E-7	1.93E-2	5.89E-7	1.03E-2	1.55E-2
GWP-luluc	kg CO2 eq	1.10E-4	2.56E-6	4.77E-4	5.90E-4	4.62E-7	7.17E-6	1.16E-8	-9.16E-5	5.06E-4
ODP	kg CFC11 eq	9.19E-9	1.67E-9	5.67E-10	1.14E-8	3.01E-10	1.09E-9	1.68E-11	-4.16E-9	8.67E-9
AP	mol H+ eq	5.35E-4	4.12E-5	2.28E-5	5.99E-4	7.44E-6	4.59E-5	4.04E-7	-2.27E-4	4.26E-4
EP-fw	kg P eq	2.93E-6	5.95E-8	8.78E-8	3.08E-6	1.07E-8	2.12E-7	5.32E-10	-1.64E-6	1.66E-6
EP-m	kg N eq	9.76E-5	1.47E-5	3.85E-6	1.16E-4	2.66E-6	1.41E-5	3.48E-7	-4.49E-5	8.84E-5
EP-T	mol N eq	1.08E-3	1.62E-4	4.33E-5	1.28E-3	2.93E-5	1.55E-4	1.64E-6	-5.05E-4	9.64E-4
POCP	kg NMVOC eq	4.46E-4	4.64E-5	1.34E-5	5.06E-4	8.39E-6	4.77E-5	6.10E-7	-1.98E-4	3.65E-4
ADP-mm	kg Sb eq	1.12E-5	1.87E-7	1.38E-7	1.15E-5	3.38E-8	1.73E-7	4.07E-10	-7.85E-7	1.09E-5
ADP-f	MJ	4.08E+0	1.11E-1	7.44E-2	4.26E+0	2.00E-2	1.31E-1	1.23E-3	-2.04E+0	2.38E+0
WDP	m3 depriv.	8.34E-2	3.40E-4	2.63E-2	1.10E-1	6.15E-5	2.66E-3	6.60E-6	-4.64E-2	6.64E-2
PM	disease inc.	5.68E-9	6.52E-10	2.28E-10	6.56E-9	1.18E-10	7.07E-10	8.45E-12	-2.61E-9	4.78E-9
IR	kBq U-235 eq	4.39E-3	4.85E-4	6.94E-5	4.94E-3	8.76E-5	4.09E-4	5.74E-6	-1.67E-3	3.78E-3
ETP-fw	CTUe	2.40E+0	9.01E-2	1.17E-1	2.60E+0	1.63E-2	1.91E-1	1.29E-3	-1.09E+0	1.72E+0
HTP-c	CTUh	4.61E-11	3.21E-12	6.26E-12	5.56E-11	5.79E-13	1.81E-11	3.08E-14	-2.15E-11	5.27E-11
HTP-nc	CTUh	1.11E-9	1.07E-10	1.30E-10	1.34E-9	1.94E-11	2.32E-10	7.29E-13	-5.28E-10	1.07E-9
SQP	Pt	1.91E+0	9.49E-2	1.35E-2	2.02E+0	1.72E-2	1.01E-1	3.15E-3	-2.97E+0	-8.26E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.40E-1	1.59E-3	2.57E-1	5.99E-1	2.88E-4	6.26E-3	4.89E-5	-5.19E-1	8.63E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.40E-1	1.59E-3	2.57E-1	5.99E-1	2.88E-4	6.26E-3	4.89E-5	-5.19E-1	8.63E-2
PENRE	MJ	4.37E+0	1.18E-1	8.11E-2	4.57E+0	2.13E-2	1.40E-1	1.31E-3	-2.20E+0	2.53E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.37E+0	1.18E-1	8.11E-2	4.57E+0	2.13E-2	1.40E-1	1.31E-3	-2.20E+0	2.53E+0
PET	MJ	4.71E+0	1.19E-1	3.38E-1	5.17E+0	2.16E-2	1.46E-1	1.35E-3	-2.71E+0	2.62E+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	1.52E-3	1.26E-5	6.25E-4	2.16E-3	2.27E-6	1.03E-4	1.52E-6	-8.81E-4	1.38E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.12E-6	2.84E-7	7.23E-8	1.47E-6	5.13E-8	2.39E-7	1.48E-9	-8.04E-7	9.61E-7
NHWD	kg	8.56E-3	6.87E-3	7.04E-4	1.61E-2	1.24E-3	6.77E-3	5.41E-3	-2.84E-3	2.67E-2
RWD	kg	4.96E-6	7.54E-7	7.71E-8	5.79E-6	1.36E-7	5.26E-7	8.04E-9	-1.61E-6	4.84E-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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