Environmental Profile

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

Ecochain v4.3.1

Product:	3050496 - PPr Pipe WT 25 PN16 L=4
Unit:	1 piece
Manufacturer:	Wavin - TR - Adana
Location:	Güzelevler Mahallesi
Address:	Girne Bulvarı 294 01321 Adana Turkey

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	04-10-2022
End of validity:	04-10-2027
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 - TR - Adana (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 EN15804+A2 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF EN15804+A2 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-f** = EF Resource use, fossils [MJ]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **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	1.84E+0	1.33E-1	2.74E-2	2.00E+0	4.67E-2	1.42E+0	2.20E-2	-1.11E+0	2.39E+0
GWP-f	kg CO2 eq	1.84E+0	1.33E-1	2.55E-2	2.00E+0	4.67E-2	1.42E+0	2.20E-2	-1.10E+0	2.38E+0
GWP-b	kg CO2 eq	7.15E-3	-3.12E-5	1.89E-3	9.01E-3	2.84E-5	-1.87E-3	1.92E-5	-3.80E-3	3.39E-3
GWP-luluc	kg CO2 eq	6.40E-4	8.78E-5	1.42E-5	7.42E-4	1.65E-5	2.63E-4	3.73E-7	-2.10E-4	8.11E-4
ODP	kg CFC11 eq	3.47E-8	2.69E-8	2.63E-9	6.42E-8	1.08E-8	3.42E-8	5.52E-10	-4.20E-8	6.78E-8
AP	mol H+ eq	7.12E-3	3.99E-3	1.72E-4	1.13E-2	2.66E-4	1.44E-3	1.32E-5	-3.06E-3	9.94E-3
EP-fw	kg P eq	2.84E-5	6.10E-7	2.95E-6	3.19E-5	3.84E-7	7.58E-6	1.71E-8	-1.20E-5	2.80E-5
EP-m	kg N eq	1.11E-3	9.88E-4	9.24E-5	2.19E-3	9.52E-5	4.20E-4	8.58E-6	-5.42E-4	2.17E-3
EP-T	mol N eq	1.24E-2	1.10E-2	5.13E-4	2.39E-2	1.05E-3	4.63E-3	5.35E-5	-6.00E-3	2.36E-2
POCP	kg NMVOC eq	5.74E-3	2.85E-3	1.59E-4	8.75E-3	3.00E-4	1.46E-3	2.01E-5	-2.77E-3	7.77E-3
ADP-f	MJ	6.48E+1	1.72E+0	2.74E-1	6.68E+1	7.17E-1	4.56E+0	4.03E-2	-3.45E+1	3.77E+1
ADP-mm	kg Sb eq	2.41E-5	1.20E-6	1.44E-6	2.68E-5	1.21E-6	5.69E-6	1.33E-8	-7.19E-6	2.65E-5
WDP	m3 depriv.	1.31E+0	2.88E-3	1.04E-1	1.42E+0	2.20E-3	8.94E-2	2.00E-4	-5.93E-1	9.17E-1
PM	disease inc.	5.84E-8	4.78E-9	2.97E-9	6.61E-8	4.22E-9	2.37E-8	2.77E-10	-2.55E-8	6.88E-8
IR	kBq U-235 eq	3.44E-2	7.37E-3	8.96E-4	4.27E-2	3.13E-3	1.37E-2	1.87E-4	-1.60E-2	4.38E-2
ETP-fw	CTUe	1.03E+1	1.15E+0	1.67E+0	1.32E+1	5.82E-1	5.15E+0	3.37E-2	-4.25E+0	1.47E+1
HTP-c	CTUh	5.21E-10	7.36E-11	6.98E-11	6.64E-10	2.07E-11	6.25E-10	9.82E-13	-1.82E-10	1.13E-9
HTP-nc	CTUh	1.24E-8	9.70E-10	1.38E-9	1.48E-8	6.94E-10	7.70E-9	2.17E-11	-5.13E-9	1.81E-8
SQP	Pt	2.61E+0	3.60E-1	2.79E-1	3.25E+0	6.13E-1	3.64E+0	1.03E-1	-9.25E-1	6.68E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.90E-1	1.25E-2	3.08E+0	4.09E+0	1.03E-2	2.25E-1	1.56E-3	-4.25E-1	3.90E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	9.90E-1	1.25E-2	3.08E+0	4.09E+0	1.03E-2	2.25E-1	1.56E-3	-4.25E-1	3.90E+0
PENRE	MJ	6.96E+1	1.83E+0	2.91E-1	7.17E+1	7.61E-1	4.86E+0	4.28E-2	-3.72E+1	4.02E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.96E+1	1.83E+0	2.91E-1	7.17E+1	7.61E-1	4.86E+0	4.28E-2	-3.72E+1	4.02E+1
PET	MJ	7.06E+1	1.84E+0	3.37E+0	7.58E+1	7.71E-1	5.08E+0	4.43E-2	-3.76E+1	4.41E+1
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	2.02E-2	1.02E-4	2.46E-3	2.27E-2	8.11E-5	2.64E-3	4.97E-5	-8.88E-3	1.66E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.77E-6	1.87E-6	1.54E-6	1.22E-5	1.83E-6	7.42E-6	4.85E-8	-8.24E-6	1.33E-5
NHWD	kg	9.86E-2	1.46E-2	2.38E-2	1.37E-1	4.44E-2	2.26E-1	1.78E-1	-2.64E-2	5.59E-1
RWD	kg	3.01E-5	1.19E-5	1.19E-6	4.32E-5	4.87E-6	1.74E-5	2.63E-7	-1.44E-5	5.13E-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	7.37E-1	7.37E-1	0	0	0	0	7.37E-1
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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