Environmental Profile

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

Ecochain v4.3.1

Product:	3051000 - PPr Tee WT 50
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

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	4.10E-1	2.91E-2	1.10E-2	4.50E-1	9.33E-3	3.36E-1	4.39E-3	-2.22E-1	5.79E-1
GWP-f	kg CO2 eq	4.09E-1	2.91E-2	1.06E-2	4.49E-1	9.32E-3	3.19E-1	4.39E-3	-2.41E-1	5.40E-1
GWP-b	kg CO2 eq	1.05E-3	-4.80E-6	3.71E-4	1.41E-3	5.66E-6	1.72E-2	3.82E-6	1.94E-2	3.81E-2
GWP-luluc	kg CO2 eq	3.77E-4	1.84E-5	6.47E-6	4.02E-4	3.30E-6	5.37E-5	7.58E-8	-1.83E-4	2.76E-4
ODP	kg CFC11 eq	1.11E-8	5.95E-9	8.51E-10	1.79E-8	2.15E-9	7.47E-9	1.10E-10	-1.09E-8	1.68E-8
AP	mol H+ eq	1.77E-3	8.03E-4	6.75E-5	2.64E-3	5.31E-5	3.12E-4	2.63E-6	-7.13E-4	2.30E-3
EP-fw	kg P eq	7.95E-6	1.49E-7	8.48E-7	8.94E-6	7.67E-8	1.56E-6	3.46E-9	-4.15E-6	6.43E-6
EP-m	kg N eq	2.81E-4	2.01E-4	2.35E-5	5.05E-4	1.90E-5	9.32E-5	1.70E-6	-1.33E-4	4.86E-4
EP-T	mol N eq	3.05E-3	2.23E-3	1.59E-4	5.44E-3	2.09E-4	1.03E-3	1.07E-5	-1.48E-3	5.21E-3
POCP	kg NMVOC eq	1.32E-3	5.80E-4	5.20E-5	1.95E-3	5.98E-5	3.22E-4	4.01E-6	-6.24E-4	1.71E-3
ADP-f	MJ	1.37E+1	3.84E-1	1.05E-1	1.42E+1	1.43E-1	9.53E-1	8.05E-3	-7.25E+0	8.04E+0
ADP-mm	kg Sb eq	5.30E-6	3.11E-7	8.42E-7	6.45E-6	2.41E-7	1.23E-6	2.66E-9	-1.57E-6	6.35E-6
WDP	m3 depriv.	2.90E-1	7.24E-4	2.19E-2	3.13E-1	4.39E-4	1.82E-2	4.45E-5	-1.48E-1	1.84E-1
PM	disease inc.	1.45E-8	1.20E-9	9.27E-10	1.66E-8	8.41E-10	5.08E-9	5.54E-11	-7.02E-9	1.55E-8
IR	kBq U-235 eq	8.69E-3	1.64E-3	3.16E-4	1.06E-2	6.25E-4	2.93E-3	3.73E-5	-4.48E-3	9.75E-3
ETP-fw	CTUe	5.07E+0	2.67E-1	5.70E-1	5.91E+0	1.16E-1	1.11E+0	6.74E-3	-2.39E+0	4.76E+0
HTP-c	CTUh	1.46E-10	1.58E-11	3.47E-11	1.97E-10	4.13E-12	1.37E-10	2.00E-13	-4.87E-11	2.89E-10
HTP-nc	CTUh	3.18E-9	2.34E-10	6.12E-10	4.03E-9	1.38E-10	1.64E-9	4.35E-12	-1.43E-9	4.38E-9
SQP	Pt	1.49E+0	1.09E-1	1.41E-1	1.74E+0	1.22E-1	7.53E-1	2.06E-2	-3.80E+0	-1.17E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.01E-1	2.97E-3	1.92E+0	2.32E+0	2.05E-3	4.62E-2	3.10E-4	-7.41E-1	1.63E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.01E-1	2.97E-3	1.92E+0	2.32E+0	2.05E-3	4.62E-2	3.10E-4	-7.41E-1	1.63E+0
PENRE	MJ	1.47E+1	4.08E-1	1.12E-1	1.52E+1	1.52E-1	1.02E+0	8.54E-3	-7.81E+0	8.58E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.47E+1	4.08E-1	1.12E-1	1.52E+1	1.52E-1	1.02E+0	8.54E-3	-7.81E+0	8.58E+0
PET	MJ	1.51E+1	4.11E-1	2.03E+0	1.75E+1	1.54E-1	1.06E+0	8.85E-3	-8.55E+0	1.02E+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	4.83E-3	2.53E-5	5.25E-4	5.38E-3	1.62E-5	5.48E-4	9.91E-6	-2.54E-3	3.42E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.99E-6	4.84E-7	6.78E-7	4.15E-6	3.66E-7	1.60E-6	9.74E-9	-2.09E-6	4.04E-6
NHWD	kg	3.13E-2	5.62E-3	1.26E-2	4.95E-2	8.87E-3	4.84E-2	3.54E-2	-6.93E-3	1.35E-1
RWD	kg	7.84E-6	2.64E-6	3.87E-7	1.09E-5	9.73E-7	3.74E-6	5.25E-8	-4.13E-6	1.15E-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	4.59E-1	4.59E-1	0	0	0	0	4.59E-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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