Environmental Profile

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

Ecochain v4.3.1

Product:	3040182 - PPr Tee GY 63
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	7.09E-1	5.12E-2	2.00E-2	7.80E-1	1.67E-2	5.86E-1	7.86E-3	-3.92E-1	9.98E-1
GWP-f	kg CO2 eq	7.06E-1	5.12E-2	1.93E-2	7.77E-1	1.67E-2	5.56E-1	7.87E-3	-4.26E-1	9.31E-1
GWP-b	kg CO2 eq	2.43E-3	-9.04E-6	6.74E-4	3.09E-3	1.01E-5	3.02E-2	6.84E-6	3.39E-2	6.72E-2
GWP-luluc	kg CO2 eq	3.96E-4	3.25E-5	1.18E-5	4.40E-4	5.91E-6	9.60E-5	1.36E-7	-3.21E-4	2.21E-4
ODP	kg CFC11 eq	1.72E-8	1.04E-8	1.55E-9	2.92E-8	3.85E-9	1.33E-8	1.97E-10	-1.89E-8	2.77E-8
AP	mol H+ eq	2.64E-3	1.43E-3	1.23E-4	4.19E-3	9.51E-5	5.56E-4	4.72E-6	-1.27E-3	3.58E-3
EP-fw	kg P eq	1.28E-5	2.57E-7	1.54E-6	1.46E-5	1.37E-7	2.79E-6	6.20E-9	-7.35E-6	1.02E-5
EP-m	kg N eq	4.68E-4	3.57E-4	4.27E-5	8.68E-4	3.40E-5	1.66E-4	3.05E-6	-2.35E-4	8.35E-4
EP-T	mol N eq	5.20E-3	3.97E-3	2.90E-4	9.46E-3	3.75E-4	1.82E-3	1.91E-5	-2.62E-3	9.06E-3
POCP	kg NMVOC eq	2.23E-3	1.03E-3	9.44E-5	3.36E-3	1.07E-4	5.73E-4	7.18E-6	-1.11E-3	2.94E-3
ADP-f	MJ	2.40E+1	6.73E-1	1.91E-1	2.49E+1	2.56E-1	1.70E+0	1.44E-2	-1.29E+1	1.40E+1
ADP-mm	kg Sb eq	1.09E-5	5.34E-7	1.53E-6	1.30E-5	4.32E-7	2.19E-6	4.77E-9	-2.81E-6	1.28E-5
WDP	m3 depriv.	4.89E-1	1.25E-3	3.98E-2	5.30E-1	7.86E-4	3.26E-2	7.94E-5	-2.63E-1	3.00E-1
PM	disease inc.	2.41E-8	2.07E-9	1.68E-9	2.78E-8	1.51E-9	9.06E-9	9.91E-11	-1.25E-8	2.60E-8
IR	kBq U-235 eq	1.41E-2	2.87E-3	5.74E-4	1.76E-2	1.12E-3	5.23E-3	6.67E-5	-7.95E-3	1.60E-2
ETP-fw	CTUe	8.38E+0	4.65E-1	1.04E+0	9.88E+0	2.08E-1	1.98E+0	1.21E-2	-4.20E+0	7.88E+0
HTP-c	CTUh	1.80E-10	2.79E-11	6.30E-11	2.71E-10	7.40E-12	2.43E-10	3.57E-13	-8.64E-11	4.36E-10
HTP-nc	CTUh	4.99E-9	4.06E-10	1.11E-9	6.51E-9	2.48E-10	2.92E-9	7.80E-12	-2.54E-9	7.14E-9
SQP	Pt	2.40E+0	1.82E-1	2.56E-1	2.84E+0	2.19E-1	1.35E+0	3.70E-2	-6.66E+0	-2.22E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.62E-1	5.16E-3	3.48E+0	4.15E+0	3.68E-3	8.26E-2	5.55E-4	-1.30E+0	2.93E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.62E-1	5.16E-3	3.48E+0	4.15E+0	3.68E-3	8.26E-2	5.55E-4	-1.30E+0	2.93E+0
PENRE	MJ	2.58E+1	7.15E-1	2.03E-1	2.67E+1	2.72E-1	1.81E+0	1.53E-2	-1.39E+1	1.49E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.58E+1	7.15E-1	2.03E-1	2.67E+1	2.72E-1	1.81E+0	1.53E-2	-1.39E+1	1.49E+1
PET	MJ	2.64E+1	7.20E-1	3.68E+0	3.08E+1	2.76E-1	1.90E+0	1.59E-2	-1.52E+1	1.78E+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	7.87E-3	4.36E-5	9.53E-4	8.87E-3	2.90E-5	9.78E-4	1.77E-5	-4.51E-3	5.38E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.74E-6	8.30E-7	1.23E-6	5.80E-6	6.55E-7	2.85E-6	1.74E-8	-3.64E-6	5.69E-6
NHWD	kg	3.50E-2	9.18E-3	2.28E-2	6.70E-2	1.59E-2	8.59E-2	6.35E-2	-1.23E-2	2.20E-1
RWD	kg	1.25E-5	4.63E-6	7.03E-7	1.78E-5	1.74E-6	6.68E-6	9.40E-8	-7.31E-6	1.90E-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	8.33E-1	8.33E-1	0	0	0	0	8.33E-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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