

Environmental Profile

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

Ecochain v4.3.1



Product: 3040127 - PPr Elbow 90°GY 20
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					Use stage							End-of-Life stage				
A1 Raw material supply A2 Transport A3 Manufacturing					B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment B6 Operational energy use B7 Operational water use							C1 De-construction demolition C2 Transport C3 Waste processing C4 Disposal				
Construction process stage												Benefits and loads beyond the system boundaries				
A4 Transport gate to site A5 Assembly / Construction installation process												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]; **PENRT** = 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]

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	4.41E-2	2.81E-3	9.47E-4	4.79E-2	8.43E-4	4.36E-2	3.96E-4	-2.41E-2	6.86E-2
GWP-f	kg CO2 eq	4.42E-2	2.80E-3	9.15E-4	4.79E-2	8.42E-4	4.20E-2	3.96E-4	-2.59E-2	6.53E-2
GWP-b	kg CO2 eq	-8.85E-5	-2.91E-7	3.20E-5	-5.68E-5	5.11E-7	1.62E-3	3.42E-7	1.82E-3	3.38E-3
GWP-luluc	kg CO2 eq	2.80E-5	1.69E-6	5.58E-7	3.03E-5	2.98E-7	4.96E-6	7.21E-9	-1.72E-5	1.83E-5
ODP	kg CFC11 eq	1.26E-9	5.78E-10	7.34E-11	1.91E-9	1.94E-10	7.11E-10	9.99E-12	-1.40E-9	1.43E-9
AP	mol H+ eq	1.77E-4	7.12E-5	5.82E-6	2.54E-4	4.80E-6	3.04E-5	2.40E-7	-6.83E-5	2.21E-4
EP-fw	kg P eq	9.48E-7	1.56E-8	7.31E-8	1.04E-6	6.93E-9	1.45E-7	3.24E-10	-3.90E-7	7.99E-7
EP-m	kg N eq	3.11E-5	1.79E-5	2.03E-6	5.11E-5	1.72E-6	9.34E-6	1.52E-7	-1.31E-5	4.92E-5
EP-T	mol N eq	3.49E-4	1.99E-4	1.37E-5	5.63E-4	1.89E-5	1.03E-4	9.70E-7	-1.46E-4	5.40E-4
POCP	kg NMVOC eq	1.47E-4	5.21E-5	4.48E-6	2.03E-4	5.41E-6	3.19E-5	3.64E-7	-6.06E-5	1.80E-4
ADP-f	MJ	1.41E+0	3.75E-2	9.08E-3	1.45E+0	1.29E-2	8.90E-2	7.31E-4	-7.27E-1	8.27E-1
ADP-mm	kg Sb eq	7.84E-7	3.41E-8	7.26E-8	8.90E-7	2.18E-8	1.15E-7	2.46E-10	-1.45E-7	8.82E-7
WDP	m3 depriv.	3.11E-2	7.76E-5	1.89E-3	3.30E-2	3.97E-5	1.69E-3	5.26E-6	-1.38E-2	2.10E-2
PM	disease inc.	1.57E-9	1.29E-10	7.99E-11	1.78E-9	7.60E-11	4.83E-10	5.02E-12	-6.55E-10	1.69E-9
IR	kBq U-235 eq	9.62E-4	1.60E-4	2.73E-5	1.15E-3	5.65E-5	2.75E-4	3.36E-6	-4.33E-4	1.05E-3
ETP-fw	CTUe	5.78E-1	2.69E-2	4.92E-2	6.55E-1	1.05E-2	1.06E-1	6.11E-4	-2.27E-1	5.45E-1
HTP-c	CTUh	1.25E-11	1.49E-12	2.99E-12	1.70E-11	3.74E-13	1.48E-11	1.90E-14	-4.75E-12	2.75E-11
HTP-nc	CTUh	3.43E-10	2.45E-11	5.28E-11	4.20E-10	1.25E-11	1.65E-10	4.01E-13	-1.36E-10	4.63E-10
SQP	Pt	1.65E-1	1.30E-2	1.21E-2	1.90E-1	1.11E-2	7.03E-2	1.87E-3	-3.58E-1	-8.44E-2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.39E-2	3.06E-4	1.65E-1	2.09E-1	1.85E-4	4.28E-3	2.74E-5	-6.95E-2	1.44E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.39E-2	3.06E-4	1.65E-1	2.09E-1	1.85E-4	4.28E-3	2.74E-5	-6.95E-2	1.44E-1
PENRE	MJ	1.51E+0	3.98E-2	9.66E-3	1.56E+0	1.37E-2	9.48E-2	7.75E-4	-7.86E-1	8.80E-1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.51E+0	3.98E-2	9.66E-3	1.56E+0	1.37E-2	9.48E-2	7.75E-4	-7.86E-1	8.80E-1
PET	MJ	1.55E+0	4.01E-2	1.75E-1	1.77E+0	1.39E-2	9.90E-2	8.03E-4	-8.55E-1	1.02E+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	5.56E-4	2.69E-6	4.53E-5	6.04E-4	1.46E-6	5.26E-5	8.93E-7	-2.39E-4	4.20E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.57E-7	5.28E-8	5.85E-8	3.69E-7	3.31E-8	1.53E-7	8.94E-10	-2.70E-7	2.86E-7
NHWD	kg	2.62E-3	7.45E-4	1.08E-3	4.45E-3	8.01E-4	5.07E-3	3.20E-3	-6.63E-4	1.29E-2
RWD	kg	8.39E-7	2.57E-7	3.34E-8	1.13E-6	8.79E-8	3.52E-7	4.75E-9	-4.07E-7	1.17E-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	3.95E-2	3.95E-2	0	0	0	0	3.95E-2
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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