Environmental Profile

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

Ecochain v3.5.80

Product:	3022990 - EK PPR Pipe GY 25x4,2 PN20 L=4
Unit:	1 piece
Manufacturer:	Wavin - CZ - Horni Pocernice
Location:	Czechia
Address:	Do Čertous 2659 193 00 Horní Počernice Czech Republic

Use the Ekoplastik System when you prefer an all-plastic welded system or when you need pipes with larger diameters. The Ekoplastik system offers a maximum pipe diameter of 250 mm. Join pipes and fittings using a homogenous weld for secure and permanent connections.

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 - CZ - Horni Pocernice (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-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

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.23E+0	2.47E-1	3.43E-2	2.51E+0	2.86E-2	8.61E-1	1.35E-2	-1.35E+0	2.07E+0
GWP-f	kg CO2 eq	2.22E+0	2.47E-1	2.79E-2	2.50E+0	2.86E-2	8.62E-1	1.35E-2	-1.34E+0	2.06E+0
GWP-b	kg CO2 eq	9.06E-3	1.50E-4	5.86E-3	1.51E-2	1.74E-5	-1.15E-3	1.17E-5	-4.66E-3	9.30E-3
GWP-luluc	kg CO2 eq	6.09E-4	8.73E-5	5.60E-4	1.26E-3	1.01E-5	1.61E-4	2.32E-7	-2.58E-4	1.17E-3
ODP	kg CFC11 eq	4.20E-8	5.68E-8	3.50E-8	1.34E-7	6.59E-9	2.10E-8	3.38E-10	-5.07E-8	1.11E-7
AP	mol H+ eq	8.05E-3	1.41E-3	3.08E-4	9.76E-3	1.63E-4	8.82E-4	8.08E-6	-3.74E-3	7.07E-3
EP-fw	kg P eq	3.35E-5	2.03E-6	1.40E-6	3.70E-5	2.35E-7	4.64E-6	1.06E-8	-1.47E-5	2.72E-5
EP-m	kg N eq	1.33E-3	5.03E-4	5.94E-5	1.89E-3	5.83E-5	2.57E-4	5.23E-6	-6.63E-4	1.55E-3
EP-T	mol N eq	1.52E-2	5.54E-3	6.97E-4	2.14E-2	6.43E-4	2.83E-3	3.28E-5	-7.33E-3	1.76E-2
POCP	kg NMVOC eq	6.87E-3	1.58E-3	1.54E-4	8.61E-3	1.84E-4	8.94E-4	1.23E-5	-3.38E-3	6.32E-3
ADP-mm	kg Sb eq	3.78E-5	6.38E-6	2.70E-6	4.69E-5	7.40E-7	3.49E-6	8.17E-9	-8.80E-6	4.23E-5
ADP-f	MJ	7.83E+1	3.79E+0	8.97E+0	9.10E+1	4.39E-1	2.79E+0	2.47E-2	-4.22E+1	5.21E+1
WDP	m3 depriv.	1.56E+0	1.16E-2	1.43E-1	1.72E+0	1.35E-3	5.47E-2	1.34E-4	-7.27E-1	1.05E+0
PM	disease inc.	7.02E-8	2.23E-8	2.26E-9	9.47E-8	2.58E-9	1.45E-8	1.70E-10	-3.12E-8	8.08E-8
IR	kBq U-235 eq	4.07E-2	1.66E-2	1.06E-1	1.63E-1	1.92E-3	8.42E-3	1.14E-4	-1.95E-2	1.54E-1
ETP-fw	CTUe	1.25E+1	3.07E+0	3.07E+0	1.87E+1	3.57E-1	3.15E+0	2.07E-2	-5.19E+0	1.70E+1
HTP-c	CTUh	5.45E-10	1.09E-10	5.83E-11	7.12E-10	1.27E-11	3.89E-10	6.11E-13	-2.22E-10	8.92E-10
HTP-nc	CTUh	1.48E-8	3.67E-9	1.99E-9	2.05E-8	4.25E-10	4.73E-9	1.34E-11	-6.28E-9	1.94E-8
SQP	Pt	3.15E+0	3.24E+0	2.45E+0	8.84E+0	3.76E-1	2.23E+0	6.34E-2	-1.13E+0	1.04E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.16E+0	5.43E-2	1.28E+0	2.49E+0	6.30E-3	1.38E-1	9.52E-4	-5.21E-1	2.12E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.16E+0	5.43E-2	1.28E+0	2.49E+0	6.30E-3	1.38E-1	9.52E-4	-5.21E-1	2.12E+0
PENRE	MJ	8.40E+1	4.02E+0	8.99E+0	9.70E+1	4.66E-1	2.98E+0	2.62E-2	-4.55E+1	5.50E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.40E+1	4.02E+0	8.99E+0	9.70E+1	4.66E-1	2.98E+0	2.62E-2	-4.55E+1	5.50E+1
PET	MJ	8.52E+1	4.07E+0	1.03E+1	9.95E+1	4.73E-1	3.11E+0	2.72E-2	-4.60E+1	5.71E+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	2.38E-2	4.28E-4	4.72E-3	2.90E-2	4.97E-5	1.61E-3	3.04E-5	-1.09E-2	1.98E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.06E-5	9.68E-6	7.37E-8	2.04E-5	1.12E-6	4.55E-6	2.99E-8	-9.96E-6	1.61E-5
NHWD	kg	9.66E-2	2.35E-1	4.17E-4	3.32E-1	2.72E-2	1.38E-1	1.09E-1	-3.23E-2	5.74E-1
RWD	kg	3.53E-5	2.58E-5	9.97E-8	6.11E-5	2.99E-6	1.07E-5	1.61E-7	-1.76E-5	5.74E-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	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

Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
https://www.ecochain.com
+31 20 3035 777