Environmental Profile

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

Ecochain v3.5.80

Product:	3022989 - EK PPR Pipe GY 20x3,4 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	1.41E+0	1.55E-1	2.22E-2	1.59E+0	1.81E-2	5.44E-1	8.53E-3	-8.52E-1	1.31E+0
GWP-f	kg CO2 eq	1.40E+0	1.54E-1	1.80E-2	1.58E+0	1.81E-2	5.45E-1	8.54E-3	-8.49E-1	1.30E+0
GWP-b	kg CO2 eq	5.77E-3	8.87E-5	3.79E-3	9.64E-3	1.10E-5	-7.26E-4	7.42E-6	-2.95E-3	5.99E-3
GWP-luluc	kg CO2 eq	3.85E-4	5.63E-5	3.62E-4	8.04E-4	6.41E-6	1.02E-4	1.47E-7	-1.63E-4	7.49E-4
ODP	kg CFC11 eq	2.66E-8	3.54E-8	2.26E-8	8.46E-8	4.17E-9	1.33E-8	2.14E-10	-3.20E-8	7.02E-8
AP	mol H+ eq	5.09E-3	1.04E-3	1.99E-4	6.33E-3	1.03E-4	5.58E-4	5.12E-6	-2.37E-3	4.63E-3
EP-fw	kg P eq	2.12E-5	1.24E-6	9.03E-7	2.33E-5	1.49E-7	2.94E-6	6.72E-9	-9.27E-6	1.72E-5
EP-m	kg N eq	8.39E-4	3.52E-4	3.84E-5	1.23E-3	3.69E-5	1.63E-4	3.31E-6	-4.19E-4	1.01E-3
EP-T	mol N eq	9.59E-3	3.88E-3	4.51E-4	1.39E-2	4.07E-4	1.79E-3	2.08E-5	-4.64E-3	1.15E-2
POCP	kg NMVOC eq	4.35E-3	1.10E-3	9.95E-5	5.54E-3	1.16E-4	5.66E-4	7.79E-6	-2.14E-3	4.09E-3
ADP-mm	kg Sb eq	2.41E-5	3.88E-6	1.75E-6	2.97E-5	4.69E-7	2.21E-6	5.17E-9	-5.57E-6	2.69E-5
ADP-f	MJ	4.95E+1	2.36E+0	5.80E+0	5.77E+1	2.78E-1	1.77E+0	1.56E-2	-2.67E+1	3.30E+1
WDP	m3 depriv.	9.89E-1	7.09E-3	9.23E-2	1.09E+0	8.53E-4	3.46E-2	8.50E-5	-4.60E-1	6.64E-1
PM	disease inc.	4.44E-8	1.36E-8	1.46E-9	5.95E-8	1.63E-9	9.18E-9	1.08E-10	-1.98E-8	5.06E-8
IR	kBq U-235 eq	2.58E-2	1.03E-2	6.87E-2	1.05E-1	1.22E-3	5.33E-3	7.24E-5	-1.24E-2	9.90E-2
ETP-fw	CTUe	7.94E+0	1.90E+0	1.98E+0	1.18E+1	2.26E-1	2.00E+0	1.31E-2	-3.29E+0	1.08E+1
HTP-c	CTUh	3.46E-10	6.90E-11	3.77E-11	4.52E-10	8.03E-12	2.46E-10	3.87E-13	-1.41E-10	5.66E-10
HTP-nc	CTUh	9.38E-9	2.24E-9	1.29E-9	1.29E-8	2.69E-10	2.99E-9	8.46E-12	-3.98E-9	1.22E-8
SQP	Pt	2.00E+0	1.96E+0	1.58E+0	5.54E+0	2.38E-1	1.41E+0	4.01E-2	-7.15E-1	6.52E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.32E-1	3.32E-2	8.28E-1	1.59E+0	3.99E-3	8.71E-2	6.02E-4	-3.30E-1	1.36E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.32E-1	3.32E-2	8.28E-1	1.59E+0	3.99E-3	8.71E-2	6.02E-4	-3.30E-1	1.36E+0
PENRE	MJ	5.31E+1	2.50E+0	5.81E+0	6.14E+1	2.95E-1	1.88E+0	1.66E-2	-2.88E+1	3.49E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.31E+1	2.50E+0	5.81E+0	6.14E+1	2.95E-1	1.88E+0	1.66E-2	-2.88E+1	3.49E+1
PET	MJ	5.39E+1	2.53E+0	6.64E+0	6.30E+1	2.99E-1	1.97E+0	1.72E-2	-2.91E+1	3.62E+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	1.51E-2	2.62E-4	3.05E-3	1.84E-2	3.15E-5	1.02E-3	1.93E-5	-6.88E-3	1.26E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.74E-6	5.89E-6	4.76E-8	1.27E-5	7.11E-7	2.88E-6	1.89E-8	-6.29E-6	1.00E-5
NHWD	kg	6.14E-2	1.41E-1	2.69E-4	2.03E-1	1.72E-2	8.75E-2	6.89E-2	-2.05E-2	3.56E-1
RWD	kg	2.23E-5	1.60E-5	6.45E-8	3.84E-5	1.89E-6	6.75E-6	1.02E-7	-1.11E-5	3.60E-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

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