Environmental Profile

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

Ecochain v3.5.80

Product:	3059933 - PP-R Pipe GY 32x4,4 PN16 L=4 Wood.Crate
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	2.85E+0	3.40E-1	4.77E-2	3.24E+0	3.98E-2	1.50E+0	1.87E-2	-1.91E+0	2.89E+0
GWP-f	kg CO2 eq	3.14E+0	3.40E-1	3.88E-2	3.52E+0	3.98E-2	1.20E+0	1.87E-2	-1.91E+0	2.87E+0
GWP-b	kg CO2 eq	-2.90E-1	1.95E-4	8.15E-3	-2.81E-1	2.42E-5	3.01E-1	1.63E-5	-6.48E-3	1.28E-2
GWP-luluc	kg CO2 eq	1.01E-3	1.24E-4	7.80E-4	1.92E-3	1.41E-5	2.24E-4	3.23E-7	-5.02E-4	1.65E-3
ODP	kg CFC11 eq	6.42E-8	7.79E-8	4.86E-8	1.91E-7	9.17E-9	2.95E-8	4.70E-10	-7.55E-8	1.54E-7
AP	mol H+ eq	1.15E-2	2.30E-3	4.28E-4	1.42E-2	2.27E-4	1.24E-3	1.12E-5	-5.47E-3	1.02E-2
EP-fw	kg P eq	4.90E-5	2.74E-6	1.94E-6	5.37E-5	3.27E-7	6.48E-6	1.48E-8	-2.23E-5	3.82E-5
EP-m	kg N eq	1.93E-3	7.74E-4	8.27E-5	2.79E-3	8.11E-5	3.62E-4	7.28E-6	-9.94E-4	2.24E-3
EP-T	mol N eq	2.20E-2	8.54E-3	9.69E-4	3.15E-2	8.93E-4	3.99E-3	4.56E-5	-1.11E-2	2.54E-2
POCP	kg NMVOC eq	9.93E-3	2.41E-3	2.14E-4	1.26E-2	2.55E-4	1.26E-3	1.71E-5	-5.01E-3	9.07E-3
ADP-mm	kg Sb eq	5.36E-5	8.53E-6	3.76E-6	6.58E-5	1.03E-6	4.88E-6	1.14E-8	-1.29E-5	5.88E-5
ADP-f	MJ	1.10E+2	5.18E+0	1.25E+1	1.27E+2	6.11E-1	3.91E+0	3.44E-2	-5.93E+1	7.26E+1
WDP	m3 depriv.	2.19E+0	1.56E-2	1.99E-1	2.41E+0	1.87E-3	7.62E-2	1.87E-4	-1.02E+0	1.46E+0
PM	disease inc.	1.04E-7	2.99E-8	3.15E-9	1.37E-7	3.59E-9	2.03E-8	2.36E-10	-4.88E-8	1.12E-7
IR	kBq U-235 eq	5.91E-2	2.26E-2	1.48E-1	2.29E-1	2.67E-3	1.18E-2	1.59E-4	-2.91E-2	2.15E-1
ETP-fw	CTUe	1.87E+1	4.17E+0	4.27E+0	2.71E+1	4.96E-1	4.41E+0	2.88E-2	-8.39E+0	2.37E+1
HTP-c	CTUh	8.91E-10	1.52E-10	8.11E-11	1.12E-9	1.76E-11	5.46E-10	8.50E-13	-4.17E-10	1.27E-9
HTP-nc	CTUh	2.17E-8	4.93E-9	2.77E-9	2.94E-8	5.91E-10	6.61E-9	1.86E-11	-9.65E-9	2.69E-8
SQP	Pt	2.96E+1	4.31E+0	3.41E+0	3.73E+1	5.22E-1	3.12E+0	8.81E-2	-2.28E+1	1.83E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.27E+0	7.29E-2	1.78E+0	7.12E+0	8.76E-3	1.92E-1	1.32E-3	-3.90E+0	3.43E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.27E+0	7.29E-2	1.78E+0	7.12E+0	8.76E-3	1.92E-1	1.32E-3	-3.90E+0	3.43E+0
PENRE	MJ	1.18E+2	5.50E+0	1.25E+1	1.36E+2	6.48E-1	4.16E+0	3.65E-2	-6.39E+1	7.67E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.18E+2	5.50E+0	1.25E+1	1.36E+2	6.48E-1	4.16E+0	3.65E-2	-6.39E+1	7.67E+1
PET	MJ	1.23E+2	5.57E+0	1.43E+1	1.43E+2	6.57E-1	4.36E+0	3.78E-2	-6.78E+1	8.01E+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	3.36E-2	5.75E-4	6.57E-3	4.08E-2	6.91E-5	2.26E-3	4.23E-5	-1.55E-2	2.77E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.68E-5	1.30E-5	1.02E-7	2.98E-5	1.56E-6	6.38E-6	4.15E-8	-1.55E-5	2.23E-5
NHWD	kg	1.49E-1	3.11E-1	5.79E-4	4.60E-1	3.78E-2	1.94E-1	1.51E-1	-5.67E-2	7.87E-1
RWD	kg	5.19E-5	3.53E-5	1.39E-7	8.73E-5	4.15E-6	1.50E-5	2.24E-7	-2.68E-5	7.99E-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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