Environmental Profile

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

Ecochain v3.5.80

Product:	3023640 - PP-R Pipe GN 75x12,5 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	1.88E+1	2.07E+0	3.02E-1	2.12E+1	2.42E-1	7.26E+0	1.14E-1	-1.14E+1	1.74E+1
GWP-f	kg CO2 eq	1.88E+1	2.07E+0	2.45E-1	2.11E+1	2.42E-1	7.26E+0	1.14E-1	-1.13E+1	1.74E+1
GWP-b	kg CO2 eq	7.76E-2	1.26E-3	5.15E-2	1.30E-1	1.47E-4	-9.70E-3	9.91E-5	-3.94E-2	8.16E-2
GWP-luluc	kg CO2 eq	5.13E-3	7.34E-4	4.93E-3	1.08E-2	8.56E-5	1.36E-3	1.96E-6	-2.18E-3	1.01E-2
ODP	kg CFC11 eq	3.54E-7	4.78E-7	3.08E-7	1.14E-6	5.58E-8	1.77E-7	2.86E-9	-4.27E-7	9.48E-7
AP	mol H+ eq	6.79E-2	1.18E-2	2.71E-3	8.24E-2	1.38E-3	7.45E-3	6.83E-5	-3.16E-2	5.97E-2
EP-fw	kg P eq	2.83E-4	1.71E-5	1.23E-5	3.12E-4	1.99E-6	3.92E-5	8.97E-8	-1.24E-4	2.29E-4
EP-m	kg N eq	1.12E-2	4.22E-3	5.23E-4	1.59E-2	4.93E-4	2.17E-3	4.43E-5	-5.60E-3	1.31E-2
EP-T	mol N eq	1.28E-1	4.66E-2	6.13E-3	1.81E-1	5.43E-3	2.39E-2	2.77E-4	-6.20E-2	1.48E-1
POCP	kg NMVOC eq	5.80E-2	1.33E-2	1.35E-3	7.27E-2	1.55E-3	7.55E-3	1.04E-4	-2.86E-2	5.33E-2
ADP-mm	kg Sb eq	3.23E-4	5.36E-5	2.38E-5	4.01E-4	6.26E-6	2.95E-5	6.91E-8	-7.44E-5	3.62E-4
ADP-f	MJ	6.61E+2	3.18E+1	7.89E+1	7.72E+2	3.71E+0	2.36E+1	2.09E-1	-3.56E+2	4.43E+2
WDP	m3 depriv.	1.32E+1	9.76E-2	1.26E+0	1.46E+1	1.14E-2	4.63E-1	1.13E-3	-6.14E+0	8.89E+0
PM	disease inc.	5.93E-7	1.87E-7	1.99E-8	8.00E-7	2.18E-8	1.23E-7	1.44E-9	-2.64E-7	6.82E-7
IR	kBq U-235 eq	3.44E-1	1.39E-1	9.34E-1	1.42E+0	1.62E-2	7.11E-2	9.68E-4	-1.65E-1	1.34E+0
ETP-fw	CTUe	1.06E+2	2.58E+1	2.70E+1	1.59E+2	3.02E+0	2.67E+1	1.75E-1	-4.39E+1	1.45E+2
HTP-c	CTUh	4.62E-9	9.19E-10	5.13E-10	6.05E-9	1.07E-10	3.28E-9	5.17E-12	-1.88E-9	7.57E-9
HTP-nc	CTUh	1.25E-7	3.08E-8	1.75E-8	1.74E-7	3.59E-9	4.00E-8	1.13E-10	-5.31E-8	1.64E-7
SQP	Pt	2.67E+1	2.72E+1	2.15E+1	7.55E+1	3.18E+0	1.89E+1	5.36E-1	-9.55E+0	8.85E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.76E+0	4.56E-1	1.13E+1	2.15E+1	5.33E-2	1.16E+0	8.05E-3	-4.40E+0	1.83E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	9.76E+0	4.56E-1	1.13E+1	2.15E+1	5.33E-2	1.16E+0	8.05E-3	-4.40E+0	1.83E+1
PENRE	MJ	7.09E+2	3.38E+1	7.91E+1	8.22E+2	3.94E+0	2.52E+1	2.22E-1	-3.84E+2	4.68E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.09E+2	3.38E+1	7.91E+1	8.22E+2	3.94E+0	2.52E+1	2.22E-1	-3.84E+2	4.68E+2
PET	MJ	7.19E+2	3.42E+1	9.04E+1	8.44E+2	4.00E+0	2.63E+1	2.30E-1	-3.88E+2	4.86E+2
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	2.01E-1	3.60E-3	4.15E-2	2.46E-1	4.20E-4	1.36E-2	2.57E-4	-9.19E-2	1.68E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	9.03E-5	8.14E-5	6.48E-7	1.72E-4	9.50E-6	3.85E-5	2.53E-7	-8.39E-5	1.37E-4
NHWD	kg	8.21E-1	1.97E+0	3.66E-3	2.80E+0	2.30E-1	1.17E+0	9.20E-1	-2.73E-1	4.84E+0
RWD	kg	2.98E-4	2.16E-4	8.77E-7	5.15E-4	2.53E-5	9.02E-5	1.36E-6	-1.49E-4	4.83E-4
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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