Environmental Profile

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

Ecochain v3.5.80

Product:	3082114 - EK PP-RCT ELBOW 90° GN 63
Unit:	1 piece
Manufacturer:	Wavin - CZ - Kostelec - Verified

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:	NMD Bepalingsmethode 1.1 (2022)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	27-01-2023
End of validity:	27-01-2028
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 - Kostelec - Verified (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

ECI = Environmental Costs Indicator [euro]; **ADPE** = Abiotic depletion potential for non-fossil resources [kg Sb-eq]; **ADPF** = Abiotic depletion potential for fossil resources [kg Sb-eq]; **GWP** = Global warming potential [kg CO2-eq]; **ODP** = Depletion potential of the stratospheric ozone layer [kg CFC-11-eq]; **POCP** = Formation potential of tropospheric ozone photochemical oxidants [kg ethene-eq]; **AP** = Acidification potential of land and water [kg SO2-eq]; **EP** = Eutrophication potential [kg PO4 3−-eq]; **HTP** = Human toxicity potential [kg 1,4-DB-eq]; **FAETP** = Freshwater aquatic ecotoxicity potential [kg 1,4-DB-eq]; **MAETP** = Marine aquatic ecotoxicity potential [kg 1,4-DB-eq]; **TETP** = Terrestrial ecotoxicity potential [kg 1,4-DB-eq]; **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 SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	0.04	0	0.01	0.05	0	0.02	0	-0.02	0.05
ADPE	kg Sb-eq	7.68E-6	7.58E-7	3.20E-6	1.16E-5	1.64E-7	8.02E-7	1.81E-9	-2.05E-6	1.06E-5
ADPF	kg Sb-eq	8.38E-3	2.14E-4	2.40E-4	8.84E-3	4.62E-5	3.07E-4	2.53E-6	-4.59E-3	4.60E-3
GWP	kg CO2-eq	4.85E-1	2.91E-2	4.33E-2	5.57E-1	6.29E-3	1.93E-1	2.55E-3	-2.96E-1	4.63E-1
ODP	kg CFC-11-eq	1.13E-8	5.39E-9	7.45E-8	9.13E-8	1.17E-9	4.09E-9	6.05E-11	-1.18E-8	8.48E-8
POCP	kg ethene-eq	4.01E-4	1.75E-5	3.13E-5	4.50E-4	3.78E-6	3.08E-5	5.81E-7	-1.96E-4	2.89E-4
AP	kg SO2-eq	1.53E-3	1.25E-4	2.99E-4	1.96E-3	2.71E-5	1.57E-4	1.33E-6	-7.42E-4	1.40E-3
EP	kg PO4 3−-eq	1.48E-4	2.50E-5	3.84E-5	2.11E-4	5.41E-6	2.78E-5	5.81E-7	-7.76E-5	1.68E-4
HTP	kg 1,4-DB-eq	7.76E-2	1.24E-2	5.27E-2	1.43E-1	2.69E-3	6.23E-2	2.00E-4	-3.78E-2	1.70E-1
FAETP	kg 1,4-DB-eq	2.24E-3	3.64E-4	1.90E-3	4.51E-3	7.88E-5	1.39E-3	2.16E-4	-1.06E-3	5.13E-3
MAETP	kg 1,4-DB-eq	5.17E+0	1.30E+0	5.30E+0	1.18E+1	2.82E-1	3.17E+0	2.16E-1	-2.32E+0	1.31E+1
TETP	kg 1,4-DB-eq	3.55E-4	4.41E-5	2.76E-3	3.16E-3	9.54E-6	1.91E-4	3.26E-7	-2.66E-4	3.09E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	5.08E-1	2.93E-2	5.13E-2	5.88E-1	6.35E-3	2.00E-1	2.99E-3	-2.94E-1	5.04E-1
GWP-f	kg CO2 eq	5.06E-1	2.93E-2	4.14E-2	5.76E-1	6.34E-3	1.94E-1	2.99E-3	-3.07E-1	4.73E-1
GWP-b	kg CO2 eq	2.14E-3	1.78E-5	9.24E-3	1.14E-2	3.85E-6	5.89E-3	2.60E-6	1.30E-2	3.03E-2
GWP-luluc	kg CO2 eq	2.14E-4	1.04E-5	6.54E-4	8.78E-4	2.25E-6	3.60E-5	5.15E-8	-1.55E-4	7.61E-4
ODP	kg CFC11 eq	1.09E-8	6.76E-9	4.16E-8	5.93E-8	1.46E-9	4.84E-9	7.50E-11	-1.24E-8	5.33E-8
AP	mol H+ eq	1.85E-3	1.67E-4	3.78E-4	2.40E-3	3.61E-5	2.03E-4	1.79E-6	-8.97E-4	1.74E-3
EP-fw	kg P eq	8.31E-6	2.41E-7	1.37E-6	9.92E-6	5.22E-8	1.04E-6	2.35E-9	-4.47E-6	6.55E-6
EP-m	kg N eq	3.18E-4	5.98E-5	6.99E-5	4.47E-4	1.29E-5	5.96E-5	1.16E-6	-1.62E-4	3.59E-4
EP-T	mol N eq	3.56E-3	6.59E-4	8.67E-4	5.09E-3	1.42E-4	6.56E-4	7.27E-6	-1.81E-3	4.09E-3
POCP	kg NMVOC eq	1.57E-3	1.88E-4	2.01E-4	1.96E-3	4.07E-5	2.07E-4	2.73E-6	-7.95E-4	1.42E-3
ADP-mm	kg Sb eq	7.68E-6	7.58E-7	3.20E-6	1.16E-5	1.64E-7	8.02E-7	1.81E-9	-2.05E-6	1.06E-5
ADP-f	MJ	1.76E+1	4.50E-1	1.05E+1	2.86E+1	9.74E-2	6.32E-1	5.48E-3	-9.50E+0	1.98E+1
WDP	m3 depriv.	3.53E-1	1.38E-3	1.83E-1	5.37E-1	2.99E-4	1.22E-2	2.99E-5	-1.81E-1	3.69E-1
PM	disease inc.	1.66E-8	2.65E-9	3.11E-9	2.23E-8	5.73E-10	3.32E-9	3.77E-11	-8.25E-9	1.80E-8
IR	kBq U-235 eq	9.65E-3	1.97E-3	1.23E-1	1.35E-1	4.26E-4	1.92E-3	2.54E-5	-5.20E-3	1.32E-1
ETP-fw	CTUe	4.51E+0	3.65E-1	3.53E+0	8.40E+0	7.91E-2	7.25E-1	4.59E-3	-2.22E+0	6.99E+0
HTP-c	CTUh	1.23E-10	1.30E-11	7.61E-11	2.12E-10	2.81E-12	8.84E-11	1.36E-13	-5.75E-11	2.46E-10
HTP-nc	CTUh	3.43E-9	4.36E-10	2.41E-9	6.28E-9	9.43E-11	1.07E-9	2.96E-12	-1.67E-9	5.77E-9
SQP	Pt	1.22E+0	3.85E-1	2.88E+0	4.49E+0	8.33E-2	5.02E-1	1.41E-2	-2.77E+0	2.32E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.75E-1	6.46E-3	1.49E+0	1.87E+0	1.40E-3	3.09E-2	2.11E-4	-5.73E-1	1.33E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.75E-1	6.46E-3	1.49E+0	1.87E+0	1.40E-3	3.09E-2	2.11E-4	-5.73E-1	1.33E+0
PENRE	MJ	1.89E+1	4.78E-1	1.06E+1	2.99E+1	1.03E-1	6.74E-1	5.81E-3	-1.02E+1	2.04E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.89E+1	4.78E-1	1.06E+1	2.99E+1	1.03E-1	6.74E-1	5.81E-3	-1.02E+1	2.04E+1
PET	MJ	1.92E+1	4.84E-1	1.21E+1	3.18E+1	1.05E-1	7.05E-1	6.03E-3	-1.08E+1	2.18E+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	5.48E-3	5.09E-5	5.89E-3	1.14E-2	1.10E-5	3.63E-4	6.75E-6	-2.94E-3	8.87E-3
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.46E-6	1.15E-6	2.02E-7	3.81E-6	2.49E-7	1.04E-6	6.62E-9	-2.41E-6	2.70E-6
NHWD	kg	2.25E-2	2.79E-2	5.77E-3	5.61E-2	6.04E-3	3.13E-2	2.41E-2	-8.28E-3	1.09E-1
RWD	kg	8.46E-6	3.06E-6	3.03E-7	1.18E-5	6.62E-7	2.45E-6	3.57E-8	-4.74E-6	1.02E-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

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