Environmental Profile

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

Ecochain v3.5.80

Product:	3085212 - EK PP-RCT ELBOW 45° GY 40
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	0.01	0	0	0.01	0	0	0	-0.01	0.01
ADPE	kg Sb-eq	1.97E-6	1.82E-7	7.18E-7	2.87E-6	3.75E-8	1.85E-7	4.17E-10	-4.74E-7	2.62E-6
ADPF	kg Sb-eq	1.90E-3	5.12E-5	5.43E-5	2.00E-3	1.05E-5	7.05E-5	5.79E-7	-1.05E-3	1.04E-3
GWP	kg CO2-eq	1.11E-1	6.98E-3	9.81E-3	1.28E-1	1.44E-3	4.41E-2	5.82E-4	-6.79E-2	1.06E-1
ODP	kg CFC-11-eq	2.85E-9	1.29E-9	1.67E-8	2.09E-8	2.66E-10	9.45E-10	1.38E-11	-2.74E-9	1.93E-8
POCP	kg ethene-eq	9.12E-5	4.19E-6	7.06E-6	1.02E-4	8.62E-7	7.09E-6	1.33E-7	-4.52E-5	6.54E-5
AP	kg SO2-eq	3.59E-4	3.00E-5	6.72E-5	4.56E-4	6.18E-6	3.61E-5	3.06E-7	-1.73E-4	3.26E-4
EP	kg PO4 3−-eq	3.58E-5	6.00E-6	8.64E-6	5.04E-5	1.23E-6	6.42E-6	1.32E-7	-1.87E-5	3.95E-5
HTP	kg 1,4-DB-eq	1.85E-2	2.99E-3	1.19E-2	3.34E-2	6.14E-4	1.43E-2	4.54E-5	-8.89E-3	3.94E-2
FAETP	kg 1,4-DB-eq	5.97E-4	8.75E-5	4.29E-4	1.11E-3	1.80E-5	3.17E-4	4.88E-5	-2.70E-4	1.23E-3
MAETP	kg 1,4-DB-eq	1.28E+0	3.12E-1	1.19E+0	2.78E+0	6.43E-2	7.32E-1	4.88E-2	-5.46E-1	3.08E+0
TETP	kg 1,4-DB-eq	8.68E-5	1.06E-5	6.19E-4	7.16E-4	2.18E-6	4.38E-5	7.50E-8	-7.03E-5	6.92E-4
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.17E-1	7.04E-3	1.16E-2	1.35E-1	1.45E-3	4.61E-2	6.82E-4	-6.63E-2	1.17E-1
GWP-f	kg CO2 eq	1.16E-1	7.04E-3	9.36E-3	1.33E-1	1.45E-3	4.43E-2	6.82E-4	-7.03E-2	1.09E-1
GWP-b	kg CO2 eq	5.02E-4	4.27E-6	2.09E-3	2.60E-3	8.79E-7	1.78E-3	5.91E-7	3.96E-3	8.34E-3
GWP-luluc	kg CO2 eq	5.54E-5	2.49E-6	1.47E-4	2.04E-4	5.12E-7	8.25E-6	1.20E-8	-4.23E-5	1.71E-4
ODP	kg CFC11 eq	2.79E-9	1.62E-9	9.33E-9	1.37E-8	3.34E-10	1.12E-9	1.71E-11	-2.87E-9	1.23E-8
AP	mol H+ eq	4.34E-4	4.01E-5	8.49E-5	5.59E-4	8.25E-6	4.67E-5	4.10E-7	-2.09E-4	4.06E-4
EP-fw	kg P eq	1.99E-6	5.79E-8	3.09E-7	2.36E-6	1.19E-8	2.39E-7	5.45E-10	-1.10E-6	1.50E-6
EP-m	kg N eq	7.48E-5	1.43E-5	1.58E-5	1.05E-4	2.95E-6	1.38E-5	2.63E-7	-3.81E-5	8.38E-5
EP-T	mol N eq	8.40E-4	1.58E-4	1.95E-4	1.19E-3	3.25E-5	1.51E-4	1.66E-6	-4.24E-4	9.55E-4
POCP	kg NMVOC eq	3.62E-4	4.52E-5	4.52E-5	4.53E-4	9.30E-6	4.77E-5	6.23E-7	-1.84E-4	3.26E-4
ADP-mm	kg Sb eq	1.97E-6	1.82E-7	7.18E-7	2.87E-6	3.75E-8	1.85E-7	4.17E-10	-4.73E-7	2.62E-6
ADP-f	MJ	3.98E+0	1.08E-1	2.36E+0	6.44E+0	2.22E-2	1.45E-1	1.25E-3	-2.17E+0	4.44E+0
WDP	m3 depriv.	8.10E-2	3.31E-4	4.12E-2	1.23E-1	6.82E-5	2.80E-3	7.65E-6	-4.28E-2	8.26E-2
PM	disease inc.	3.91E-9	6.35E-10	7.02E-10	5.24E-9	1.31E-10	7.65E-10	8.61E-12	-1.98E-9	4.17E-9
IR	kBq U-235 eq	2.27E-3	4.72E-4	2.76E-2	3.04E-2	9.71E-5	4.43E-4	5.78E-6	-1.25E-3	2.97E-2
ETP-fw	CTUe	1.19E+0	8.77E-2	7.91E-1	2.07E+0	1.80E-2	1.67E-1	1.05E-3	-5.80E-1	1.68E+0
HTP-c	CTUh	2.98E-11	3.12E-12	1.71E-11	5.01E-11	6.42E-13	2.08E-11	3.16E-14	-1.37E-11	5.78E-11
HTP-nc	CTUh	8.26E-10	1.05E-10	5.40E-10	1.47E-9	2.15E-11	2.48E-10	6.81E-13	-4.01E-10	1.34E-9
SQP	Pt	3.24E-1	9.24E-2	6.47E-1	1.06E+0	1.90E-2	1.15E-1	3.21E-3	-8.10E-1	3.90E-1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.42E-2	1.55E-3	3.34E-1	4.29E-1	3.19E-4	7.08E-3	4.78E-5	-1.63E-1	2.74E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	9.42E-2	1.55E-3	3.34E-1	4.29E-1	3.19E-4	7.08E-3	4.78E-5	-1.63E-1	2.74E-1
PENRE	MJ	4.27E+0	1.15E-1	2.37E+0	6.75E+0	2.36E-2	1.55E-1	1.33E-3	-2.34E+0	4.59E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.27E+0	1.15E-1	2.37E+0	6.75E+0	2.36E-2	1.55E-1	1.33E-3	-2.34E+0	4.59E+0
PET	MJ	4.36E+0	1.16E-1	2.70E+0	7.18E+0	2.39E-2	1.62E-1	1.38E-3	-2.50E+0	4.86E+0
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	1.28E-3	1.22E-5	1.32E-3	2.62E-3	2.51E-6	8.32E-5	1.54E-6	-7.08E-4	2.00E-3
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.12E-7	2.76E-7	4.68E-8	9.35E-7	5.68E-8	2.41E-7	1.52E-9	-5.57E-7	6.77E-7
NHWD	kg	5.54E-3	6.69E-3	1.34E-3	1.36E-2	1.38E-3	7.18E-3	5.51E-3	-1.97E-3	2.57E-2
RWD	kg	2.00E-6	7.34E-7	7.01E-8	2.80E-6	1.51E-7	5.64E-7	8.16E-9	-1.14E-6	2.39E-6
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