Environmental Profile

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

Ecochain v3.5.80

Ecochain

Product:	3079516 - EK PP-RCT ELBOW 45° GY 110
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

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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

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Results

Environmental impact SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	0.12	0.01	0.03	0.16	0	0.05	0	-0.07	0.14
ADPE	kg Sb-eq	2.28E-5	2.19E-6	9.42E-6	3.44E-5	4.83E-7	2.35E-6	5.34E-9	-5.99E-6	3.12E-5
ADPF	kg Sb-eq	2.49E-2	6.17E-4	7.06E-4	2.62E-2	1.36E-4	9.04E-4	7.45E-6	-1.36E-2	1.37E-2
GWP	kg CO2-eq	1.44E+0	8.40E-2	1.28E-1	1.65E+0	1.85E-2	5.82E-1	7.52E-3	-8.77E-1	1.38E+0
ODP	kg CFC-11-eq	3.33E-8	1.56E-8	2.19E-7	2.68E-7	3.44E-9	1.20E-8	1.78E-10	-3.50E-8	2.49E-7
POCP	kg ethene-eq	1.20E-3	5.04E-5	9.22E-5	1.34E-3	1.11E-5	9.05E-5	1.71E-6	-5.77E-4	8.65E-4
AP	kg SO2-eq	4.55E-3	3.61E-4	8.80E-4	5.79E-3	7.98E-5	4.61E-4	3.93E-6	-2.17E-3	4.17E-3
EP	kg PO4 3--eq	4.36E-4	7.22E-5	1.13E-4	6.21E-4	1.59E-5	8.18E-5	1.71E-6	-2.23E-4	4.98E-4
HTP	kg 1,4-DB-eq	2.31E-1	3.59E-2	1.55E-1	4.22E-1	7.93E-3	1.84E-1	5.89E-4	-1.10E-1	5.04E-1
FAETP	kg 1,4-DB-eq	6.47E-3	1.05E-3	5.60E-3	1.31E-2	2.32E-4	4.15E-3	6.38E-4	-2.95E-3	1.52E-2
MAETP	kg 1,4-DB-eq	1.54E+1	3.76E+0	1.56E+1	3.48E+1	8.30E-1	9.43E+0	6.36E-1	-6.73E+0	3.89E+1
TETP	kg 1,4-DB-eq	1.04E-3	1.27E-4	8.12E-3	9.29E-3	2.81E-5	5.63E-4	9.60E-7	-7.25E-4	9.16E-3

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.51E+0	8.48E-2	1.51E-1	1.74E+0	1.87E-2	6.00E-1	8.81E-3	-8.76E-1	1.49E+0
GWP-f	kg CO2 eq	1.50E+0	8.47E-2	1.22E-1	1.71E+0	1.87E-2	5.85E-1	8.81E-3	-9.08E-1	1.41E+0
GWP-b	kg CO2 eq	5.80E-3	5.14E-5	2.72E-2	3.30E-2	1.13E-5	1.46E-2	7.66E-6	3.20E-2	7.96E-2
GWP-luluc	kg CO2 eq	6.08E-4	3.00E-5	1.92E-3	2.56E-3	6.61E-6	1.06E-4	1.52E-7	-4.13E-4	2.26E-3
ODP	kg CFC11 eq	3.20E-8	1.95E-8	1.22E-7	1.74E-7	4.31E-9	1.42E-8	2.21E-10	-3.69E-8	1.56E-7
AP	mol H+ eq	5.49E-3	4.82E-4	1.11E-3	7.09E-3	1.06E-4	5.96E-4	5.28E-6	-2.62E-3	5.18E-3
EP-fw	kg P eq	2.46E-5	6.97E-7	4.04E-6	2.93E-5	1.54E-7	3.07E-6	6.94E-9	-1.26E-5	1.99E-5
EP-m	kg N eq	9.38E-4	1.73E-4	2.06E-4	1.32E-3	3.81E-5	1.75E-4	3.42E-6	-4.74E-4	1.06E-3
EP-T	mol N eq	1.05E-2	1.90E-3	2.55E-3	1.50E-2	4.20E-4	1.93E-3	2.14E-5	-5.26E-3	1.21E-2
POCP	kg NMVOC eq	4.68E-3	5.44E-4	5.91E-4	5.81E-3	1.20E-4	6.08E-4	8.04E-6	-2.33E-3	4.22E-3
ADP-mm	kg Sb eq	2.27E-5	2.19E-6	9.42E-6	3.44E-5	4.83E-7	2.35E-6	5.34E-9	-5.99E-6	3.12E-5
ADP-f	MJ	5.21E+1	1.30E+0	3.10E+1	8.44E+1	2.87E-1	1.86E+0	1.61E-2	-2.81E+1	5.85E+1
WDP	m3 depriv.	1.05E+0	3.99E-3	5.40E-1	1.59E+0	8.80E-4	3.61E-2	8.83E-5	-5.26E-1	1.10E+0
PM	disease inc.	4.89E-8	7.64E-9	9.16E-9	6.57E-8	1.69E-9	9.76E-9	1.11E-10	-2.37E-8	5.35E-8
IR	kBq U-235 eq	2.86E-2	5.68E-3	3.63E-1	3.97E-1	1.25E-3	5.65E-3	7.47E-5	-1.50E-2	3.89E-1
ETP-fw	CTUe	1.27E+1	1.06E+0	1.04E+1	2.41E+1	2.33E-1	2.13E+0	1.35E-2	-6.06E+0	2.05E+1
HTP-c	CTUh	3.65E-10	3.76E-11	2.24E-10	6.27E-10	8.29E-12	2.62E-10	4.00E-13	-1.66E-10	7.31E-10
HTP-nc	CTUh	1.02E-8	1.26E-9	7.08E-9	1.85E-8	2.78E-10	3.17E-9	8.73E-12	-4.81E-9	1.71E-8
SQP	Pt	3.41E+0	1.11E+0	8.49E+0	1.30E+1	2.45E-1	1.48E+0	4.14E-2	-7.03E+0	7.74E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.07E+0	1.86E-2	4.38E+0	5.47E+0	4.12E-3	9.10E-2	6.21E-4	-1.48E+0	4.08E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.07E+0	1.86E-2	4.38E+0	5.47E+0	4.12E-3	9.10E-2	6.21E-4	-1.48E+0	4.08E+0
PENRE	MJ	5.59E+1	1.38E+0	3.11E+1	8.84E+1	3.05E-1	1.98E+0	1.71E-2	-3.03E+1	6.04E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.59E+1	1.38E+0	3.11E+1	8.84E+1	3.05E-1	1.98E+0	1.71E-2	-3.03E+1	6.04E+1
PET	MJ	5.70E+1	1.40E+0	3.55E+1	9.38E+1	3.09E-1	2.07E+0	1.78E-2	-3.17E+1	6.45E+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	1.64E-2	1.47E-4	1.73E-2	3.39E-2	3.25E-5	1.07E-3	1.99E-5	-8.43E-3	2.65E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.21E-6	3.32E-6	5.95E-7	1.11E-5	7.34E-7	3.07E-6	1.95E-8	-7.18E-6	7.77E-6
NHWD	kg	6.64E-2	8.06E-2	1.70E-2	1.64E-1	1.78E-2	9.27E-2	7.11E-2	-2.40E-2	3.22E-1
RWD	kg	2.50E-5	8.84E-6	8.90E-7	3.47E-5	1.95E-6	7.19E-6	1.05E-7	-1.36E-5	3.03E-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