Environmental Profile

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

Ecochain v3.5.80

Product:	3084275 - EK PP-RCT ELBOW 45° GN 50
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	0.02	0	0	0.02	0	0.01	0	-0.01	0.02
ADPE	kg Sb-eq	2.95E-6	2.94E-7	1.21E-6	4.45E-6	6.26E-8	2.97E-7	6.92E-10	-7.50E-7	4.06E-6
ADPF	kg Sb-eq	3.26E-3	8.28E-5	9.02E-5	3.43E-3	1.76E-5	1.16E-4	9.66E-7	-1.77E-3	1.80E-3
GWP	kg CO2-eq	1.87E-1	1.13E-2	1.63E-2	2.15E-1	2.40E-3	7.89E-2	9.74E-4	-1.14E-1	1.83E-1
ODP	kg CFC-11-eq	4.00E-9	2.09E-9	2.81E-8	3.42E-8	4.46E-10	1.52E-9	2.31E-11	-4.44E-9	3.18E-8
POCP	kg ethene-eq	1.58E-4	6.77E-6	1.18E-5	1.77E-4	1.44E-6	1.15E-5	2.22E-7	-7.35E-5	1.16E-4
AP	kg SO2-eq	5.92E-4	4.85E-5	1.13E-4	7.53E-4	1.03E-5	5.87E-5	5.09E-7	-2.67E-4	5.56E-4
EP	kg PO4 3−-eq	5.40E-5	9.69E-6	1.45E-5	7.81E-5	2.06E-6	1.04E-5	2.22E-7	-2.46E-5	6.62E-5
HTP	kg 1,4-DB-eq	2.98E-2	4.82E-3	1.98E-2	5.44E-2	1.03E-3	2.37E-2	7.63E-5	-1.32E-2	6.59E-2
FAETP	kg 1,4-DB-eq	7.13E-4	1.41E-4	7.16E-4	1.57E-3	3.01E-5	5.53E-4	8.26E-5	-2.64E-4	1.97E-3
MAETP	kg 1,4-DB-eq	1.99E+0	5.05E-1	2.00E+0	4.49E+0	1.08E-1	1.22E+0	8.24E-2	-8.00E-1	5.10E+0
TETP	kg 1,4-DB-eq	1.24E-4	1.71E-5	1.04E-3	1.18E-3	3.64E-6	7.26E-5	1.24E-7	-5.37E-5	1.21E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.96E-1	1.14E-2	1.93E-2	2.26E-1	2.42E-3	7.93E-2	1.14E-3	-1.18E-1	1.91E-1
GWP-f	kg CO2 eq	1.95E-1	1.14E-2	1.56E-2	2.22E-1	2.42E-3	7.92E-2	1.14E-3	-1.18E-1	1.87E-1
GWP-b	kg CO2 eq	5.75E-4	6.90E-6	3.47E-3	4.05E-3	1.47E-6	4.06E-5	9.92E-7	-8.15E-5	4.01E-3
GWP-luluc	kg CO2 eq	5.87E-5	4.02E-6	2.47E-4	3.10E-4	8.57E-7	1.37E-5	1.97E-8	-2.42E-5	3.00E-4
ODP	kg CFC11 eq	3.79E-9	2.62E-9	1.57E-8	2.21E-8	5.58E-10	1.79E-9	2.86E-11	-4.71E-9	1.98E-8
AP	mol H+ eq	7.11E-4	6.48E-5	1.43E-4	9.19E-4	1.38E-5	7.58E-5	6.84E-7	-3.22E-4	6.87E-4
EP-fw	kg P eq	3.07E-6	9.36E-8	5.17E-7	3.69E-6	1.99E-8	3.95E-7	8.99E-10	-1.28E-6	2.82E-6
EP-m	kg N eq	1.18E-4	2.32E-5	2.63E-5	1.68E-4	4.94E-6	2.22E-5	4.43E-7	-5.74E-5	1.38E-4
EP-T	mol N eq	1.34E-3	2.55E-4	3.27E-4	1.92E-3	5.44E-5	2.45E-4	2.78E-6	-6.36E-4	1.59E-3
POCP	kg NMVOC eq	6.10E-4	7.30E-5	7.57E-5	7.59E-4	1.55E-5	7.72E-5	1.04E-6	-2.91E-4	5.61E-4
ADP-mm	kg Sb eq	2.95E-6	2.94E-7	1.21E-6	4.45E-6	6.26E-8	2.97E-7	6.92E-10	-7.50E-7	4.06E-6
ADP-f	MJ	6.82E+0	1.75E-1	3.97E+0	1.10E+1	3.72E-2	2.38E-1	2.09E-3	-3.64E+0	7.60E+0
WDP	m3 depriv.	1.38E-1	5.36E-4	6.91E-2	2.08E-1	1.14E-4	4.66E-3	1.15E-5	-6.23E-2	1.50E-1
PM	disease inc.	6.18E-9	1.03E-9	1.17E-9	8.38E-9	2.19E-10	1.24E-9	1.44E-11	-2.69E-9	7.17E-9
IR	kBq U-235 eq	3.65E-3	7.63E-4	4.66E-2	5.10E-2	1.62E-4	7.18E-4	9.68E-6	-1.70E-3	5.02E-2
ETP-fw	CTUe	1.18E+0	1.42E-1	1.33E+0	2.66E+0	3.02E-2	2.70E-1	1.75E-3	-4.69E-1	2.49E+0
HTP-c	CTUh	4.67E-11	5.04E-12	2.87E-11	8.04E-11	1.07E-12	3.38E-11	5.18E-14	-1.93E-11	9.60E-11
HTP-nc	CTUh	1.30E-9	1.69E-10	9.08E-10	2.37E-9	3.60E-11	4.08E-10	1.13E-12	-5.43E-10	2.28E-9
SQP	Pt	2.92E-1	1.49E-1	1.09E+0	1.53E+0	3.18E-2	1.90E-1	5.36E-3	-1.54E-1	1.60E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.08E-1	2.50E-3	5.62E-1	6.73E-1	5.33E-4	1.17E-2	8.05E-5	-5.46E-2	6.31E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.08E-1	2.50E-3	5.62E-1	6.73E-1	5.33E-4	1.17E-2	8.05E-5	-5.46E-2	6.31E-1
PENRE	MJ	7.31E+0	1.85E-1	3.99E+0	1.15E+1	3.95E-2	2.53E-1	2.22E-3	-3.93E+0	7.85E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.31E+0	1.85E-1	3.99E+0	1.15E+1	3.95E-2	2.53E-1	2.22E-3	-3.93E+0	7.85E+0
PET	MJ	7.42E+0	1.88E-1	4.55E+0	1.22E+1	4.00E-2	2.65E-1	2.30E-3	-3.98E+0	8.49E+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	2.15E-3	1.97E-5	2.22E-3	4.39E-3	4.21E-6	1.38E-4	2.58E-6	-9.39E-4	3.60E-3
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.79E-7	4.46E-7	7.51E-8	1.40E-6	9.51E-8	3.90E-7	2.53E-9	-9.24E-7	9.63E-7
NHWD	kg	8.24E-3	1.08E-2	2.14E-3	2.12E-2	2.30E-3	1.20E-2	9.21E-3	-2.79E-3	4.20E-2
RWD	kg	3.15E-6	1.19E-6	1.12E-7	4.45E-6	2.53E-7	9.11E-7	1.36E-8	-1.54E-6	4.09E-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

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