Environmental Profile

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

Ecochain v3.5.80

Product:	3079515 - EK PP-RCT ELBOW 45° GN 90
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	0.07	0.01	0.02	0.1	0	0.03	0	-0.04	0.09
ADPE	kg Sb-eq	1.35E-5	1.26E-6	5.43E-6	2.02E-5	2.80E-7	1.34E-6	3.09E-9	-3.36E-6	1.85E-5
ADPF	kg Sb-eq	1.51E-2	3.55E-4	4.08E-4	1.58E-2	7.88E-5	5.20E-4	4.32E-6	-8.09E-3	8.34E-3
GWP	kg CO2-eq	8.72E-1	4.84E-2	7.37E-2	9.94E-1	1.07E-2	3.84E-1	4.35E-3	-5.28E-1	8.66E-1
ODP	kg CFC-11-eq	1.89E-8	8.97E-9	1.27E-7	1.54E-7	1.99E-9	6.84E-9	1.03E-10	-2.16E-8	1.42E-7
POCP	kg ethene-eq	7.46E-4	2.90E-5	5.32E-5	8.28E-4	6.44E-6	5.20E-5	9.91E-7	-3.32E-4	5.55E-4
AP	kg SO2-eq	2.78E-3	2.08E-4	5.08E-4	3.50E-3	4.62E-5	2.66E-4	2.28E-6	-1.21E-3	2.61E-3
EP	kg PO4 3−-eq	2.56E-4	4.16E-5	6.52E-5	3.63E-4	9.22E-6	4.73E-5	9.91E-7	-1.12E-4	3.09E-4
HTP	kg 1,4-DB-eq	1.42E-1	2.07E-2	8.94E-2	2.52E-1	4.59E-3	1.07E-1	3.41E-4	-6.01E-2	3.04E-1
FAETP	kg 1,4-DB-eq	3.39E-3	6.06E-4	3.23E-3	7.23E-3	1.34E-4	2.65E-3	3.69E-4	-1.18E-3	9.21E-3
MAETP	kg 1,4-DB-eq	9.63E+0	2.17E+0	9.01E+0	2.08E+1	4.80E-1	5.80E+0	3.68E-1	-3.62E+0	2.38E+1
TETP	kg 1,4-DB-eq	5.96E-4	7.33E-5	4.69E-3	5.35E-3	1.63E-5	3.26E-4	5.56E-7	-2.40E-4	5.46E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	9.12E-1	4.88E-2	8.72E-2	1.05E+0	1.08E-2	3.86E-1	5.10E-3	-5.47E-1	9.03E-1
GWP-f	kg CO2 eq	9.10E-1	4.88E-2	7.04E-2	1.03E+0	1.08E-2	3.86E-1	5.10E-3	-5.47E-1	8.85E-1
GWP-b	kg CO2 eq	1.60E-3	2.96E-5	1.57E-2	1.73E-2	6.57E-6	2.70E-5	4.43E-6	-7.31E-4	1.66E-2
GWP-luluc	kg CO2 eq	2.90E-4	1.73E-5	1.11E-3	1.42E-3	3.83E-6	6.13E-5	8.80E-8	-1.07E-4	1.38E-3
ODP	kg CFC11 eq	1.80E-8	1.12E-8	7.06E-8	9.98E-8	2.49E-9	8.09E-9	1.28E-10	-2.31E-8	8.74E-8
AP	mol H+ eq	3.35E-3	2.78E-4	6.42E-4	4.27E-3	6.16E-5	3.44E-4	3.06E-6	-1.45E-3	3.22E-3
EP-fw	kg P eq	1.49E-5	4.01E-7	2.33E-6	1.77E-5	8.90E-8	1.77E-6	4.02E-9	-5.72E-6	1.38E-5
EP-m	kg N eq	5.58E-4	9.94E-5	1.19E-4	7.77E-4	2.21E-5	1.01E-4	1.98E-6	-2.61E-4	6.41E-4
EP-T	mol N eq	6.33E-3	1.10E-3	1.47E-3	8.89E-3	2.43E-4	1.12E-3	1.24E-5	-2.89E-3	7.37E-3
POCP	kg NMVOC eq	2.88E-3	3.13E-4	3.41E-4	3.53E-3	6.95E-5	3.51E-4	4.65E-6	-1.32E-3	2.64E-3
ADP-mm	kg Sb eq	1.35E-5	1.26E-6	5.43E-6	2.02E-5	2.80E-7	1.34E-6	3.09E-9	-3.36E-6	1.85E-5
ADP-f	MJ	3.15E+1	7.49E-1	1.79E+1	5.01E+1	1.66E-1	1.07E+0	9.35E-3	-1.66E+1	3.47E+1
WDP	m3 depriv.	6.44E-1	2.30E-3	3.11E-1	9.58E-1	5.10E-4	2.09E-2	5.14E-5	-2.79E-1	7.00E-1
PM	disease inc.	2.90E-8	4.40E-9	5.29E-9	3.87E-8	9.77E-10	5.60E-9	6.43E-11	-1.20E-8	3.33E-8
IR	kBq U-235 eq	1.73E-2	3.27E-3	2.09E-1	2.30E-1	7.26E-4	3.23E-3	4.33E-5	-7.67E-3	2.26E-1
ETP-fw	CTUe	5.75E+0	6.08E-1	5.99E+0	1.23E+1	1.35E-1	1.22E+0	7.82E-3	-2.10E+0	1.16E+1
HTP-c	CTUh	2.20E-10	2.16E-11	1.29E-10	3.71E-10	4.80E-12	1.55E-10	2.32E-13	-8.75E-11	4.44E-10
HTP-nc	CTUh	6.10E-9	7.25E-10	4.09E-9	1.09E-8	1.61E-10	1.86E-9	5.05E-12	-2.44E-9	1.05E-8
SQP	Pt	1.45E+0	6.41E-1	4.90E+0	6.99E+0	1.42E-1	8.54E-1	2.40E-2	-6.35E-1	7.37E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.24E-1	1.07E-2	2.53E+0	3.06E+0	2.38E-3	5.25E-2	3.60E-4	-2.34E-1	2.88E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.24E-1	1.07E-2	2.53E+0	3.06E+0	2.38E-3	5.25E-2	3.60E-4	-2.34E-1	2.88E+0
PENRE	MJ	3.38E+1	7.95E-1	1.79E+1	5.25E+1	1.76E-1	1.14E+0	9.92E-3	-1.79E+1	3.59E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.38E+1	7.95E-1	1.79E+1	5.25E+1	1.76E-1	1.14E+0	9.92E-3	-1.79E+1	3.59E+1
PET	MJ	3.43E+1	8.06E-1	2.05E+1	5.56E+1	1.79E-1	1.19E+0	1.03E-2	-1.82E+1	3.88E+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	1.02E-2	8.47E-5	1.00E-2	2.03E-2	1.88E-5	6.25E-4	1.15E-5	-4.21E-3	1.68E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.12E-6	1.91E-6	3.45E-7	6.38E-6	4.25E-7	1.76E-6	1.13E-8	-4.52E-6	4.05E-6
NHWD	kg	3.98E-2	4.64E-2	9.84E-3	9.60E-2	1.03E-2	5.54E-2	4.11E-2	-1.26E-2	1.90E-1
RWD	kg	1.49E-5	5.09E-6	5.16E-7	2.05E-5	1.13E-6	4.10E-6	6.10E-8	-7.00E-6	1.88E-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

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