Environmental Profile

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

Ecochain v3.5.80

Product:	3079598 - EK PP-RCT Reduc.Sleeve Metal M/T GY 90x3
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	10.8	0.01	0.05	10.86	0.01	0.03	0	-0.84	10.06
ADPE	kg Sb-eq	3.62E-2	1.77E-6	1.64E-5	3.62E-2	1.18E-6	2.48E-6	9.27E-9	-1.69E-2	1.93E-2
ADPF	kg Sb-eq	5.07E-2	4.97E-4	1.34E-3	5.25E-2	3.33E-4	6.01E-4	1.34E-5	-1.58E-2	3.77E-2
GWP	kg CO2-eq	6.78E+0	6.77E-2	2.41E-1	7.09E+0	4.54E-2	3.03E-1	4.24E-3	-1.84E+0	5.60E+0
ODP	kg CFC-11-eq	3.86E-7	1.26E-8	3.82E-7	7.80E-7	8.42E-9	8.98E-9	3.25E-10	-1.28E-7	6.69E-7
POCP	kg ethene-eq	2.43E-2	4.06E-5	1.68E-4	2.45E-2	2.72E-5	6.59E-5	1.57E-6	-2.26E-3	2.24E-2
AP	kg SO2-eq	4.96E-1	2.91E-4	1.56E-3	4.98E-1	1.95E-4	4.61E-4	7.15E-6	-3.61E-2	4.62E-1
EP	kg PO4 3−-eq	2.71E-2	5.82E-5	2.04E-4	2.74E-2	3.90E-5	6.99E-5	1.83E-6	-3.31E-3	2.42E-2
HTP	kg 1,4-DB-eq	8.09E+1	2.90E-2	2.88E-1	8.12E+1	1.94E-2	1.17E-1	6.04E-4	-5.31E+0	7.61E+1
FAETP	kg 1,4-DB-eq	1.88E+0	8.49E-4	1.03E-2	1.89E+0	5.69E-4	3.56E-3	3.06E-4	-2.27E-1	1.66E+0
MAETP	kg 1,4-DB-eq	8.22E+3	3.03E+0	2.79E+1	8.25E+3	2.03E+0	7.49E+0	3.25E-1	-7.81E+2	7.48E+3
TETP	kg 1,4-DB-eq	2.22E-1	1.03E-4	1.41E-2	2.36E-1	6.88E-5	3.60E-4	1.27E-6	-1.41E-2	2.23E-1
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	6.96E+0	6.83E-2	2.84E-1	7.31E+0	4.58E-2	3.04E-1	4.86E-3	-1.91E+0	5.76E+0
GWP-f	kg CO2 eq	6.94E+0	6.83E-2	2.29E-1	7.24E+0	4.57E-2	3.05E-1	4.86E-3	-1.88E+0	5.72E+0
GWP-b	kg CO2 eq	4.08E-3	4.15E-5	5.21E-2	5.62E-2	2.78E-5	-1.25E-3	5.05E-6	-2.94E-2	2.56E-2
GWP-luluc	kg CO2 eq	1.00E-2	2.42E-5	3.34E-3	1.34E-2	1.62E-5	7.75E-5	2.77E-7	-3.01E-3	1.04E-2
ODP	kg CFC11 eq	4.22E-7	1.57E-8	2.14E-7	6.51E-7	1.05E-8	1.06E-8	4.08E-10	-1.30E-7	5.42E-7
AP	mol H+ eq	5.67E-1	3.89E-4	1.97E-3	5.69E-1	2.61E-4	5.85E-4	9.50E-6	-4.35E-2	5.27E-1
EP-fw	kg P eq	4.54E-3	5.62E-7	7.29E-6	4.55E-3	3.76E-7	3.14E-6	1.15E-8	-3.65E-4	4.19E-3
EP-m	kg N eq	2.89E-2	1.39E-4	3.74E-4	2.95E-2	9.32E-5	1.50E-4	4.02E-6	-4.93E-3	2.48E-2
EP-T	mol N eq	4.25E-1	1.53E-3	4.54E-3	4.31E-1	1.03E-3	1.69E-3	3.67E-5	-6.95E-2	3.64E-1
POCP	kg NMVOC eq	1.14E-1	4.38E-4	1.07E-3	1.15E-1	2.94E-4	5.03E-4	1.15E-5	-1.63E-2	9.97E-2
ADP-mm	kg Sb eq	3.62E-2	1.77E-6	1.64E-5	3.62E-2	1.18E-6	2.48E-6	9.27E-9	-1.69E-2	1.93E-2
ADP-f	MJ	9.63E+1	1.05E+0	5.39E+1	1.51E+2	7.02E-1	1.25E+0	2.82E-2	-3.30E+1	1.20E+2
WDP	m3 depriv.	5.81E+0	3.22E-3	9.68E-1	6.78E+0	2.16E-3	1.66E-2	9.69E-4	-1.61E+0	5.19E+0
PM	disease inc.	1.27E-6	6.16E-9	1.68E-8	1.29E-6	4.13E-9	8.88E-9	1.88E-10	-1.63E-7	1.14E-6
IR	kBq U-235 eq	3.08E-1	4.58E-3	6.29E-1	9.41E-1	3.07E-3	4.45E-3	1.20E-4	-1.26E-1	8.23E-1
ETP-fw	CTUe	5.60E+3	8.51E-1	1.82E+1	5.62E+3	5.70E-1	2.56E+0	1.97E-2	-7.93E+2	4.83E+3
HTP-c	CTUh	8.13E-8	3.03E-11	4.06E-10	8.17E-8	2.03E-11	1.65E-10	4.97E-13	-1.78E-8	6.41E-8
HTP-nc	CTUh	6.56E-6	1.01E-9	1.25E-8	6.57E-6	6.80E-10	3.24E-9	1.36E-11	-1.13E-6	5.44E-6
SQP	Pt	8.59E+1	8.97E-1	1.48E+1	1.02E+2	6.01E-1	1.43E+0	6.28E-2	-1.63E+1	8.74E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.84E+1	1.50E-2	7.59E+0	2.60E+1	1.01E-2	9.60E-2	4.58E-4	-4.89E+0	2.13E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.84E+1	1.50E-2	7.59E+0	2.60E+1	1.01E-2	9.60E-2	4.58E-4	-4.89E+0	2.13E+1
PENRE	MJ	1.03E+2	1.11E+0	5.41E+1	1.58E+2	7.46E-1	1.33E+0	3.00E-2	-3.53E+1	1.25E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.03E+2	1.11E+0	5.41E+1	1.58E+2	7.46E-1	1.33E+0	3.00E-2	-3.53E+1	1.25E+2
PET	MJ	1.21E+2	1.13E+0	6.17E+1	1.84E+2	7.56E-1	1.42E+0	3.05E-2	-4.02E+1	1.46E+2
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	1.49E-1	1.19E-4	3.08E-2	1.80E-1	7.95E-5	5.76E-4	3.14E-5	-4.15E-2	1.39E-1
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.51E-3	2.68E-6	1.37E-6	4.52E-3	1.80E-6	2.53E-6	4.01E-8	-2.12E-3	2.40E-3
NHWD	kg	2.17E+0	6.49E-2	3.89E-2	2.27E+0	4.35E-2	5.56E-2	1.74E-1	-7.42E-1	1.80E+0
RWD	kg	2.59E-4	7.13E-6	2.05E-6	2.68E-4	4.78E-6	5.56E-6	1.85E-7	-1.01E-4	1.78E-4
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