Environmental Profile

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

Ecochain v3.5.80

Product:	3084301 - EK PP-RCT Reducer I/E GN 50x32
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

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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	0.01
ADPE	kg Sb-eq	1.20E-6	1.21E-7	4.52E-7	1.78E-6	2.45E-8	1.17E-7	2.72E-10	-2.94E-7	1.63E-6
ADPF	kg Sb-eq	1.28E-3	3.40E-5	3.43E-5	1.35E-3	6.90E-6	4.53E-5	3.78E-7	-6.97E-4	7.08E-4
GWP	kg CO2-eq	7.42E-2	4.63E-3	6.18E-3	8.51E-2	9.40E-4	3.18E-2	3.81E-4	-4.51E-2	7.31E-2
ODP	kg CFC-11-eq	1.63E-9	8.59E-10	1.05E-8	1.30E-8	1.74E-10	5.95E-10	9.04E-12	-1.79E-9	1.20E-8
POCP	kg ethene-eq	6.28E-5	2.78E-6	4.45E-6	7.01E-5	5.64E-7	4.51E-6	8.68E-8	-2.89E-5	4.64E-5
AP	kg SO2-eq	2.37E-4	1.99E-5	4.23E-5	2.99E-4	4.05E-6	2.31E-5	2.00E-7	-1.05E-4	2.22E-4
EP	kg PO4 3−-eq	2.18E-5	3.98E-6	5.45E-6	3.12E-5	8.08E-7	4.09E-6	8.66E-8	-9.67E-6	2.65E-5
HTP	kg 1,4-DB-eq	1.20E-2	1.98E-3	7.49E-3	2.15E-2	4.02E-4	9.29E-3	2.98E-5	-5.20E-3	2.60E-2
FAETP	kg 1,4-DB-eq	2.97E-4	5.81E-5	2.70E-4	6.26E-4	1.18E-5	2.22E-4	3.22E-5	-1.03E-4	7.88E-4
MAETP	kg 1,4-DB-eq	8.19E-1	2.07E-1	7.51E-1	1.78E+0	4.21E-2	4.88E-1	3.21E-2	-3.14E-1	2.03E+0
TETP	kg 1,4-DB-eq	5.00E-5	7.02E-6	3.90E-4	4.47E-4	1.42E-6	2.85E-5	4.89E-8	-2.10E-5	4.56E-4
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	7.77E-2	4.68E-3	7.32E-3	8.97E-2	9.48E-4	3.20E-2	4.46E-4	-4.67E-2	7.63E-2
GWP-f	kg CO2 eq	7.75E-2	4.67E-3	5.90E-3	8.81E-2	9.48E-4	3.19E-2	4.47E-4	-4.66E-2	7.47E-2
GWP-b	kg CO2 eq	1.95E-4	2.84E-6	1.32E-3	1.52E-3	5.75E-7	8.85E-6	3.88E-7	-4.84E-5	1.48E-3
GWP-luluc	kg CO2 eq	2.41E-5	1.65E-6	9.23E-5	1.18E-4	3.35E-7	5.36E-6	7.76E-9	-9.39E-6	1.14E-4
ODP	kg CFC11 eq	1.56E-9	1.08E-9	5.87E-9	8.51E-9	2.18E-10	7.04E-10	1.12E-11	-1.90E-9	7.54E-9
AP	mol H+ eq	2.85E-4	2.66E-5	5.35E-5	3.65E-4	5.40E-6	2.98E-5	2.68E-7	-1.26E-4	2.74E-4
EP-fw	kg P eq	1.25E-6	3.84E-8	1.95E-7	1.48E-6	7.80E-9	1.55E-7	3.54E-10	-4.99E-7	1.14E-6
EP-m	kg N eq	4.73E-5	9.52E-6	9.93E-6	6.67E-5	1.93E-6	8.76E-6	1.73E-7	-2.26E-5	5.50E-5
EP-T	mol N eq	5.37E-4	1.05E-4	1.23E-4	7.64E-4	2.13E-5	9.64E-5	1.09E-6	-2.50E-4	6.33E-4
POCP	kg NMVOC eq	2.43E-4	3.00E-5	2.85E-5	3.02E-4	6.08E-6	3.04E-5	4.08E-7	-1.14E-4	2.24E-4
ADP-mm	kg Sb eq	1.20E-6	1.21E-7	4.52E-7	1.78E-6	2.45E-8	1.17E-7	2.72E-10	-2.94E-7	1.63E-6
ADP-f	MJ	2.69E+0	7.17E-2	1.49E+0	4.24E+0	1.45E-2	9.33E-2	8.19E-4	-1.43E+0	2.92E+0
WDP	m3 depriv.	5.48E-2	2.20E-4	2.60E-2	8.10E-2	4.46E-5	1.82E-3	4.71E-6	-2.44E-2	5.85E-2
PM	disease inc.	2.47E-9	4.22E-10	4.43E-10	3.34E-9	8.55E-11	4.87E-10	5.63E-12	-1.05E-9	2.86E-9
IR	kBq U-235 eq	1.46E-3	3.13E-4	1.74E-2	1.92E-2	6.36E-5	2.82E-4	3.79E-6	-6.66E-4	1.89E-2
ETP-fw	CTUe	4.87E-1	5.82E-2	4.98E-1	1.04E+0	1.18E-2	1.06E-1	6.86E-4	-1.83E-1	9.79E-1
HTP-c	CTUh	1.88E-11	2.07E-12	1.08E-11	3.17E-11	4.20E-13	1.35E-11	2.04E-14	-7.58E-12	3.80E-11
HTP-nc	CTUh	5.23E-10	6.94E-11	3.40E-10	9.33E-10	1.41E-11	1.61E-10	4.44E-13	-2.13E-10	8.96E-10
SQP	Pt	1.19E-1	6.14E-2	4.07E-1	5.88E-1	1.24E-2	7.45E-2	2.10E-3	-5.77E-2	6.19E-1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.37E-2	1.03E-3	2.10E-1	2.55E-1	2.09E-4	4.59E-3	3.14E-5	-2.09E-2	2.39E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.37E-2	1.03E-3	2.10E-1	2.55E-1	2.09E-4	4.59E-3	3.14E-5	-2.09E-2	2.39E-1
PENRE	MJ	2.88E+0	7.61E-2	1.49E+0	4.45E+0	1.54E-2	9.94E-2	8.69E-4	-1.55E+0	3.02E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.88E+0	7.61E-2	1.49E+0	4.45E+0	1.54E-2	9.94E-2	8.69E-4	-1.55E+0	3.02E+0
PET	MJ	2.93E+0	7.72E-2	1.70E+0	4.70E+0	1.57E-2	1.04E-1	9.01E-4	-1.57E+0	3.26E+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	8.64E-4	8.12E-6	8.34E-4	1.71E-3	1.65E-6	5.43E-5	1.01E-6	-3.68E-4	1.40E-3
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.56E-7	1.83E-7	2.96E-8	5.69E-7	3.72E-8	1.53E-7	9.92E-10	-3.72E-7	3.88E-7
NHWD	kg	3.36E-3	4.44E-3	8.46E-4	8.65E-3	9.02E-4	4.76E-3	3.60E-3	-1.10E-3	1.68E-2
RWD	kg	1.26E-6	4.88E-7	4.44E-8	1.80E-6	9.89E-8	3.57E-7	5.34E-9	-6.05E-7	1.65E-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