Environmental Profile

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

Ecochain v3.5.80

Product:	3004656 - PVC Electro Pipe WT 3/4" L=4
Unit:	1 piece
Manufacturer:	Wavin - NL - Hardenberg - Verified
Address:	J.C. Kellerlaan 3 7772 SG Hardenberg Netherlands

With Wavin electro PVC you not only opt for a complete range, but also for high quality.

LCA standard:	NMD Bepalingsmethode 1.1 (2022)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	08-06-2023
End of validity:	08-06-2028
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 - NL - Hardenberg - 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	0.08	0	0	0.09	0	0.03	0	-0.04	0.08
ADPE	kg Sb-eq	2.09E-5	4.43E-7	6.60E-7	2.20E-5	2.81E-7	2.38E-6	2.97E-9	-8.63E-6	1.60E-5
ADPF	kg Sb-eq	9.22E-3	1.28E-4	1.77E-4	9.53E-3	7.90E-5	8.38E-4	4.18E-6	-4.92E-3	5.53E-3
GWP	kg CO2-eq	7.42E-1	1.73E-2	3.14E-2	7.91E-1	1.08E-2	2.84E-1	2.70E-3	-4.14E-1	6.75E-1
ODP	kg CFC-11-eq	4.33E-7	3.08E-9	2.95E-9	4.39E-7	1.99E-9	3.42E-8	1.00E-10	-2.14E-7	2.61E-7
POCP	kg ethene-eq	4.60E-4	1.05E-5	1.38E-5	4.84E-4	6.46E-6	6.57E-5	7.13E-7	-2.13E-4	3.44E-4
AP	kg SO2-eq	2.86E-3	7.63E-5	1.23E-4	3.06E-3	4.63E-5	4.83E-4	2.23E-6	-1.35E-3	2.24E-3
EP	kg PO4 3−-eq	3.42E-4	1.50E-5	1.95E-5	3.77E-4	9.24E-6	7.31E-5	8.69E-7	-1.64E-4	2.96E-4
HTP	kg 1,4-DB-eq	2.87E-1	7.30E-3	1.19E-2	3.06E-1	4.60E-3	1.29E-1	2.32E-4	-1.30E-1	3.10E-1
FAETP	kg 1,4-DB-eq	6.27E-3	2.13E-4	4.83E-4	6.97E-3	1.35E-4	1.93E-3	7.13E-5	-2.86E-3	6.25E-3
MAETP	kg 1,4-DB-eq	1.82E+1	7.67E-1	1.97E+0	2.10E+1	4.81E-1	6.36E+0	8.66E-2	-8.39E+0	1.95E+1
TETP	kg 1,4-DB-eq	2.01E-3	2.58E-5	7.37E-4	2.77E-3	1.63E-5	4.60E-4	7.66E-7	-9.49E-4	2.30E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	7.12E-1	1.75E-2	3.70E-2	7.66E-1	1.09E-2	3.43E-1	3.15E-3	-4.27E-1	6.96E-1
GWP-f	kg CO2 eq	7.61E-1	1.75E-2	2.90E-2	8.08E-1	1.08E-2	2.86E-1	3.15E-3	-4.23E-1	6.85E-1
GWP-b	kg CO2 eq	-5.03E-2	8.07E-6	6.27E-3	-4.40E-2	6.58E-6	5.60E-2	4.03E-6	-2.96E-3	9.03E-3
GWP-luluc	kg CO2 eq	6.15E-4	6.41E-6	1.77E-3	2.39E-3	3.84E-6	1.30E-4	8.35E-8	-2.82E-4	2.24E-3
ODP	kg CFC11 eq	4.26E-7	3.86E-9	3.50E-9	4.34E-7	2.50E-9	3.52E-8	1.25E-10	-2.12E-7	2.60E-7
AP	mol H+ eq	3.44E-3	1.01E-4	1.58E-4	3.70E-3	6.18E-5	6.06E-4	2.99E-6	-1.63E-3	2.75E-3
EP-fw	kg P eq	3.36E-5	1.76E-7	4.15E-7	3.41E-5	8.92E-8	4.34E-6	3.78E-9	-1.57E-5	2.29E-5
EP-m	kg N eq	5.83E-4	3.57E-5	4.66E-5	6.65E-4	2.21E-5	1.48E-4	1.84E-6	-2.85E-4	5.52E-4
EP-T	mol N eq	6.31E-3	3.94E-4	5.00E-4	7.21E-3	2.44E-4	1.63E-3	1.20E-5	-3.07E-3	6.02E-3
POCP	kg NMVOC eq	2.19E-3	1.13E-4	1.41E-4	2.44E-3	6.96E-5	4.88E-4	4.08E-6	-1.05E-3	1.95E-3
ADP-mm	kg Sb eq	2.09E-5	4.43E-7	6.60E-7	2.20E-5	2.81E-7	2.38E-6	2.97E-9	-8.63E-6	1.60E-5
ADP-f	MJ	1.96E+1	2.64E-1	3.36E-1	2.02E+1	1.66E-1	1.66E+0	9.04E-3	-1.03E+1	1.18E+1
WDP	m3 depriv.	1.28E+0	9.44E-4	2.27E-1	1.51E+0	5.11E-4	6.50E-2	5.02E-5	-6.10E-1	9.66E-1
PM	disease inc.	2.52E-8	1.57E-9	2.45E-9	2.92E-8	9.79E-10	7.55E-9	6.20E-11	-1.06E-8	2.72E-8
IR	kBq U-235 eq	4.14E-2	1.11E-3	6.06E-4	4.31E-2	7.28E-4	5.80E-3	4.15E-5	-1.97E-2	3.00E-2
ETP-fw	CTUe	1.28E+1	2.35E-1	5.60E-1	1.36E+1	1.35E-1	1.25E+1	1.38E-1	-6.11E+0	2.03E+1
HTP-c	CTUh	5.19E-10	7.63E-12	1.91E-11	5.45E-10	4.81E-12	1.82E-10	2.37E-13	-2.26E-10	5.06E-10
HTP-nc	CTUh	1.65E-8	2.57E-10	5.84E-10	1.74E-8	1.61E-10	4.40E-9	2.65E-11	-7.81E-9	1.42E-8
SQP	Pt	7.49E+0	2.29E-1	2.51E-2	7.75E+0	1.42E-1	1.03E+0	2.30E-2	-2.18E+0	6.77E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.70E+0	3.30E-3	1.01E+0	2.72E+0	2.39E-3	1.19E-1	3.30E-4	-6.63E-1	2.18E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.70E+0	3.30E-3	1.01E+0	2.72E+0	2.39E-3	1.19E-1	3.30E-4	-6.63E-1	2.18E+0
PENRE	MJ	2.11E+1	2.80E-1	3.64E-1	2.17E+1	1.77E-1	1.76E+0	9.59E-3	-1.11E+1	1.25E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.11E+1	2.80E-1	3.64E-1	2.17E+1	1.77E-1	1.76E+0	9.59E-3	-1.11E+1	1.25E+1
PET	MJ	2.28E+1	2.83E-1	1.38E+0	2.44E+1	1.79E-1	1.88E+0	9.92E-3	-1.18E+1	1.47E+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	1.37E-2	3.21E-5	5.35E-3	1.91E-2	1.88E-5	1.78E-3	1.11E-5	-6.39E-3	1.45E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.56E-5	6.68E-7	4.70E-7	1.67E-5	4.26E-7	2.67E-6	1.09E-8	-8.53E-6	1.13E-5
NHWD	kg	7.44E-2	1.67E-2	6.78E-4	9.19E-2	1.03E-2	6.16E-2	4.12E-2	-3.28E-2	1.72E-1
RWD	kg	3.64E-5	1.73E-6	8.44E-7	3.90E-5	1.13E-6	6.22E-6	5.90E-8	-1.74E-5	2.90E-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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