Environmental Profile

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

Ecochain v3.5.80

Product:	3004659 - PVC Electro Pipe WT 5/8" 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	0.07	0	0	0.07	0	0.02	0	-0.03	0.06
ADPE	kg Sb-eq	1.73E-5	3.57E-7	5.32E-7	1.82E-5	2.27E-7	1.92E-6	2.41E-9	-6.99E-6	1.34E-5
ADPF	kg Sb-eq	7.44E-3	1.03E-4	1.42E-4	7.68E-3	6.40E-5	6.77E-4	3.39E-6	-3.98E-3	4.45E-3
GWP	kg CO2-eq	6.00E-1	1.40E-2	2.53E-2	6.40E-1	8.71E-3	2.30E-1	2.19E-3	-3.35E-1	5.46E-1
ODP	kg CFC-11-eq	3.49E-7	2.48E-9	2.38E-9	3.53E-7	1.62E-9	2.76E-8	8.12E-11	-1.73E-7	2.10E-7
POCP	kg ethene-eq	3.71E-4	8.43E-6	1.12E-5	3.91E-4	5.23E-6	5.31E-5	5.79E-7	-1.72E-4	2.77E-4
AP	kg SO2-eq	2.32E-3	6.14E-5	9.94E-5	2.48E-3	3.75E-5	3.90E-4	1.81E-6	-1.09E-3	1.82E-3
EP	kg PO4 3−-eq	2.78E-4	1.21E-5	1.57E-5	3.06E-4	7.49E-6	5.90E-5	7.03E-7	-1.32E-4	2.41E-4
HTP	kg 1,4-DB-eq	2.33E-1	5.88E-3	9.56E-3	2.48E-1	3.73E-3	1.04E-1	1.88E-4	-1.06E-1	2.50E-1
FAETP	kg 1,4-DB-eq	5.17E-3	1.72E-4	3.89E-4	5.73E-3	1.09E-4	1.56E-3	5.78E-5	-2.31E-3	5.14E-3
MAETP	kg 1,4-DB-eq	1.49E+1	6.18E-1	1.59E+0	1.71E+1	3.90E-1	5.14E+0	7.03E-2	-6.80E+0	1.59E+1
TETP	kg 1,4-DB-eq	1.62E-3	2.08E-5	5.94E-4	2.24E-3	1.32E-5	3.72E-4	6.21E-7	-7.68E-4	1.85E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	5.80E-1	1.41E-2	2.98E-2	6.24E-1	8.79E-3	2.73E-1	2.56E-3	-3.45E-1	5.63E-1
GWP-f	kg CO2 eq	6.16E-1	1.41E-2	2.34E-2	6.53E-1	8.78E-3	2.32E-1	2.56E-3	-3.43E-1	5.54E-1
GWP-b	kg CO2 eq	-3.62E-2	6.51E-6	5.05E-3	-3.12E-2	5.33E-6	4.08E-2	3.26E-6	-2.40E-3	7.28E-3
GWP-luluc	kg CO2 eq	4.96E-4	5.16E-6	1.42E-3	1.93E-3	3.11E-6	1.05E-4	6.82E-8	-2.28E-4	1.81E-3
ODP	kg CFC11 eq	3.44E-7	3.11E-9	2.82E-9	3.50E-7	2.02E-9	2.84E-8	1.01E-10	-1.71E-7	2.09E-7
AP	mol H+ eq	2.80E-3	8.17E-5	1.27E-4	3.01E-3	5.00E-5	4.89E-4	2.43E-6	-1.32E-3	2.23E-3
EP-fw	kg P eq	2.71E-5	1.42E-7	3.34E-7	2.76E-5	7.23E-8	3.50E-6	3.08E-9	-1.27E-5	1.85E-5
EP-m	kg N eq	4.71E-4	2.88E-5	3.76E-5	5.38E-4	1.79E-5	1.19E-4	1.48E-6	-2.30E-4	4.46E-4
EP-T	mol N eq	5.12E-3	3.18E-4	4.03E-4	5.84E-3	1.97E-4	1.31E-3	9.70E-6	-2.47E-3	4.88E-3
POCP	kg NMVOC eq	1.77E-3	9.07E-5	1.14E-4	1.97E-3	5.64E-5	3.93E-4	3.31E-6	-8.48E-4	1.58E-3
ADP-mm	kg Sb eq	1.73E-5	3.57E-7	5.32E-7	1.82E-5	2.27E-7	1.92E-6	2.41E-9	-6.99E-6	1.34E-5
ADP-f	MJ	1.58E+1	2.13E-1	2.70E-1	1.63E+1	1.35E-1	1.34E+0	7.33E-3	-8.34E+0	9.44E+0
WDP	m3 depriv.	1.04E+0	7.60E-4	1.83E-1	1.22E+0	4.14E-4	5.24E-2	4.25E-5	-4.94E-1	7.78E-1
PM	disease inc.	2.03E-8	1.27E-9	1.98E-9	2.35E-8	7.93E-10	6.10E-9	5.03E-11	-8.55E-9	2.19E-8
IR	kBq U-235 eq	3.34E-2	8.91E-4	4.88E-4	3.48E-2	5.89E-4	4.69E-3	3.36E-5	-1.60E-2	2.41E-2
ETP-fw	CTUe	1.04E+1	1.90E-1	4.51E-1	1.11E+1	1.09E-1	1.01E+1	1.11E-1	-4.93E+0	1.65E+1
HTP-c	CTUh	4.19E-10	6.15E-12	1.54E-11	4.41E-10	3.90E-12	1.48E-10	1.93E-13	-1.83E-10	4.10E-10
HTP-nc	CTUh	1.34E-8	2.07E-10	4.71E-10	1.41E-8	1.30E-10	3.55E-9	2.14E-11	-6.32E-9	1.14E-8
SQP	Pt	5.66E+0	1.84E-1	2.02E-2	5.87E+0	1.15E-1	8.34E-1	1.86E-2	-1.68E+0	5.16E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.31E+0	2.66E-3	8.16E-1	2.13E+0	1.93E-3	9.63E-2	2.67E-4	-5.19E-1	1.71E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.31E+0	2.66E-3	8.16E-1	2.13E+0	1.93E-3	9.63E-2	2.67E-4	-5.19E-1	1.71E+0
PENRE	MJ	1.70E+1	2.26E-1	2.93E-1	1.75E+1	1.43E-1	1.42E+0	7.78E-3	-8.99E+0	1.01E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.70E+1	2.26E-1	2.93E-1	1.75E+1	1.43E-1	1.42E+0	7.78E-3	-8.99E+0	1.01E+1
PET	MJ	1.83E+1	2.28E-1	1.11E+0	1.96E+1	1.45E-1	1.52E+0	8.04E-3	-9.51E+0	1.18E+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	1.11E-2	2.59E-5	4.31E-3	1.54E-2	1.53E-5	1.43E-3	8.98E-6	-5.17E-3	1.17E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.26E-5	5.39E-7	3.79E-7	1.35E-5	3.45E-7	2.16E-6	8.85E-9	-6.90E-6	9.14E-6
NHWD	kg	6.04E-2	1.35E-2	5.47E-4	7.45E-2	8.35E-3	4.97E-2	3.34E-2	-2.66E-2	1.39E-1
RWD	kg	2.93E-5	1.40E-6	6.80E-7	3.14E-5	9.17E-7	5.02E-6	4.78E-8	-1.41E-5	2.33E-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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