

Environmental Profile

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

Ecochain v3.5.80



Product: 3087777 - Wafix PVC Bend 45° GY 125 SN4 S/S
Unit: 1 Piece
Manufacturer: Wavin - NL - Hardenberg - Verified
Address: J.C. Kellerlaan 3
7772 SG Hardenberg
Netherlands

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					Use stage							End-of-Life stage				
A1 Raw material supply A2 Transport A3 Manufacturing					B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment B6 Operational energy use B7 Operational water use							C1 De-construction demolition C2 Transport C3 Waste processing C4 Disposal				
Construction process stage												Benefits and loads beyond the system boundaries				
A4 Transport gate to site A5 Assembly / Construction installation process												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

This document and supporting material contain confidential and proprietary business information of Wavin - NL - Hardenberg - Verified. These materials may be printed or (photo) copied or otherwise used only with the written consent of Wavin - NL - Hardenberg - Verified.

Results

Environmental impact SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	0.11	0	0.01	0.12	0	0.04	0	-0.06	0.1
ADPE	kg Sb-eq	8.65E-4	3.68E-7	1.70E-6	8.67E-4	3.30E-7	2.76E-6	3.68E-9	-1.07E-5	8.59E-4
ADPF	kg Sb-eq	1.27E-2	1.06E-4	2.92E-4	1.31E-2	9.30E-5	9.63E-4	5.10E-6	-6.76E-3	7.37E-3
GWP	kg CO2-eq	9.94E-1	1.44E-2	5.54E-2	1.06E+0	1.27E-2	3.60E-1	3.74E-3	-5.57E-1	8.82E-1
ODP	kg CFC-11-eq	4.79E-7	2.55E-9	4.38E-9	4.86E-7	2.35E-9	3.74E-8	1.22E-10	-2.52E-7	2.74E-7
POCP	kg ethene-eq	6.49E-4	8.69E-6	2.41E-5	6.82E-4	7.60E-6	7.80E-5	9.44E-7	-2.98E-4	4.70E-4
AP	kg SO2-eq	3.95E-3	6.33E-5	2.38E-4	4.25E-3	5.45E-5	5.54E-4	2.74E-6	-1.84E-3	3.03E-3
EP	kg PO4 3--eq	4.94E-4	1.24E-5	3.06E-5	5.37E-4	1.09E-5	8.55E-5	1.23E-6	-2.42E-4	3.93E-4
HTP	kg 1,4-DB-eq	3.69E-1	6.06E-3	2.58E-2	4.00E-1	5.42E-3	1.51E-1	3.01E-4	-1.68E-1	3.89E-1
FAETP	kg 1,4-DB-eq	1.08E-2	1.77E-4	8.80E-4	1.19E-2	1.59E-4	2.36E-3	1.28E-4	-4.65E-3	9.88E-3
MAETP	kg 1,4-DB-eq	2.61E+1	6.36E-1	3.47E+0	3.02E+1	5.67E-1	7.72E+0	1.45E-1	-1.09E+1	2.78E+1
TETP	kg 1,4-DB-eq	2.55E-3	2.14E-5	1.92E-3	4.49E-3	1.92E-5	5.30E-4	9.39E-7	-1.53E-3	3.51E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.03E+0	1.45E-2	6.35E-2	1.10E+0	1.28E-2	3.81E-1	4.36E-3	-5.31E-1	9.72E-1
GWP-f	kg CO2 eq	1.02E+0	1.45E-2	4.88E-2	1.08E+0	1.28E-2	3.62E-1	4.36E-3	-5.71E-1	8.90E-1
GWP-b	kg CO2 eq	7.63E-3	6.70E-6	1.01E-2	1.77E-2	7.75E-6	1.87E-2	5.16E-6	4.01E-2	7.65E-2
GWP-luluc	kg CO2 eq	1.04E-3	5.32E-6	4.63E-3	5.68E-3	4.52E-6	1.46E-4	1.06E-7	-6.31E-4	5.20E-3
ODP	kg CFC11 eq	4.76E-7	3.20E-9	5.15E-9	4.84E-7	2.94E-9	3.87E-8	1.51E-10	-2.50E-7	2.76E-7
AP	mol H+ eq	4.80E-3	8.42E-5	2.97E-4	5.18E-3	7.27E-5	6.97E-4	3.67E-6	-2.22E-3	3.73E-3
EP-fw	kg P eq	4.51E-5	1.46E-7	8.54E-7	4.61E-5	1.05E-7	4.83E-6	4.81E-9	-2.24E-5	2.86E-5
EP-m	kg N eq	8.41E-4	2.97E-5	7.02E-5	9.41E-4	2.60E-5	1.73E-4	2.59E-6	-3.97E-4	7.47E-4
EP-T	mol N eq	9.15E-3	3.27E-4	7.74E-4	1.02E-2	2.87E-4	1.91E-3	1.47E-5	-4.28E-3	8.18E-3
POCP	kg NMVOC eq	3.14E-3	9.34E-5	2.20E-4	3.46E-3	8.20E-5	5.75E-4	5.12E-6	-1.47E-3	2.65E-3
ADP-mm	kg Sb eq	8.65E-4	3.68E-7	1.70E-6	8.67E-4	3.30E-7	2.76E-6	3.68E-9	-1.07E-5	8.59E-4
ADP-f	MJ	2.70E+1	2.19E-1	5.45E-1	2.77E+1	1.96E-1	1.91E+0	1.10E-2	-1.42E+1	1.56E+1
WDP	m3 depriv.	1.50E+0	7.83E-4	4.22E-1	1.93E+0	6.01E-4	7.16E-2	6.82E-5	-7.99E-1	1.20E+0
PM	disease inc.	3.54E-8	1.30E-9	3.67E-9	4.04E-8	1.15E-9	8.88E-9	7.60E-11	-1.73E-8	3.32E-8
IR	kBq U-235 eq	5.77E-2	9.17E-4	8.67E-4	5.95E-2	8.57E-4	6.66E-3	5.10E-5	-2.62E-2	4.09E-2
ETP-fw	CTUe	2.79E+1	1.95E-1	1.27E+0	2.94E+1	1.59E-1	1.35E+1	1.48E-1	-1.03E+1	3.29E+1
HTP-c	CTUh	7.60E-10	6.33E-12	4.38E-11	8.10E-10	5.66E-12	2.15E-10	3.00E-13	-2.93E-10	7.38E-10
HTP-nc	CTUh	2.46E-8	2.14E-10	1.37E-9	2.61E-8	1.90E-10	4.93E-9	2.92E-11	-1.01E-8	2.12E-8
SQP	Pt	5.07E+0	1.90E-1	4.08E-2	5.30E+0	1.68E-1	1.21E+0	2.83E-2	-9.13E+0	-2.43E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.56E+0	2.74E-3	2.65E+0	4.21E+0	2.81E-3	1.33E-1	4.20E-4	-1.95E+0	2.40E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.56E+0	2.74E-3	2.65E+0	4.21E+0	2.81E-3	1.33E-1	4.20E-4	-1.95E+0	2.40E+0
PENRE	MJ	2.89E+1	2.32E-1	5.89E-1	2.97E+1	2.08E-1	2.03E+0	1.17E-2	-1.53E+1	1.67E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.89E+1	2.32E-1	5.89E-1	2.97E+1	2.08E-1	2.03E+0	1.17E-2	-1.53E+1	1.67E+1
PET	MJ	3.05E+1	2.35E-1	3.24E+0	3.39E+1	2.11E-1	2.17E+0	1.21E-2	-1.72E+1	1.91E+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	1.80E-2	2.67E-5	9.97E-3	2.80E-2	2.22E-5	1.99E-3	1.36E-5	-9.47E-3	2.06E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.21E-4	5.55E-7	5.79E-7	1.22E-4	5.01E-7	3.13E-6	1.34E-8	-1.08E-5	1.15E-4
NHWD	kg	9.75E-2	1.39E-2	8.94E-4	1.12E-1	1.21E-2	7.20E-2	4.86E-2	-4.23E-2	2.03E-1
RWD	kg	5.36E-5	1.44E-6	1.07E-6	5.61E-5	1.33E-6	7.26E-6	7.19E-8	-2.33E-5	4.15E-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



Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
<https://www.ecochain.com>
+31 20 3035 777