Environmental Profile

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

Ecochain v3.5.80

Product:	3085204 - PVC Vent.Duct BL 195 L=5 Oval
Unit:	1 piece
Manufacturer:	Wavin - NL - Hardenberg - Verified
Address:	J.C. Kellerlaan 3 7772 SG Hardenberg Netherlands

With the new Ventiza air distribution system, Wavin offers a solution from the ventilation to the valve. A good indoor climate is arranged in no time!

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	1.98	0.03	0.08	2.09	0.03	0.65	0	-0.94	1.83
ADPE	kg Sb-eq	9.87E-3	7.06E-6	1.45E-5	9.89E-3	6.00E-6	5.18E-5	6.60E-8	-1.95E-4	9.75E-3
ADPF	kg Sb-eq	2.16E-1	2.03E-3	3.90E-3	2.22E-1	1.69E-3	1.82E-2	9.17E-5	-1.12E-1	1.29E-1
GWP	kg CO2-eq	1.82E+1	2.77E-1	6.93E-1	1.92E+1	2.30E-1	6.49E+0	6.14E-2	-9.46E+0	1.65E+1
ODP	kg CFC-11-eq	9.31E-6	4.91E-8	6.51E-8	9.42E-6	4.27E-8	7.53E-7	2.19E-9	-4.85E-6	5.37E-6
POCP	kg ethene-eq	1.18E-2	1.67E-4	3.05E-4	1.22E-2	1.38E-4	1.42E-3	1.60E-5	-4.78E-3	9.02E-3
AP	kg SO2-eq	7.42E-2	1.22E-3	2.72E-3	7.82E-2	9.90E-4	1.05E-2	4.92E-5	-3.03E-2	5.94E-2
EP	kg PO4 3−-eq	8.72E-3	2.39E-4	4.29E-4	9.38E-3	1.98E-4	1.58E-3	1.92E-5	-3.65E-3	7.54E-3
HTP	kg 1,4-DB-eq	6.44E+0	1.16E-1	2.62E-1	6.82E+0	9.85E-2	2.78E+0	5.14E-3	-2.94E+0	6.77E+0
FAETP	kg 1,4-DB-eq	1.63E-1	3.40E-3	1.07E-2	1.77E-1	2.88E-3	4.31E-2	1.61E-3	-6.45E-2	1.60E-1
MAETP	kg 1,4-DB-eq	4.40E+2	1.22E+1	4.35E+1	4.96E+2	1.03E+1	1.42E+2	1.96E+0	-1.90E+2	4.60E+2
TETP	kg 1,4-DB-eq	4.50E-2	4.11E-4	1.63E-2	6.17E-2	3.49E-4	9.97E-3	1.72E-5	-2.14E-2	5.06E-2
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.84E+1	2.79E-1	8.16E-1	1.95E+1	2.32E-1	7.03E+0	7.16E-2	-9.74E+0	1.71E+1
GWP-f	kg CO2 eq	1.87E+1	2.79E-1	6.39E-1	1.97E+1	2.32E-1	6.54E+0	7.16E-2	-9.68E+0	1.68E+1
GWP-b	kg CO2 eq	-3.49E-1	1.29E-4	1.38E-1	-2.10E-1	1.41E-4	4.89E-1	9.03E-5	-6.07E-2	2.19E-1
GWP-luluc	kg CO2 eq	1.44E-2	1.02E-4	3.90E-2	5.34E-2	8.21E-5	2.84E-3	1.90E-6	-6.30E-3	5.01E-2
ODP	kg CFC11 eq	9.18E-6	6.15E-8	7.72E-8	9.32E-6	5.35E-8	7.75E-7	2.72E-9	-4.81E-6	5.34E-6
AP	mol H+ eq	8.92E-2	1.62E-3	3.49E-3	9.43E-2	1.32E-3	1.32E-2	6.59E-5	-3.66E-2	7.23E-2
EP-fw	kg P eq	8.24E-4	2.81E-6	9.14E-6	8.36E-4	1.91E-6	9.48E-5	8.56E-8	-3.54E-4	5.79E-4
EP-m	kg N eq	1.52E-2	5.70E-4	1.03E-3	1.68E-2	4.73E-4	3.19E-3	4.05E-5	-6.36E-3	1.42E-2
EP-T	mol N eq	1.60E-1	6.28E-3	1.10E-2	1.77E-1	5.21E-3	3.52E-2	2.63E-4	-6.80E-2	1.49E-1
POCP	kg NMVOC eq	5.60E-2	1.79E-3	3.11E-3	6.09E-2	1.49E-3	1.05E-2	9.02E-5	-2.35E-2	4.95E-2
ADP-mm	kg Sb eq	9.87E-3	7.06E-6	1.45E-5	9.89E-3	6.00E-6	5.18E-5	6.60E-8	-1.95E-4	9.75E-3
ADP-f	MJ	4.58E+2	4.21E+0	7.40E+0	4.69E+2	3.56E+0	3.59E+1	1.98E-1	-2.35E+2	2.74E+2
WDP	m3 depriv.	2.83E+1	1.50E-2	5.00E+0	3.34E+1	1.09E-2	1.43E+0	1.29E-3	-1.38E+1	2.10E+1
PM	disease inc.	6.15E-7	2.50E-8	5.41E-8	6.94E-7	2.09E-8	1.63E-7	1.36E-9	-2.34E-7	6.45E-7
IR	kBq U-235 eq	9.28E-1	1.76E-2	1.34E-2	9.59E-1	1.56E-2	1.26E-1	9.09E-4	-4.46E-1	6.55E-1
ETP-fw	CTUe	3.70E+2	3.75E+0	1.23E+1	3.86E+2	2.89E+0	2.77E+2	3.07E+0	-1.35E+2	5.34E+2
HTP-c	CTUh	1.30E-8	1.22E-10	4.21E-10	1.36E-8	1.03E-10	4.03E-9	5.42E-12	-5.09E-9	1.26E-8
HTP-nc	CTUh	4.23E-7	4.10E-9	1.29E-8	4.40E-7	3.45E-9	9.66E-8	5.90E-10	-1.76E-7	3.65E-7
SQP	Pt	1.01E+2	3.65E+0	5.54E-1	1.05E+2	3.05E+0	2.21E+1	5.06E-1	-3.52E+1	9.54E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.81E+1	5.26E-2	2.23E+1	5.05E+1	5.11E-2	2.60E+0	7.29E-3	-1.21E+1	4.10E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.81E+1	5.26E-2	2.23E+1	5.05E+1	5.11E-2	2.60E+0	7.29E-3	-1.21E+1	4.10E+1
PENRE	MJ	4.91E+2	4.47E+0	8.02E+0	5.04E+2	3.78E+0	3.82E+1	2.10E-1	-2.53E+2	2.92E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.91E+2	4.47E+0	8.02E+0	5.04E+2	3.78E+0	3.82E+1	2.10E-1	-2.53E+2	2.92E+2
PET	MJ	5.19E+2	4.52E+0	3.03E+1	5.54E+2	3.83E+0	4.08E+1	2.17E-1	-2.65E+2	3.33E+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	3.16E-1	5.12E-4	1.18E-1	4.34E-1	4.03E-4	3.90E-2	2.42E-4	-1.44E-1	3.30E-1
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.53E-3	1.07E-5	1.04E-5	1.55E-3	9.11E-6	5.79E-5	2.41E-7	-1.95E-4	1.42E-3
NHWD	kg	1.69E+0	2.67E-1	1.50E-2	1.98E+0	2.21E-1	1.32E+0	8.82E-1	-7.38E-1	3.66E+0
RWD	kg	8.06E-4	2.76E-5	1.86E-5	8.53E-4	2.42E-5	1.34E-4	1.29E-6	-3.93E-4	6.19E-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

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