Environmental Profile

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

Ecochain v3.5.80

Product:	3085263 - PP Vent. Endcap Duct 195x80
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	0.01	0	0	0.01	0	0	0	-0	0
ADPE	kg Sb-eq	7.03E-7	2.67E-8	1.03E-7	8.32E-7	1.97E-8	1.00E-7	2.20E-10	-2.73E-7	6.79E-7
ADPF	kg Sb-eq	1.02E-3	7.67E-6	1.77E-5	1.04E-3	5.56E-6	3.77E-5	3.05E-7	-5.47E-4	5.39E-4
GWP	kg CO2-eq	5.85E-2	1.04E-3	3.35E-3	6.29E-2	7.57E-4	2.23E-2	3.07E-4	-3.59E-2	5.04E-2
ODP	kg CFC-11-eq	2.33E-9	1.85E-10	2.65E-10	2.78E-9	1.40E-10	5.11E-10	7.28E-12	-2.02E-9	1.42E-9
POCP	kg ethene-eq	4.75E-5	6.29E-7	1.46E-6	4.95E-5	4.54E-7	3.82E-6	7.00E-8	-2.40E-5	2.99E-5
AP	kg SO2-eq	1.85E-4	4.59E-6	1.44E-5	2.04E-4	3.26E-6	1.94E-5	1.61E-7	-9.63E-5	1.31E-4
EP	kg PO4 3−-eq	1.91E-5	9.01E-7	1.85E-6	2.19E-5	6.51E-7	3.46E-6	6.96E-8	-1.14E-5	1.47E-5
HTP	kg 1,4-DB-eq	9.72E-3	4.39E-4	1.56E-3	1.17E-2	3.24E-4	7.58E-3	2.40E-5	-5.23E-3	1.44E-2
FAETP	kg 1,4-DB-eq	3.12E-4	1.28E-5	5.32E-5	3.78E-4	9.49E-6	1.63E-4	2.58E-5	-1.85E-4	3.91E-4
MAETP	kg 1,4-DB-eq	6.50E-1	4.61E-2	2.10E-1	9.06E-1	3.39E-2	3.88E-1	2.57E-2	-3.25E-1	1.03E+0
TETP	kg 1,4-DB-eq	4.62E-5	1.55E-6	1.16E-4	1.64E-4	1.15E-6	2.32E-5	3.95E-8	-5.15E-5	1.36E-4
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	6.12E-2	1.05E-3	3.84E-3	6.61E-2	7.64E-4	2.39E-2	3.60E-4	-3.37E-2	5.74E-2
GWP-f	kg CO2 eq	6.09E-2	1.05E-3	2.95E-3	6.49E-2	7.63E-4	2.24E-2	3.60E-4	-3.71E-2	5.13E-2
GWP-b	kg CO2 eq	3.06E-4	4.86E-7	6.09E-4	9.15E-4	4.64E-7	1.51E-3	3.12E-7	3.40E-3	5.83E-3
GWP-luluc	kg CO2 eq	3.38E-5	3.85E-7	2.80E-4	3.14E-4	2.70E-7	4.38E-6	6.31E-9	-3.19E-5	2.87E-4
ODP	kg CFC11 eq	2.55E-9	2.32E-10	3.12E-10	3.09E-9	1.76E-10	6.05E-10	9.04E-12	-2.08E-9	1.81E-9
AP	mol H+ eq	2.25E-4	6.10E-6	1.80E-5	2.49E-4	4.35E-6	2.51E-5	2.16E-7	-1.17E-4	1.61E-4
EP-fw	kg P eq	1.02E-6	1.06E-8	5.16E-8	1.09E-6	6.28E-9	1.27E-7	2.87E-10	-7.23E-7	4.97E-7
EP-m	kg N eq	3.99E-5	2.15E-6	4.25E-6	4.63E-5	1.56E-6	7.42E-6	1.39E-7	-2.15E-5	3.40E-5
EP-T	mol N eq	4.37E-4	2.37E-5	4.68E-5	5.07E-4	1.71E-5	8.16E-5	8.77E-7	-2.40E-4	3.67E-4
POCP	kg NMVOC eq	1.90E-4	6.77E-6	1.33E-5	2.10E-4	4.90E-6	2.57E-5	3.29E-7	-1.00E-4	1.40E-4
ADP-mm	kg Sb eq	7.02E-7	2.67E-8	1.03E-7	8.32E-7	1.97E-8	1.00E-7	2.20E-10	-2.73E-7	6.79E-7
ADP-f	MJ	2.14E+0	1.59E-2	3.30E-2	2.19E+0	1.17E-2	7.75E-2	6.60E-4	-1.14E+0	1.14E+0
WDP	m3 depriv.	4.05E-2	5.67E-5	2.55E-2	6.61E-2	3.60E-5	1.48E-3	3.98E-6	-2.53E-2	4.23E-2
PM	disease inc.	2.26E-9	9.45E-11	2.22E-10	2.57E-9	6.89E-11	4.11E-10	4.54E-12	-1.16E-9	1.89E-9
IR	kBq U-235 eq	1.48E-3	6.65E-5	5.24E-5	1.60E-3	5.12E-5	2.38E-4	3.05E-6	-7.70E-4	1.12E-3
ETP-fw	CTUe	7.51E-1	1.41E-2	7.66E-2	8.42E-1	9.52E-3	9.01E-2	5.53E-4	-4.15E-1	5.26E-1
HTP-c	CTUh	1.40E-11	4.59E-13	2.65E-12	1.72E-11	3.39E-13	1.10E-11	1.66E-14	-8.32E-12	2.02E-11
HTP-nc	CTUh	4.04E-10	1.55E-11	8.28E-11	5.02E-10	1.13E-11	1.31E-10	3.59E-13	-2.51E-10	3.94E-10
SQP	Pt	2.14E-1	1.38E-2	2.46E-3	2.30E-1	1.00E-2	6.12E-2	1.69E-3	-6.64E-1	-3.61E-1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.78E-2	1.99E-4	1.60E-1	2.18E-1	1.68E-4	3.76E-3	2.52E-5	-1.29E-1	9.30E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.78E-2	1.99E-4	1.60E-1	2.18E-1	1.68E-4	3.76E-3	2.52E-5	-1.29E-1	9.30E-2
PENRE	MJ	2.29E+0	1.68E-2	3.56E-2	2.35E+0	1.24E-2	8.26E-2	7.01E-4	-1.22E+0	1.22E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.29E+0	1.68E-2	3.56E-2	2.35E+0	1.24E-2	8.26E-2	7.01E-4	-1.22E+0	1.22E+0
PET	MJ	2.35E+0	1.70E-2	1.96E-1	2.56E+0	1.26E-2	8.64E-2	7.26E-4	-1.35E+0	1.31E+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	6.28E-4	1.93E-6	6.03E-4	1.23E-3	1.33E-6	4.41E-5	8.11E-7	-4.28E-4	8.51E-4
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.03E-7	4.02E-8	3.50E-8	3.78E-7	3.00E-8	1.30E-7	8.01E-10	-3.13E-7	2.25E-7
NHWD	kg	2.61E-3	1.01E-3	5.40E-5	3.67E-3	7.26E-4	3.78E-3	2.90E-3	-1.19E-3	9.89E-3
RWD	kg	1.56E-6	1.04E-7	6.49E-8	1.73E-6	7.97E-8	3.04E-7	4.30E-9	-7.03E-7	1.41E-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

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