Environmental Profile

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

Ecochain v3.5.80

Product:	3085257 - PVC Vent. Reducer BL 235x160 S/S Steel
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	0.08	0	0	0.08	0	0.02	0	-0.04	0.07
ADPE	kg Sb-eq	6.96E-4	2.34E-7	1.17E-6	6.98E-4	2.16E-7	1.98E-6	2.42E-9	-7.58E-6	6.92E-4
ADPF	kg Sb-eq	8.04E-3	6.73E-5	2.00E-4	8.30E-3	6.08E-5	6.80E-4	3.34E-6	-4.28E-3	4.77E-3
GWP	kg CO2-eq	7.00E-1	9.15E-3	3.80E-2	7.47E-1	8.28E-3	2.32E-1	2.29E-3	-3.70E-1	6.19E-1
ODP	kg CFC-11-eq	3.52E-7	1.62E-9	3.01E-9	3.57E-7	1.54E-9	2.83E-8	7.96E-11	-1.84E-7	2.03E-7
POCP	kg ethene-eq	4.27E-4	5.52E-6	1.65E-5	4.50E-4	4.97E-6	5.44E-5	5.92E-7	-1.96E-4	3.14E-4
AP	kg SO2-eq	2.87E-3	4.02E-5	1.64E-4	3.08E-3	3.56E-5	3.98E-4	1.80E-6	-1.29E-3	2.22E-3
EP	kg PO4 3−-eq	3.70E-4	7.90E-6	2.10E-5	3.99E-4	7.11E-6	6.07E-5	7.08E-7	-1.82E-4	2.85E-4
HTP	kg 1,4-DB-eq	2.53E-1	3.85E-3	1.77E-2	2.75E-1	3.54E-3	1.04E-1	1.89E-4	-1.22E-1	2.60E-1
FAETP	kg 1,4-DB-eq	8.19E-3	1.12E-4	6.03E-4	8.90E-3	1.04E-4	1.58E-3	5.97E-5	-3.71E-3	6.93E-3
MAETP	kg 1,4-DB-eq	1.81E+1	4.04E-1	2.38E+0	2.09E+1	3.70E-1	5.51E+0	7.27E-2	-7.89E+0	1.89E+1
TETP	kg 1,4-DB-eq	1.88E-3	1.36E-5	1.31E-3	3.21E-3	1.25E-5	3.67E-4	6.34E-7	-1.24E-3	2.35E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	7.24E-1	9.23E-3	4.35E-2	7.77E-1	8.35E-3	2.53E-1	2.66E-3	-3.34E-1	7.07E-1
GWP-f	kg CO2 eq	7.17E-1	9.22E-3	3.35E-2	7.59E-1	8.34E-3	2.33E-1	2.66E-3	-3.78E-1	6.26E-1
GWP-b	kg CO2 eq	6.92E-3	4.26E-6	6.90E-3	1.38E-2	5.07E-6	2.01E-2	3.35E-6	4.41E-2	7.81E-2
GWP-luluc	kg CO2 eq	8.14E-4	3.38E-6	3.18E-3	3.99E-3	2.95E-6	1.05E-4	6.99E-8	-5.55E-4	3.55E-3
ODP	kg CFC11 eq	3.48E-7	2.04E-9	3.53E-9	3.53E-7	1.92E-9	2.92E-8	9.88E-11	-1.82E-7	2.03E-7
AP	mol H+ eq	3.50E-3	5.35E-5	2.04E-4	3.75E-3	4.75E-5	5.00E-4	2.41E-6	-1.56E-3	2.74E-3
EP-fw	kg P eq	3.40E-5	9.30E-8	5.86E-7	3.47E-5	6.87E-8	3.53E-6	3.16E-9	-1.72E-5	2.11E-5
EP-m	kg N eq	6.39E-4	1.88E-5	4.82E-5	7.06E-4	1.70E-5	1.23E-4	1.49E-6	-2.83E-4	5.65E-4
EP-T	mol N eq	6.66E-3	2.08E-4	5.31E-4	7.40E-3	1.87E-4	1.36E-3	9.59E-6	-3.06E-3	5.90E-3
POCP	kg NMVOC eq	2.18E-3	5.93E-5	1.51E-4	2.39E-3	5.36E-5	4.06E-4	3.30E-6	-1.00E-3	1.85E-3
ADP-mm	kg Sb eq	6.96E-4	2.34E-7	1.17E-6	6.98E-4	2.16E-7	1.98E-6	2.42E-9	-7.58E-6	6.92E-4
ADP-f	MJ	1.71E+1	1.39E-1	3.74E-1	1.76E+1	1.28E-1	1.35E+0	7.22E-3	-9.04E+0	1.00E+1
WDP	m3 depriv.	1.07E+0	4.98E-4	2.89E-1	1.36E+0	3.93E-4	5.28E-2	4.81E-5	-5.80E-1	8.32E-1
PM	disease inc.	2.46E-8	8.28E-10	2.52E-9	2.79E-8	7.53E-10	6.21E-9	4.97E-11	-1.29E-8	2.20E-8
IR	kBq U-235 eq	3.72E-2	5.83E-4	5.94E-4	3.84E-2	5.60E-4	4.77E-3	3.32E-5	-1.94E-2	2.44E-2
ETP-fw	CTUe	2.21E+1	1.24E-1	8.69E-1	2.31E+1	1.04E-1	1.04E+1	1.14E-1	-8.45E+0	2.53E+1
HTP-c	CTUh	5.57E-10	4.02E-12	3.01E-11	5.91E-10	3.70E-12	1.51E-10	2.00E-13	-2.15E-10	5.31E-10
HTP-nc	CTUh	1.82E-8	1.36E-10	9.39E-10	1.93E-8	1.24E-10	3.61E-9	2.19E-11	-7.42E-9	1.57E-8
SQP	Pt	3.97E+0	1.21E-1	2.80E-2	4.12E+0	1.10E-1	8.21E-1	1.85E-2	-9.27E+0	-4.20E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.19E+0	1.74E-3	1.82E+0	3.01E+0	1.84E-3	9.67E-2	2.69E-4	-1.89E+0	1.22E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.19E+0	1.74E-3	1.82E+0	3.01E+0	1.84E-3	9.67E-2	2.69E-4	-1.89E+0	1.22E+0
PENRE	MJ	1.83E+1	1.48E-1	4.04E-1	1.89E+1	1.36E-1	1.43E+0	7.66E-3	-9.73E+0	1.07E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.83E+1	1.48E-1	4.04E-1	1.89E+1	1.36E-1	1.43E+0	7.66E-3	-9.73E+0	1.07E+1
PET	MJ	1.95E+1	1.49E-1	2.22E+0	2.19E+1	1.38E-1	1.53E+0	7.93E-3	-1.16E+1	1.20E+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	1.23E-2	1.69E-5	6.84E-3	1.92E-2	1.45E-5	1.45E-3	8.84E-6	-7.10E-3	1.35E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	9.93E-5	3.52E-7	3.97E-7	1.00E-4	3.28E-7	2.21E-6	8.81E-9	-7.68E-6	9.49E-5
NHWD	kg	7.06E-2	8.82E-3	6.13E-4	8.00E-2	7.94E-3	4.86E-2	3.17E-2	-3.10E-2	1.37E-1
RWD	kg	3.24E-5	9.13E-7	7.36E-7	3.41E-5	8.71E-7	5.14E-6	4.70E-8	-1.73E-5	2.28E-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