Environmental Profile

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

Ecochain v3.5.80

Product:	3085255 - PVC Vent. Reducer BL 195x80 S/S
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	0.05	0	0	0.06	0	0.02	0	-0.03	0.05
ADPE	kg Sb-eq	4.79E-4	1.58E-7	7.90E-7	4.80E-4	1.48E-7	1.35E-6	1.66E-9	-5.18E-6	4.76E-4
ADPF	kg Sb-eq	5.49E-3	4.55E-5	1.36E-4	5.67E-3	4.18E-5	4.65E-4	2.30E-6	-2.92E-3	3.26E-3
GWP	kg CO2-eq	4.76E-1	6.19E-3	2.58E-2	5.08E-1	5.69E-3	1.59E-1	1.57E-3	-2.51E-1	4.23E-1
ODP	kg CFC-11-eq	2.42E-7	1.10E-9	2.04E-9	2.45E-7	1.06E-9	1.94E-8	5.47E-11	-1.26E-7	1.39E-7
POCP	kg ethene-eq	2.92E-4	3.73E-6	1.12E-5	3.07E-4	3.42E-6	3.70E-5	4.07E-7	-1.32E-4	2.15E-4
AP	kg SO2-eq	1.96E-3	2.72E-5	1.11E-4	2.10E-3	2.45E-5	2.72E-4	1.24E-6	-8.67E-4	1.53E-3
EP	kg PO4 3−-eq	2.49E-4	5.34E-6	1.42E-5	2.68E-4	4.89E-6	4.13E-5	4.87E-7	-1.20E-4	1.95E-4
HTP	kg 1,4-DB-eq	1.72E-1	2.60E-3	1.20E-2	1.87E-1	2.43E-3	7.09E-2	1.30E-4	-8.23E-2	1.78E-1
FAETP	kg 1,4-DB-eq	5.43E-3	7.60E-5	4.09E-4	5.92E-3	7.13E-5	1.08E-3	4.11E-5	-2.40E-3	4.71E-3
MAETP	kg 1,4-DB-eq	1.23E+1	2.74E-1	1.61E+0	1.42E+1	2.55E-1	3.74E+0	5.00E-2	-5.33E+0	1.29E+1
TETP	kg 1,4-DB-eq	1.27E-3	9.21E-6	8.90E-4	2.17E-3	8.63E-6	2.52E-4	4.36E-7	-8.02E-4	1.63E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	4.93E-1	6.24E-3	2.95E-2	5.29E-1	5.74E-3	1.72E-1	1.83E-3	-2.32E-1	4.76E-1
GWP-f	kg CO2 eq	4.88E-1	6.24E-3	2.27E-2	5.17E-1	5.74E-3	1.60E-1	1.83E-3	-2.57E-1	4.28E-1
GWP-b	kg CO2 eq	4.67E-3	2.88E-6	4.68E-3	9.36E-3	3.48E-6	1.15E-2	2.30E-6	2.50E-2	4.58E-2
GWP-luluc	kg CO2 eq	5.30E-4	2.29E-6	2.15E-3	2.68E-3	2.03E-6	7.22E-5	4.81E-8	-3.44E-4	2.41E-3
ODP	kg CFC11 eq	2.38E-7	1.38E-9	2.40E-9	2.42E-7	1.32E-9	2.00E-8	6.80E-11	-1.25E-7	1.39E-7
AP	mol H+ eq	2.38E-3	3.62E-5	1.38E-4	2.55E-3	3.27E-5	3.41E-4	1.66E-6	-1.05E-3	1.88E-3
EP-fw	kg P eq	2.31E-5	6.29E-8	3.97E-7	2.35E-5	4.72E-8	2.42E-6	2.17E-9	-1.13E-5	1.47E-5
EP-m	kg N eq	4.30E-4	1.27E-5	3.26E-5	4.76E-4	1.17E-5	8.37E-5	1.02E-6	-1.89E-4	3.84E-4
EP-T	mol N eq	4.50E-3	1.41E-4	3.60E-4	5.00E-3	1.29E-4	9.22E-4	6.60E-6	-2.03E-3	4.02E-3
POCP	kg NMVOC eq	1.48E-3	4.01E-5	1.02E-4	1.63E-3	3.68E-5	2.76E-4	2.27E-6	-6.74E-4	1.27E-3
ADP-mm	kg Sb eq	4.79E-4	1.58E-7	7.90E-7	4.80E-4	1.48E-7	1.35E-6	1.66E-9	-5.18E-6	4.76E-4
ADP-f	MJ	1.17E+1	9.41E-2	2.53E-1	1.20E+1	8.81E-2	9.20E-1	4.97E-3	-6.17E+0	6.87E+0
WDP	m3 depriv.	7.34E-1	3.37E-4	1.96E-1	9.30E-1	2.70E-4	3.63E-2	3.31E-5	-3.91E-1	5.75E-1
PM	disease inc.	1.65E-8	5.60E-10	1.71E-9	1.88E-8	5.18E-10	4.23E-9	3.42E-11	-8.37E-9	1.52E-8
IR	kBq U-235 eq	2.54E-2	3.94E-4	4.03E-4	2.62E-2	3.85E-4	3.26E-3	2.28E-5	-1.30E-2	1.68E-2
ETP-fw	CTUe	1.46E+1	8.39E-2	5.89E-1	1.52E+1	7.15E-2	7.12E+0	7.85E-2	-5.40E+0	1.71E+1
HTP-c	CTUh	3.80E-10	2.72E-12	2.04E-11	4.03E-10	2.55E-12	1.03E-10	1.38E-13	-1.45E-10	3.64E-10
HTP-nc	CTUh	1.25E-8	9.18E-11	6.36E-10	1.32E-8	8.53E-11	2.47E-9	1.51E-11	-5.00E-9	1.08E-8
SQP	Pt	2.51E+0	8.16E-2	1.89E-2	2.62E+0	7.54E-2	5.62E-1	1.27E-2	-5.41E+0	-2.14E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.74E-1	1.18E-3	1.23E+0	2.01E+0	1.26E-3	6.63E-2	1.85E-4	-1.12E+0	9.52E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.74E-1	1.18E-3	1.23E+0	2.01E+0	1.26E-3	6.63E-2	1.85E-4	-1.12E+0	9.52E-1
PENRE	MJ	1.25E+1	9.99E-2	2.74E-1	1.29E+1	9.35E-2	9.79E-1	5.27E-3	-6.64E+0	7.35E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.25E+1	9.99E-2	2.74E-1	1.29E+1	9.35E-2	9.79E-1	5.27E-3	-6.64E+0	7.35E+0
PET	MJ	1.33E+1	1.01E-1	1.51E+0	1.49E+1	9.48E-2	1.05E+0	5.45E-3	-7.76E+0	8.30E+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	8.41E-3	1.15E-5	4.64E-3	1.31E-2	9.97E-6	9.94E-4	6.08E-6	-4.68E-3	9.38E-3
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.82E-5	2.38E-7	2.69E-7	6.87E-5	2.25E-7	1.51E-6	6.06E-9	-5.22E-6	6.52E-5
NHWD	kg	4.76E-2	5.97E-3	4.15E-4	5.40E-2	5.46E-3	3.32E-2	2.18E-2	-2.09E-2	9.37E-2
RWD	kg	2.21E-5	6.18E-7	4.99E-7	2.32E-5	5.99E-7	3.50E-6	3.23E-8	-1.16E-5	1.57E-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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