Environmental Profile

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

Ecochain v3.5.80

Product:	3085262 - PVC Vent. T-piece 90° BL 235x235 3S
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	0.34	0	0.02	0.36	0	0.1	0	-0.16	0.31
ADPE	kg Sb-eq	2.97E-3	9.56E-7	4.68E-6	2.98E-3	9.39E-7	8.31E-6	1.06E-8	-3.22E-5	2.95E-3
ADPF	kg Sb-eq	3.50E-2	2.75E-4	8.05E-4	3.60E-2	2.64E-4	2.89E-3	1.46E-5	-1.82E-2	2.10E-2
GWP	kg CO2-eq	3.02E+0	3.74E-2	1.53E-1	3.21E+0	3.60E-2	9.99E-1	1.00E-2	-1.54E+0	2.71E+0
ODP	kg CFC-11-eq	1.50E-6	6.64E-9	1.21E-8	1.52E-6	6.68E-9	1.20E-7	3.46E-10	-7.90E-7	8.56E-7
POCP	kg ethene-eq	1.90E-3	2.26E-5	6.64E-5	1.99E-3	2.16E-5	2.27E-4	2.59E-6	-8.02E-4	1.44E-3
AP	kg SO2-eq	1.25E-2	1.64E-4	6.57E-4	1.33E-2	1.55E-4	1.67E-3	7.85E-6	-5.18E-3	9.95E-3
EP	kg PO4 3−-eq	1.53E-3	3.23E-5	8.44E-5	1.65E-3	3.09E-5	2.53E-4	3.06E-6	-6.71E-4	1.27E-3
HTP	kg 1,4-DB-eq	1.16E+0	1.57E-2	7.10E-2	1.25E+0	1.54E-2	4.41E-1	8.23E-4	-4.97E-1	1.21E+0
FAETP	kg 1,4-DB-eq	3.30E-2	4.60E-4	2.42E-3	3.59E-2	4.51E-4	6.69E-3	2.61E-4	-1.29E-2	3.05E-2
MAETP	kg 1,4-DB-eq	7.88E+1	1.65E+0	9.55E+0	9.00E+1	1.61E+0	2.28E+1	3.18E-1	-3.22E+1	8.26E+1
TETP	kg 1,4-DB-eq	7.77E-3	5.57E-5	5.28E-3	1.31E-2	5.46E-5	1.58E-3	2.76E-6	-4.29E-3	1.04E-2
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	3.12E+0	3.78E-2	1.75E-1	3.34E+0	3.63E-2	1.04E+0	1.17E-2	-1.50E+0	2.93E+0
GWP-f	kg CO2 eq	3.09E+0	3.77E-2	1.34E-1	3.27E+0	3.63E-2	1.01E+0	1.17E-2	-1.58E+0	2.74E+0
GWP-b	kg CO2 eq	2.82E-2	1.74E-5	2.77E-2	5.60E-2	2.20E-5	3.71E-2	1.45E-5	7.65E-2	1.70E-1
GWP-luluc	kg CO2 eq	2.93E-3	1.38E-5	1.28E-2	1.57E-2	1.28E-5	4.50E-4	3.11E-7	-1.61E-3	1.46E-2
ODP	kg CFC11 eq	1.48E-6	8.33E-9	1.42E-8	1.50E-6	8.36E-9	1.24E-7	4.30E-10	-7.82E-7	8.53E-7
AP	mol H+ eq	1.51E-2	2.19E-4	8.19E-4	1.61E-2	2.07E-4	2.10E-3	1.05E-5	-6.26E-3	1.22E-2
EP-fw	kg P eq	1.44E-4	3.81E-7	2.35E-6	1.46E-4	2.99E-7	1.50E-5	1.40E-8	-6.46E-5	9.71E-5
EP-m	kg N eq	2.64E-3	7.71E-5	1.93E-4	2.92E-3	7.40E-5	5.11E-4	6.43E-6	-1.10E-3	2.40E-3
EP-T	mol N eq	2.78E-2	8.50E-4	2.13E-3	3.08E-2	8.15E-4	5.63E-3	4.18E-5	-1.18E-2	2.55E-2
POCP	kg NMVOC eq	9.43E-3	2.43E-4	6.07E-4	1.03E-2	2.33E-4	1.69E-3	1.44E-5	-4.01E-3	8.20E-3
ADP-mm	kg Sb eq	2.97E-3	9.56E-7	4.68E-6	2.98E-3	9.39E-7	8.31E-6	1.06E-8	-3.22E-5	2.95E-3
ADP-f	MJ	7.39E+1	5.69E-1	1.50E+0	7.60E+1	5.57E-1	5.71E+0	3.15E-2	-3.82E+1	4.41E+1
WDP	m3 depriv.	4.72E+0	2.03E-3	1.16E+0	5.89E+0	1.71E-3	2.26E-1	2.34E-4	-2.36E+0	3.76E+0
PM	disease inc.	1.03E-7	3.39E-9	1.01E-8	1.17E-7	3.28E-9	2.60E-8	2.17E-10	-4.53E-8	1.01E-7
IR	kBq U-235 eq	1.58E-1	2.38E-3	2.39E-3	1.63E-1	2.43E-3	2.01E-2	1.44E-4	-7.73E-2	1.08E-1
ETP-fw	CTUe	8.37E+1	5.07E-1	3.49E+0	8.77E+1	4.52E-1	4.41E+1	4.87E-1	-2.80E+1	1.05E+2
HTP-c	CTUh	2.59E-9	1.65E-11	1.21E-10	2.73E-9	1.61E-11	6.52E-10	8.89E-13	-8.67E-10	2.53E-9
HTP-nc	CTUh	7.77E-8	5.55E-10	3.77E-9	8.20E-8	5.39E-10	1.54E-8	9.39E-11	-3.00E-8	6.80E-8
SQP	Pt	1.30E+1	4.94E-1	1.12E-1	1.36E+1	4.77E-1	3.50E+0	8.04E-2	-1.96E+1	-1.97E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.29E+0	7.12E-3	7.30E+0	1.16E+1	7.99E-3	4.13E-1	1.16E-3	-4.46E+0	7.56E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.29E+0	7.12E-3	7.30E+0	1.16E+1	7.99E-3	4.13E-1	1.16E-3	-4.46E+0	7.56E+0
PENRE	MJ	7.93E+1	6.04E-1	1.62E+0	8.16E+1	5.91E-1	6.07E+0	3.34E-2	-4.11E+1	4.71E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.93E+1	6.04E-1	1.62E+0	8.16E+1	5.91E-1	6.07E+0	3.34E-2	-4.11E+1	4.71E+1
PET	MJ	8.36E+1	6.11E-1	8.93E+0	9.32E+1	5.99E-1	6.48E+0	3.45E-2	-4.56E+1	5.47E+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	5.61E-2	6.93E-5	2.75E-2	8.36E-2	6.30E-5	6.18E-3	3.84E-5	-2.66E-2	6.33E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.23E-4	1.44E-6	1.59E-6	4.26E-4	1.42E-6	9.29E-6	3.86E-8	-3.19E-5	4.05E-4
NHWD	kg	2.90E-1	3.61E-2	2.46E-3	3.29E-1	3.45E-2	2.07E-1	1.38E-1	-1.26E-1	5.83E-1
RWD	kg	1.37E-4	3.74E-6	2.96E-6	1.43E-4	3.79E-6	2.15E-5	2.04E-7	-6.85E-5	1.01E-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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