Environmental Profile

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

Ecochain v3.5.80

Product:	3085261 - PVC Vent. T-piece 90° BL 195x195 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	0.22	0	0.01	0.23	0	0.07	0	-0.11	0.2
ADPE	kg Sb-eq	2.03E-3	6.50E-7	3.20E-6	2.03E-3	6.29E-7	5.64E-6	7.04E-9	-2.17E-5	2.02E-3
ADPF	kg Sb-eq	2.30E-2	1.87E-4	5.49E-4	2.38E-2	1.77E-4	1.95E-3	9.74E-6	-1.22E-2	1.37E-2
GWP	kg CO2-eq	1.98E+0	2.54E-2	1.04E-1	2.11E+0	2.41E-2	6.70E-1	6.66E-3	-1.04E+0	1.77E+0
ODP	kg CFC-11-eq	1.02E-6	4.51E-9	8.24E-9	1.03E-6	4.47E-9	8.19E-8	2.32E-10	-5.31E-7	5.88E-7
POCP	kg ethene-eq	1.22E-3	1.54E-5	4.53E-5	1.28E-3	1.45E-5	1.54E-4	1.72E-6	-5.44E-4	9.07E-4
AP	kg SO2-eq	8.16E-3	1.12E-4	4.48E-4	8.72E-3	1.04E-4	1.14E-3	5.24E-6	-3.53E-3	6.44E-3
EP	kg PO4 3−-eq	1.01E-3	2.20E-5	5.76E-5	1.09E-3	2.07E-5	1.72E-4	2.06E-6	-4.65E-4	8.22E-4
HTP	kg 1,4-DB-eq	7.18E-1	1.07E-2	4.84E-2	7.77E-1	1.03E-2	2.98E-1	5.52E-4	-3.37E-1	7.48E-1
FAETP	kg 1,4-DB-eq	2.15E-2	3.13E-4	1.65E-3	2.35E-2	3.02E-4	4.52E-3	1.74E-4	-9.02E-3	1.95E-2
MAETP	kg 1,4-DB-eq	5.12E+1	1.13E+0	6.52E+0	5.88E+1	1.08E+0	1.55E+1	2.12E-1	-2.18E+1	5.37E+1
TETP	kg 1,4-DB-eq	5.24E-3	3.79E-5	3.60E-3	8.88E-3	3.66E-5	1.06E-3	1.85E-6	-3.01E-3	6.97E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.05E+0	2.57E-2	1.19E-1	2.20E+0	2.43E-2	7.06E-1	7.77E-3	-1.00E+0	1.93E+0
GWP-f	kg CO2 eq	2.03E+0	2.57E-2	9.17E-2	2.15E+0	2.43E-2	6.75E-1	7.77E-3	-1.07E+0	1.79E+0
GWP-b	kg CO2 eq	1.92E-2	1.18E-5	1.89E-2	3.81E-2	1.48E-5	3.10E-2	9.75E-6	6.53E-2	1.34E-1
GWP-luluc	kg CO2 eq	2.02E-3	9.40E-6	8.70E-3	1.07E-2	8.61E-6	3.05E-4	2.04E-7	-1.18E-3	9.87E-3
ODP	kg CFC11 eq	1.01E-6	5.66E-9	9.69E-9	1.02E-6	5.60E-9	8.43E-8	2.88E-10	-5.25E-7	5.86E-7
AP	mol H+ eq	9.88E-3	1.49E-4	5.59E-4	1.06E-2	1.39E-4	1.43E-3	7.01E-6	-4.26E-3	7.89E-3
EP-fw	kg P eq	9.53E-5	2.59E-7	1.61E-6	9.71E-5	2.00E-7	1.02E-5	9.21E-9	-4.45E-5	6.30E-5
EP-m	kg N eq	1.76E-3	5.24E-5	1.32E-4	1.94E-3	4.96E-5	3.48E-4	4.34E-6	-7.56E-4	1.59E-3
EP-T	mol N eq	1.84E-2	5.78E-4	1.46E-3	2.04E-2	5.46E-4	3.83E-3	2.80E-5	-8.11E-3	1.67E-2
POCP	kg NMVOC eq	6.14E-3	1.65E-4	4.14E-4	6.72E-3	1.56E-4	1.15E-3	9.63E-6	-2.73E-3	5.30E-3
ADP-mm	kg Sb eq	2.03E-3	6.50E-7	3.20E-6	2.03E-3	6.29E-7	5.64E-6	7.04E-9	-2.17E-5	2.02E-3
ADP-f	MJ	4.90E+1	3.87E-1	1.02E+0	5.04E+1	3.73E-1	3.86E+0	2.10E-2	-2.58E+1	2.89E+1
WDP	m3 depriv.	3.10E+0	1.38E-3	7.93E-1	3.89E+0	1.15E-3	1.53E-1	1.40E-4	-1.60E+0	2.44E+0
PM	disease inc.	6.68E-8	2.30E-9	6.90E-9	7.60E-8	2.20E-9	1.76E-8	1.45E-10	-3.17E-8	6.43E-8
IR	kBq U-235 eq	1.06E-1	1.62E-3	1.63E-3	1.09E-1	1.63E-3	1.37E-2	9.67E-5	-5.27E-2	7.18E-2
ETP-fw	CTUe	5.66E+1	3.45E-1	2.38E+0	5.94E+1	3.03E-1	3.01E+1	3.33E-1	-1.98E+1	7.03E+1
HTP-c	CTUh	1.59E-9	1.12E-11	8.24E-11	1.68E-9	1.08E-11	4.31E-10	5.84E-13	-5.89E-10	1.54E-9
HTP-nc	CTUh	5.23E-8	3.77E-10	2.57E-9	5.52E-8	3.61E-10	1.04E-8	6.39E-11	-2.04E-8	4.57E-8
SQP	Pt	9.02E+0	3.36E-1	7.66E-2	9.44E+0	3.19E-1	2.36E+0	5.39E-2	-1.57E+1	-3.49E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.94E+0	4.85E-3	4.98E+0	7.93E+0	5.36E-3	2.80E-1	7.84E-4	-3.44E+0	4.78E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.94E+0	4.85E-3	4.98E+0	7.93E+0	5.36E-3	2.80E-1	7.84E-4	-3.44E+0	4.78E+0
PENRE	MJ	5.25E+1	4.11E-1	1.11E+0	5.41E+1	3.96E-1	4.11E+0	2.23E-2	-2.77E+1	3.08E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.25E+1	4.11E-1	1.11E+0	5.41E+1	3.96E-1	4.11E+0	2.23E-2	-2.77E+1	3.08E+1
PET	MJ	5.55E+1	4.16E-1	6.09E+0	6.20E+1	4.02E-1	4.39E+0	2.31E-2	-3.12E+1	3.56E+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	3.51E-2	4.71E-5	1.88E-2	5.39E-2	4.22E-5	4.20E-3	2.58E-5	-1.83E-2	3.99E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.88E-4	9.81E-7	1.09E-6	2.90E-4	9.55E-7	6.30E-6	2.57E-8	-2.16E-5	2.76E-4
NHWD	kg	1.95E-1	2.45E-2	1.68E-3	2.21E-1	2.31E-2	1.39E-1	9.25E-2	-8.53E-2	3.91E-1
RWD	kg	9.17E-5	2.54E-6	2.02E-6	9.62E-5	2.54E-6	1.46E-5	1.37E-7	-4.67E-5	6.68E-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