Environmental Profile

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

Ecochain v3.5.80

Product:	3085334 - PVC Vent. Red.T-piece BL 195x160x125
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	0.28	0	0.02	0.31	0	0.08	0	-0.15	0.25
ADPE	kg Sb-eq	2.24E-3	9.37E-7	5.45E-6	2.24E-3	7.45E-7	7.17E-6	8.30E-9	-2.71E-5	2.22E-3
ADPF	kg Sb-eq	2.87E-2	2.70E-4	9.37E-4	2.99E-2	2.10E-4	2.41E-3	1.15E-5	-1.53E-2	1.72E-2
GWP	kg CO2-eq	2.55E+0	3.67E-2	1.78E-1	2.77E+0	2.86E-2	8.13E-1	7.81E-3	-1.36E+0	2.25E+0
ODP	kg CFC-11-eq	1.23E-6	6.50E-9	1.41E-8	1.25E-6	5.30E-9	9.89E-8	2.74E-10	-6.41E-7	7.11E-7
POCP	kg ethene-eq	1.53E-3	2.21E-5	7.73E-5	1.63E-3	1.71E-5	2.01E-4	2.03E-6	-7.42E-4	1.11E-3
AP	kg SO2-eq	1.04E-2	1.61E-4	7.65E-4	1.13E-2	1.23E-4	1.43E-3	6.18E-6	-5.07E-3	7.81E-3
EP	kg PO4 3−-eq	1.45E-3	3.17E-5	9.83E-5	1.58E-3	2.45E-5	2.22E-4	2.42E-6	-8.13E-4	1.02E-3
HTP	kg 1,4-DB-eq	9.39E-1	1.54E-2	8.27E-2	1.04E+0	1.22E-2	3.69E-1	6.48E-4	-4.67E-1	9.52E-1
FAETP	kg 1,4-DB-eq	3.46E-2	4.51E-4	2.82E-3	3.79E-2	3.58E-4	5.74E-3	2.04E-4	-1.78E-2	2.64E-2
MAETP	kg 1,4-DB-eq	6.66E+1	1.62E+0	1.11E+1	7.93E+1	1.28E+0	2.07E+1	2.48E-1	-3.03E+1	7.12E+1
TETP	kg 1,4-DB-eq	7.17E-3	5.45E-5	6.15E-3	1.34E-2	4.33E-5	1.28E-3	2.17E-6	-5.98E-3	8.72E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.62E+0	3.70E-2	2.04E-1	2.87E+0	2.88E-2	9.77E-1	9.11E-3	-1.06E+0	2.82E+0
GWP-f	kg CO2 eq	2.61E+0	3.70E-2	1.56E-1	2.80E+0	2.88E-2	8.17E-1	9.11E-3	-1.39E+0	2.27E+0
GWP-b	kg CO2 eq	1.32E-2	1.71E-5	3.23E-2	4.55E-2	1.75E-5	1.60E-1	1.14E-5	3.30E-1	5.36E-1
GWP-luluc	kg CO2 eq	3.79E-3	1.35E-5	1.49E-2	1.87E-2	1.02E-5	3.65E-4	2.40E-7	-3.15E-3	1.59E-2
ODP	kg CFC11 eq	1.21E-6	8.16E-9	1.65E-8	1.24E-6	6.63E-9	1.02E-7	3.40E-10	-6.34E-7	7.13E-7
AP	mol H+ eq	1.28E-2	2.14E-4	9.54E-4	1.40E-2	1.64E-4	1.80E-3	8.27E-6	-6.19E-3	9.74E-3
EP-fw	kg P eq	1.27E-4	3.73E-7	2.74E-6	1.30E-4	2.37E-7	1.23E-5	1.08E-8	-7.42E-5	6.85E-5
EP-m	kg N eq	2.48E-3	7.55E-5	2.25E-4	2.78E-3	5.87E-5	4.55E-4	5.10E-6	-1.16E-3	2.13E-3
EP-T	mol N eq	2.57E-2	8.33E-4	2.48E-3	2.90E-2	6.47E-4	5.01E-3	3.30E-5	-1.27E-2	2.20E-2
POCP	kg NMVOC eq	8.07E-3	2.38E-4	7.07E-4	9.01E-3	1.85E-4	1.50E-3	1.13E-5	-3.99E-3	6.72E-3
ADP-mm	kg Sb eq	2.24E-3	9.37E-7	5.45E-6	2.24E-3	7.45E-7	7.17E-6	8.30E-9	-2.71E-5	2.22E-3
ADP-f	MJ	6.08E+1	5.58E-1	1.75E+0	6.32E+1	4.42E-1	4.79E+0	2.48E-2	-3.25E+1	3.59E+1
WDP	m3 depriv.	3.74E+0	1.99E-3	1.35E+0	5.10E+0	1.36E-3	1.82E-1	1.67E-4	-2.24E+0	3.04E+0
PM	disease inc.	9.84E-8	3.32E-9	1.18E-8	1.14E-7	2.60E-9	2.27E-8	1.71E-10	-6.11E-8	7.78E-8
IR	kBq U-235 eq	1.35E-1	2.34E-3	2.78E-3	1.41E-1	1.93E-3	1.71E-2	1.14E-4	-7.74E-2	8.23E-2
ETP-fw	CTUe	9.72E+1	4.97E-1	4.06E+0	1.02E+2	3.59E-1	3.57E+1	3.89E-1	-4.25E+1	9.57E+1
HTP-c	CTUh	2.02E-9	1.61E-11	1.41E-10	2.17E-9	1.28E-11	5.46E-10	6.87E-13	-8.39E-10	1.89E-9
HTP-nc	CTUh	6.43E-8	5.44E-10	4.39E-9	6.93E-8	4.28E-10	1.26E-8	7.48E-11	-2.89E-8	5.35E-8
SQP	Pt	2.21E+1	4.84E-1	1.31E-1	2.27E+1	3.78E-1	2.92E+0	6.35E-2	-6.41E+1	-3.80E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.76E+0	6.98E-3	8.50E+0	1.43E+1	6.34E-3	3.36E-1	9.20E-4	-1.23E+1	2.27E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.76E+0	6.98E-3	8.50E+0	1.43E+1	6.34E-3	3.36E-1	9.20E-4	-1.23E+1	2.27E+0
PENRE	MJ	6.53E+1	5.92E-1	1.89E+0	6.78E+1	4.69E-1	5.09E+0	2.63E-2	-3.50E+1	3.84E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.53E+1	5.92E-1	1.89E+0	6.78E+1	4.69E-1	5.09E+0	2.63E-2	-3.50E+1	3.84E+1
PET	MJ	7.11E+1	5.99E-1	1.04E+1	8.21E+1	4.75E-1	5.43E+0	2.73E-2	-4.73E+1	4.07E+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	4.49E-2	6.79E-5	3.20E-2	7.69E-2	5.00E-5	5.02E-3	3.04E-5	-3.10E-2	5.11E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.25E-4	1.41E-6	1.86E-6	3.28E-4	1.13E-6	8.05E-6	3.03E-8	-2.85E-5	3.09E-4
NHWD	kg	2.77E-1	3.54E-2	2.87E-3	3.15E-1	2.74E-2	1.75E-1	1.09E-1	-1.20E-1	5.07E-1
RWD	kg	1.19E-4	3.66E-6	3.44E-6	1.27E-4	3.00E-6	1.87E-5	1.61E-7	-6.97E-5	7.88E-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