

Environmental Profile

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

Ecochain v4.3.1



Product: 3093911 - AquaCell 85 With Capillarity
Unit: 1 piece
Manufacturer: Wavin - NL - Hardenberg - Verified
Address: J.C. Kellerlaan 3
7772 SG Hardenberg
Netherlands

AquaCell 85 is a water retention unit, as part of a PolderRoof solution. PolderRoof is Wavin’s complete water retention, level and flow control solution, enabling rain water storage on roofs as well as re-use (for example to keep roof top gardens green).

LCA standard: NMD Bepalingsmethode 1.1 (2022)
Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified: Yes
Issue date: 18-03-2024
End of validity: 18-03-2029
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					Use stage							End-of-Life stage				
A1 Raw material supply A2 Transport A3 Manufacturing					B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment B6 Operational energy use B7 Operational water use							C1 De-construction demolition C2 Transport C3 Waste processing C4 Disposal				
Construction process stage					Benefits and loads beyond the system boundaries											
A4 Transport gate to site A5 Assembly / Construction installation process					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]

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Results

Environmental impact SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	0.18	0.04	0.05	0.27	0.01	0.23	0	0.02	0.54
ADPE	kg Sb-eq	2.02E-5	8.67E-6	1.27E-5	4.15E-5	2.38E-6	1.14E-5	2.65E-8	7.33E-6	6.26E-5
ADPF	kg Sb-eq	1.17E-2	2.49E-3	2.18E-3	1.63E-2	6.71E-4	4.42E-3	3.68E-5	1.23E-2	3.37E-2
GWP	kg CO2-eq	1.38E+0	3.39E-1	4.14E-1	2.13E+0	9.14E-2	2.67E+0	3.71E-2	1.24E-1	5.05E+0
ODP	kg CFC-11-eq	2.19E-7	6.02E-8	3.27E-8	3.12E-7	1.70E-8	5.81E-8	8.79E-10	-1.41E-7	2.47E-7
POCP	kg ethene-eq	6.54E-4	2.05E-4	1.80E-4	1.04E-3	5.49E-5	4.41E-4	8.45E-6	7.51E-4	2.29E-3
AP	kg SO2-eq	6.26E-3	1.49E-3	1.78E-3	9.54E-3	3.93E-4	2.26E-3	1.94E-5	2.39E-3	1.46E-2
EP	kg PO4 3--eq	9.51E-4	2.93E-4	2.29E-4	1.47E-3	7.86E-5	4.02E-4	8.41E-6	6.19E-5	2.02E-3
HTP	kg 1,4-DB-eq	7.24E-1	1.43E-1	1.92E-1	1.06E+0	3.91E-2	8.94E-1	2.89E-3	-7.08E-3	1.99E+0
FAETP	kg 1,4-DB-eq	2.00E-2	4.17E-3	6.57E-3	3.08E-2	1.15E-3	1.92E-2	3.12E-3	-1.13E-3	5.31E-2
MAETP	kg 1,4-DB-eq	6.18E+1	1.50E+1	2.59E+1	1.03E+2	4.09E+0	4.31E+1	3.11E+0	3.94E+0	1.57E+2
TETP	kg 1,4-DB-eq	7.30E-3	5.05E-4	1.43E-2	2.21E-2	1.39E-4	2.77E-3	4.77E-6	-8.43E-5	2.49E-2
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.52E-1	3.42E-1	4.74E-1	1.07E+0	9.22E-2	3.97E+0	4.34E-2	1.71E-1	5.35E+0
GWP-f	kg CO2 eq	1.31E+0	3.42E-1	3.64E-1	2.01E+0	9.22E-2	2.69E+0	4.34E-2	1.66E-1	5.00E+0
GWP-b	kg CO2 eq	-1.06E+0	1.58E-4	7.52E-2	-9.80E-1	5.60E-5	1.29E+0	3.77E-5	4.93E-3	3.13E-1
GWP-luluc	kg CO2 eq	2.50E-3	1.25E-4	3.46E-2	3.72E-2	3.26E-5	5.21E-4	7.60E-7	-1.36E-4	3.76E-2
ODP	kg CFC11 eq	2.32E-7	7.55E-8	3.85E-8	3.46E-7	2.12E-8	6.88E-8	1.09E-9	-1.56E-7	2.81E-7
AP	mol H+ eq	7.59E-3	1.98E-3	2.22E-3	1.18E-2	5.25E-4	2.92E-3	2.61E-5	2.68E-3	1.79E-2
EP-fw	kg P eq	9.30E-5	3.45E-6	6.38E-6	1.03E-4	7.58E-7	1.50E-5	3.45E-8	8.67E-6	1.27E-4
EP-m	kg N eq	1.33E-3	6.99E-4	5.24E-4	2.56E-3	1.88E-4	8.62E-4	1.68E-5	2.39E-4	3.86E-3
EP-T	mol N eq	1.46E-2	7.71E-3	5.78E-3	2.80E-2	2.07E-3	9.50E-3	1.06E-4	2.12E-3	4.18E-2
POCP	kg NMVOC eq	4.17E-3	2.20E-3	1.65E-3	8.01E-3	5.92E-4	2.98E-3	3.97E-5	2.18E-3	1.38E-2
ADP-mm	kg Sb eq	2.02E-5	8.67E-6	1.27E-5	4.15E-5	2.38E-6	1.14E-5	2.65E-8	7.33E-6	6.26E-5
ADP-f	MJ	2.79E+1	5.16E+0	4.07E+0	3.71E+1	1.41E+0	9.09E+0	7.97E-2	2.81E+1	7.58E+1
WDP	m3 depriv.	2.57E-1	1.85E-2	3.15E+0	3.43E+0	4.34E-3	1.77E-1	4.74E-4	7.09E-1	4.32E+0
PM	disease inc.	1.32E-7	3.07E-8	2.74E-8	1.90E-7	8.32E-9	4.76E-8	5.48E-10	2.00E-8	2.67E-7
IR	kBq U-235 eq	1.77E-1	2.16E-2	6.47E-3	2.05E-1	6.18E-3	2.75E-2	3.68E-4	9.54E-3	2.49E-1
ETP-fw	CTUe	3.80E+1	4.60E+0	9.46E+0	5.20E+1	1.15E+0	1.02E+1	6.67E-2	-1.86E+0	6.16E+1
HTP-c	CTUh	1.09E-9	1.49E-10	3.27E-10	1.57E-9	4.09E-11	1.33E-9	2.00E-12	-9.64E-11	2.84E-9
HTP-nc	CTUh	1.96E-8	5.03E-9	1.02E-8	3.48E-8	1.37E-9	1.55E-8	4.33E-11	1.80E-9	5.35E-8
SQP	Pt	1.22E+2	4.48E+0	3.04E-1	1.26E+2	1.21E+0	7.26E+0	2.04E-1	-4.99E+1	8.52E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.98E+1	6.46E-2	1.98E+1	3.96E+1	2.03E-2	4.46E-1	3.05E-3	-7.84E+0	3.23E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.98E+1	6.46E-2	1.98E+1	3.96E+1	2.03E-2	4.46E-1	3.05E-3	-7.84E+0	3.23E+1
PENRE	MJ	2.95E+1	5.48E+0	4.40E+0	3.94E+1	1.50E+0	9.68E+0	8.46E-2	2.95E+1	8.02E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.95E+1	5.48E+0	4.40E+0	3.94E+1	1.50E+0	9.68E+0	8.46E-2	2.95E+1	8.02E+1
PET	MJ	4.93E+1	5.54E+0	2.42E+1	7.90E+1	1.52E+0	1.01E+1	8.76E-2	2.17E+1	1.12E+2
SM	kg	3.38E+0	0	0	3.38E+0	0	0	0	0	3.38E+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	1.51E-2	6.28E-4	7.45E-2	9.02E-2	1.60E-4	5.29E-3	9.79E-5	1.05E-2	1.06E-1
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.51E-5	1.31E-5	4.32E-6	4.25E-5	3.62E-6	1.49E-5	9.67E-8	-2.11E-5	4.00E-5
NHWD	kg	2.18E-1	3.27E-1	6.67E-3	5.52E-1	8.77E-2	4.58E-1	3.50E-1	-1.74E-3	1.45E+0
RWD	kg	1.78E-4	3.39E-5	8.01E-6	2.20E-4	9.62E-6	3.50E-5	5.19E-7	4.30E-6	2.70E-4
CRU	kg	0	0	0	0	0	1.91E-1	0	0	1.91E-1
MFR	kg	0	0	0	0	0	2.50E+0	0	0	2.50E+0
MER	kg	0	0	0	0	0	9.04E-1	0	0	9.04E-1
EE	MJ	0	0	0	0	0	0	0	2.64E+1	2.64E+1
EET	MJ	0	0	0	0	0	0	0	9.39E+0	9.39E+0
EEE	MJ	0	0	0	0	0	0	0	3.80E+0	3.80E+0



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