Environmental Profile

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

Ecochain v4.3.1

Product:	Holcim Basalton Quattroblock (hergebruik)
Unit:	1 m2
Manufacturer:	Holcim Coastal Alphen a/d Rijn

Holcim Basalton Quattroblock hergebruik, 1 m², soortelijk gewicht 2.3, zuilhoogte schaalbaar van 200 mm t/m 500 mm (in stappen van 50mm), over de levensduur van 100 jaar. Resultaat berekening o.b.v. zuilhoogte 200mm. Toepassing in GWW. Scenario EoL betreft 1% stort, 49% recycling en 50% hergebruik na 50 jaar. Deze kaart kan alleen gebruikt worden wanneer de opdrachtgever de intentie afgeeft de gebruikte producten aan het eind van de levenscyclus in te zetten voor hergebruik.

LCA standard:	NMD Bepalingsmethode 1.2 (2025) (obv Ecoinvent 3.6)
Standard database:	Dutch - Nationale Milieudatabase v3.8 (obv Ecoinvent 3.6)
Externally verified:	Yes
Issue date:	07-03-2025
End of validity:	07-03-2030
Verifier:	Tim Mol

“De methodologie en dataverzameling zoals beschreven in het onderliggende LCA rapport voldoet aan de eisen van de “Bepalingsmethode Milieuprestatie Bouwwerken” versie 1.2 van december 2024 en de onderliggende normen ISO 14040, ISO 14044 en NEN-EN 15804.”

The LCA background information and project dossier have been registered in the online Ecochain application in the account Holcim Coastal Alphen a/d Rijn (2023). (☑ = 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	☑	☑	☑	☑	☑

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

MKI A1 = Environmental Costs Indicator (MKI A1) [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]; **MKI A2 (obv EF 3.0)** = Environmental Costs Indicator (MKI A2 obv EF 3.0) [euro]; **GWP-total** = EF Climate change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF Climate change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF 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]; **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]; **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	A4	A5	C1	C2	C3	C4	D	Total
MKI A1	euro	1.438249	0.373232	0.13823	1.949711	0.343557	0.427371	0.137057	0.172378	0.032958	0.002955	-1.051302	2.014686
ADPE	kg Sb-eq	8.823061E-5	2.546193E-5	7.789908E-6	1.214824E-4	2.265176E-5	2.130404E-5	1.681589E-6	3.088339E-5	9.107108E-7	1.951737E-7	-9.015029E-5	1.089588E-4
ADPF	kg Sb-eq	6.793774E-2	1.931048E-2	1.388598E-2	1.011342E-1	1.772445E-2	2.464656E-2	6.944898E-3	1.338116E-2	2.257788E-3	2.850893E-4	-5.472469E-2	1.116495E-1
GWP	kg CO2-eq	1.659398E+1	3.128785E+0	1.641957E+0	2.136472E+1	2.880489E+0	3.826470E+0	1.049269E+0	1.797554E+0	3.191669E-1	2.093127E-2	-1.129353E+1	1.996507E+1
ODP	kg CFC-11-eq	7.313660E-7	4.497821E-7	2.253482E-7	1.406496E-6	4.125619E-7	4.285276E-7	1.819442E-7	3.405364E-7	3.493674E-8	6.971419E-9	-7.537730E-7	2.058202E-6
POCP	kg ethene-eq	8.229739E-3	1.840031E-3	6.446426E-4	1.071441E-2	1.693316E-3	2.634657E-3	9.925921E-4	1.123426E-3	1.822192E-4	2.229593E-5	-5.801247E-3	1.156167E-2
AP	kg SO2-eq	3.415976E-2	2.226759E-2	4.175494E-3	6.060285E-2	2.062380E-2	1.873662E-2	7.465658E-3	6.639556E-3	1.475265E-3	1.530702E-4	-3.363784E-2	8.205898E-2
EP	kg PO4 3−-eq	4.650755E-3	4.981986E-3	7.917828E-4	1.042452E-2	4.619654E-3	3.774258E-3	1.686624E-3	1.287290E-3	3.287178E-4	2.952702E-5	-5.748711E-3	1.640188E-2
HTP	kg 1,4-DB-eq	4.257144E+0	7.685288E-1	2.851532E-1	5.310826E+0	6.995868E-1	1.214462E+0	3.814973E-1	3.883202E-1	7.583872E-2	9.460760E-3	-2.924485E+0	5.155507E+0
FAETP	kg 1,4-DB-eq	4.444560E-2	1.928404E-2	6.912789E-3	7.064242E-2	1.747583E-2	2.232487E-2	5.483734E-3	1.632766E-2	1.307906E-3	2.245258E-4	-3.946811E-2	9.431884E-2
MAETP	kg 1,4-DB-eq	1.688850E+2	6.127253E+1	2.450640E+1	2.546639E+2	5.529330E+1	7.705754E+1	1.896579E+1	4.384075E+1	4.926229E+0	8.027354E-1	-1.446325E+2	3.109177E+2
TETP	kg 1,4-DB-eq	2.205764E-2	3.736387E-3	7.727755E-3	3.352178E-2	3.426548E-3	3.781625E-3	8.909858E-4	2.182251E-3	9.313470E-4	2.376175E-5	-1.815254E-2	2.660576E-2

Environmental impact	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D	Total
MKI A2 (obv EF 3.0)	euro	2.85329	0.600489	0.357112	3.810891	0.552141	0.805373	0.333907	0.347801	0.074911	0.006267	-0.18119	5.750102
GWP-total	kg CO2 eq	1.692562E+1	3.162987E+0	1.675597E+0	2.176421E+1	2.912056E+0	3.366516E+0	1.059886E+0	1.814168E+0	3.233863E-1	2.134378E-2	-2.878053E+0	2.838351E+1
GWP-f	kg CO2 eq	1.691344E+1	3.154954E+0	1.674995E+0	2.174339E+1	2.904577E+0	3.880936E+0	1.059598E+0	1.813137E+0	3.228518E-1	2.132537E-2	-1.149701E+1	2.024880E+1
GWP-b	kg CO2 eq	9.666374E-3	2.215558E-3	4.678008E-4	1.234973E-2	2.054784E-3	2.168115E-3	1.972950E-4	5.789471E-4	4.730836E-4	1.246865E-5	-2.855654E-3	1.497877E-2
GWP-luluc	kg CO2 eq	2.517836E-3	5.818026E-3	1.252995E-4	8.461161E-3	5.423874E-3	9.477716E-4	9.105235E-5	4.517150E-4	6.143438E-5	5.945007E-6	-3.677999E-3	1.176495E-2
ODP	kg CFC11 eq	7.430616E-7	5.585156E-7	2.629851E-7	1.564562E-6	5.121939E-7	5.241893E-7	2.291576E-7	4.280185E-7	4.186932E-8	8.782399E-9	-8.414999E-7	2.467273E-6
AP	mol H+ eq	6.000844E-2	3.108912E-2	5.619941E-3	9.671750E-2	2.880727E-2	2.595317E-2	1.044097E-2	8.722787E-3	2.026454E-3	2.024623E-4	-5.269812E-2	1.201725E-1

EP-fw	kg P eq	4.756521E-4	3.788518E-5	8.434908E-6	5.219722E-4	3.496643E-5	4.918679E-5	4.157731E-6	1.252094E-5	1.005645E-5	2.390437E-7	-2.827905E-4	3.503091E-4
EP-m	kg N eq	1.102388E-2	1.330195E-2	2.081350E-3	2.640718E-2	1.234565E-2	9.895179E-3	4.563593E-3	2.890820E-3	8.063203E-4	6.962982E-5	-1.443167E-2	4.254670E-2
EP-T	mol N eq	1.205530E-1	1.464063E-1	2.299261E-2	2.899518E-1	1.358791E-1	1.085152E-1	5.007489E-2	3.189619E-2	8.953746E-3	7.677169E-4	-1.592238E-1	4.668149E-1
POCP	kg NMVOC eq	4.230511E-2	3.777581E-2	6.606156E-3	8.668708E-2	3.503127E-2	3.057949E-2	1.375687E-2	9.686492E-3	2.433860E-3	2.229985E-4	-4.731185E-2	1.310862E-1
ADP-mm	kg Sb eq	8.823059E-5	2.546039E-5	7.789869E-6	1.214809E-4	2.265033E-5	2.130246E-5	1.681576E-6	3.088328E-5	9.107002E-7	1.951721E-7	-9.014943E-5	1.089549E-4
ADP-f	MJ	1.247951E+2	4.004011E+1	2.618627E+1	1.910215E+2	3.675322E+1	5.010894E+1	1.465091E+1	2.810457E+1	4.336262E+0	5.962298E-1	-1.033541E+2	2.222175E+2
WDP	m3 depriv.	3.454382E+0	1.881424E-1	1.362935E-1	3.778818E+0	1.734714E-1	1.609045E-1	2.056067E-2	8.802025E-2	1.965267E-2	2.672644E-2	-1.035280E+1	-6.084647E+0
PM	disease inc.	1.053802E-6	7.448442E-8	2.241797E-7	1.352466E-6	6.554663E-8	5.660872E-7	2.652901E-7	1.343839E-7	4.460233E-8	3.927956E-9	-7.497254E-7	1.682579E-6
IR	kBq U-235 eq	3.042293E-1	1.735685E-1	2.399953E-2	5.017974E-1	1.594202E-1	1.546158E-1	6.288548E-2	1.211267E-1	1.374330E-2	2.445874E-3	-2.806391E-1	7.353957E-1
ETP-fw	CTUe	1.950160E+2	3.539363E+1	9.176447E+0	2.395860E+2	3.248281E+1	4.202634E+1	8.870698E+0	2.053068E+1	3.515595E+0	3.867686E-1	-1.316814E+2	2.157175E+2
HTP-c	CTUh	1.773612E-8	1.495601E-9	3.309774E-10	1.956270E-8	1.378634E-9	1.781395E-9	4.626818E-10	5.259359E-10	8.344746E-11	8.939150E-12	-1.022290E-8	1.358083E-8
HTP-nc	CTUh	2.121579E-7	2.448801E-8	8.994764E-9	2.456406E-7	2.222700E-8	3.235677E-8	8.362475E-9	1.747022E-8	2.356349E-9	2.749911E-10	-1.352492E-7	1.934393E-7
SQP	Pt	3.008883E+1	3.068493E+1	4.085264E+0	6.485902E+1	2.809643E+1	9.688393E+0	1.883735E+0	3.241226E+1	7.244459E-1	1.250562E+0	-4.193169E+1	9.698316E+1

Resource use	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D	Total
PERE	MJ	4.355814E+0	9.350317E-1	4.208967E+0	9.499813E+0	8.657456E-1	1.313057E+0	8.851416E-2	2.851728E-1	0	0	-4.750160E+0	7.302142E+0
PERM	MJ	0	0	0	0	0	0	0	0	2.467705E-1	4.820742E-3	-5.099278E-1	-2.583366E-1
PERT	MJ	4.355814E+0	9.350317E-1	4.208967E+0	9.499813E+0	8.657456E-1	1.313057E+0	8.851416E-2	2.851728E-1	2.467705E-1	4.820742E-3	-5.260088E+0	7.043805E+0
PENRE	MJ	1.328173E+2	4.248984E+1	2.876722E+1	2.040744E+2	3.900147E+1	5.345419E+1	1.556023E+1	2.984343E+1	0	0	-1.025813E+2	2.393525E+2
PENRM	MJ	2.671350E-4	0	0	2.671350E-4	0	8.014050E-6	0	0	4.623608E+0	6.333215E-1	-7.811419E+0	-2.554215E+0
PENRT	MJ	1.328176E+2	4.248984E+1	2.876722E+1	2.040747E+2	3.900147E+1	5.345420E+1	1.556023E+1	2.984343E+1	4.623608E+0	6.333215E-1	-1.103927E+2	2.367983E+2
SM	kg	4.844048E-5	0	0	4.844048E-5	0	1.453214E-6	0	0	0	0	-2.422024E-5	2.567345E-5
RSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0
FW	m3	1.005529E-1	7.611679E-3	2.667760E-3	1.108323E-1	7.033940E-3	6.357423E-3	7.949342E-4	2.853215E-3	1.446838E-3	6.367866E-4	-2.536938E-1	-1.237383E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D	Total
HWD	kg	3.782616E-4	1.042970E-4	2.710586E-5	5.096644E-4	9.578399E-5	1.160140E-4	3.976551E-5	6.975107E-5	7.551215E-6	8.909575E-7	-2.702882E-4	5.691331E-4

NHWD	kg	9.881660E-1	2.324126E-1	2.670918E-1	1.487670E+0	1.735920E-1	4.397142E-1	1.931310E-2	2.466625E+0	6.043298E-1	4.048763E+0	-8.236899E-1	8.416318E+0
RWD	kg	3.732185E-4	2.595349E-4	3.682558E-5	6.695789E-4	2.381712E-4	2.293085E-4	1.015327E-4	1.916916E-4	1.947265E-5	3.915561E-6	-3.670680E-4	1.086603E-3
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0	0	0	0

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