

GEOK®

GEOLOK° 300 | GEOLOK° 400 | GEOLOK° 500 CONCRETE RETAINING BLOCKS



Users of concrete retaining block products should note that all concrete retaining block walls above 1m in height should be designed by a competent person i.e. professional engineer or geotechnical engineer. Concrete retaining walls must comply with local building regulations. The following information is intended as a guide only.

WHY USE

GEOK CONCRETE RETAINING BLOCKS







1. LAYOUT FLEXIBILITY

Three different sized blocks that provide various walling solutions as determined by site conditions. All three blocks are equal in width and height, allowing the blocks to be interchangeable on the vertical plane.



2. INTERLOCKING

The GEOLOK® range is interlocking for easy installation. GEOLOK® 300 & 400 have a visible mechanical interlock in the form of a nib, providing a high degree of additional shear resistance to block on block sliding.



3. VERSATILE

The GEOLOK® 300 & 400 have a nib that ensures a maximum angle of inclination of 70° when laid horizontally. The GEOLOK® 500 excludes a nib allowing for an angle of inclination >70°.



4. COST EFFECTIVE

The open face application requires less blocks per m² therefore is more cost competitive than closed face retaining block applications.

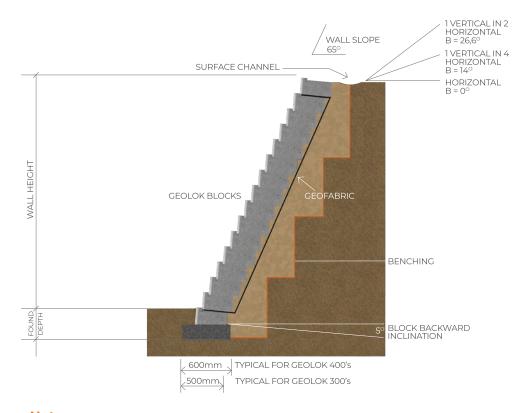


5. PLANTABLE

The GEOLOK® range is perfect for planting low water-use plants and softening your wall. The design also allows water to drain back into the ground. Using low-water-use plants, one can create a landscape that is fully sustainable.



TYPICAL SECTION THROUGH A GEOLOK® RETAINING WALL



Notes

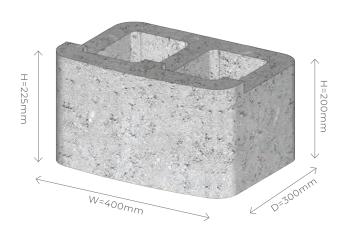
- · All retaining walls above 1 m high to be designed by specialist professional engineer
- · Engineer to approve founding conditions prior to casting of concrete
- · Set bottom row of blocks in wet concrete or cast foundation nib
- · Foundation concrete strength to be a minimum of 20MPa at 28 days
- · Engineer's certificate of stability to be provided upon completion
- · All backfill to be compacted to a minimum of 93% Mod.AASHTO Density
- · Storm water behind the top of the wall to be managed in such an manner as to obviate scour behind or over topping off the wall
- · Backfill to be benched into competent ground
- · Wall slope + Block backward inclination = 70° e.g. 65° + 5° = 70° (applies to Geolok 300's and Geolok 400's)
- · All blocks to be filled with soil so that the soil slopes up to the underside of the block above
- · Appropriate vegetation should be established within the wall as soon as possible unless all backfill has been properly cement stabalized to form soilcrete
- · Foundation depth to be adjusted for any services installed directly in front of the retaining wall

GE0K° 300



GENERALLY SUITED FOR WALLS UP TO 2m HIGH

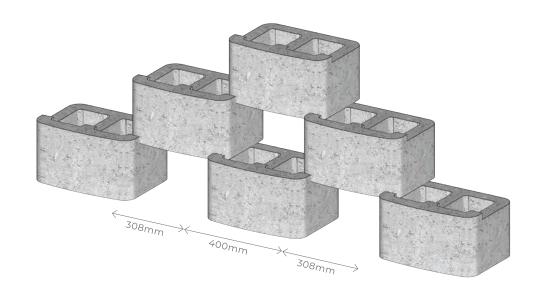
- REFER TO DESIGN TABLE ON PAGE 4



TECHNICAL SPECIFICATION

BLOCKS PER m² (WHEN PLACED IN A STRAIGHT LINE)	APPROXIMATELY 7
MASS PER BLOCK	± 37kg
TOTAL MASS OF WALL PER m² (INCL. SAND INFILL)	± 470kg
WIDTH X DEPTH X HEIGHT (mm)	400 X 300 X 200mm

DIAGRAMMATIC REPRESENTATION OF GEOLOK® 300's



Maximum Geolok 300 block retaining wall heights vs wall slopes for factor of safety (FOS) = 1.5 Loose to medium dense sand : = 30 degrees internal angle of friction

Note: No allowance has been made for surcharging of the wall from any structure built behind the wall.

	HORIZONTAL BACKFILL		SLOPE BEH	HIND 1 IN 4	SLOPE BEHIND 1 IN 2	
	G300 BLOCKS		G300 BLOCKS		G300 BLOCKS	
WALL SLOPE (DEGREES)	MAX WALL HEIGHT	FOUND DEPTH	MAX WALL HEIGHT	FOUND DEPTH	MAX WALL HEIGHT	FOUND DEPTH
	(m)	(m)	(m)	(m)	(m)	(m)
70.0	1.53	0.40	1.35	0.40	1.05	0.40
67.5	1.70	0.40	1.49	0.40	1.15	0.40
65.0	1.90	0.40	1.67	0.40	1.26	0.40
62.5	2.15	0.40	1.88	0.40	1.40	0.40

03

GEOK® 400



GENERALLY SUITED FOR WALLS IN EXCESS OF 2M HIGH

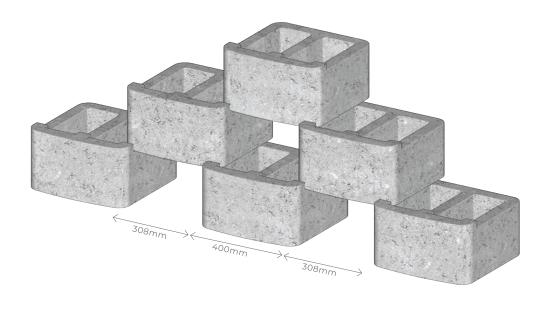
- REFER TO DESIGN TABLE ON PAGE 6

H=225mm H=200mm D=400mm

TECHNICAL SPECIFICATION

BLOCKS PER m² (WHEN PLACED IN A STRAIGHT LINE)	APPROXIMATELY 7
MASS PER BLOCK	± 47kg
TOTAL MASS OF WALL PER m² (INCL. SAND INFILL)	± 700kg
WIDTH X DEPTH X HEIGHT (mm)	400 X 400 X 200mm

DIAGRAMMATIC REPRESENTATION OF GEOLOK® 400's



Maximum Geolok 400 block retaining wall heights vs wall slopes for factor of safety (FOS) = 1.5 Loose to medium dense sand : = 30 degrees internal angle of friction

Note: No allowance has been made for surcharging of the wall from any structure built behind the wall.

	HORIZONTAL BACKFILL		SLOPE BEHIND 1 IN 4		SLOPE BEHIND 1 IN 2	
	G400 BLOCKS		G400 BLOCKS		G400 BLOCKS	
WALL SLOPE (DEGREES)	MAX WALL HEIGHT	FOUND DEPTH	MAX WALL HEIGHT	FOUND DEPTH	MAX WALL HEIGHT	FOUND DEPTH
	(m)	(m)	(m)	(m)	(m)	(m)
70.0	2.47	0.40	2.17	0.40	1.67	0.40
67.5	2.77	0.50	2.42	0.50	1.84	0.50
65.0	3.13	0.50	2.73	0.50	2.04	0.50
62.5	3.58	0.60	3.11	0.60	2.30	0.60

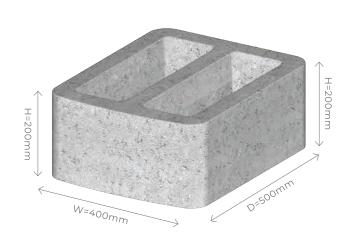
05

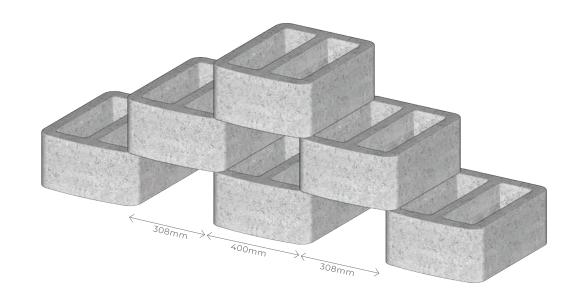
GE0K° 500



GENERALLY SUITED FOR WALLS >=70°

DIAGRAMMATIC REPRESENTATION OF GEOLOK® 500's





TECHNICAL SPECIFICATION

BLOCKS PER m² (WHEN PLACED IN A STRAIGHT LINE)	APPROXIMATELY 7
MASS PER BLOCK	± 54kg
TOTAL MASS OF WALL PER m² (INCL. SAND INFILL)	± 900kg
WIDTH X DEPTH X HEIGHT (mm)	400 X 500 X 200mm

GEOLOK $^{\circ}$ 500's is for specialised applications where the required slope of the wall could be >70°. Such walls should be designed by specialist professional engineers, therefore, a design table is not included pertaining to typical retaining wall heights versus wall slopes.

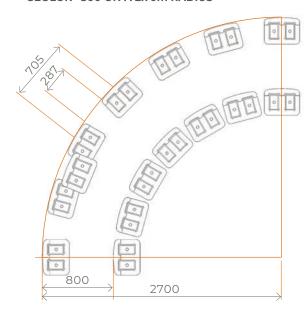
07

WALL RADII vs HEIGHT REQUIRING A RESET OF INTER BLOCK SPACES

APPROXIMATE HEIGHTS AT WHICH IT WILL BECOME NECESSARY TO RESET SPACINGS BETWEEN THE BLOCKS IN THE BEND OWING TO THE PROGRESSIVE REDUCTION OF THE INTER BLOCK SPACE

WALL RADIUS m	GEOLOK® 300 HEIGHT BEFORE NEED TO RESET WALL BLOCK SPACING 65° SLOPE		GEOLOK® 300 HEIGHT BEFORE NEED TO RESET WALL BLOCK SPACING 70° SLOPE		GEOLOK® 400 HEIGHT BEFORE NEED TO RESET WALL BLOCK SPACING 65° SLOPE		GEOLOK® 400 HEIGHT BEFORE NEED TO RESET WALL BLOCK SPACING 70° SLOPE	
1.35m	0.6m	3 ROWS	0.8m	4 ROWS				
1.80m	1.0m	5 ROWS	1.2m	6 ROWS				
2.30m	1.4m	7 ROWS	1.6m	8 ROWS	1.0m	5 ROWS	1.4m	7 ROWS
2.70m	1.6m	8 ROWS	2.0m	10 ROWS	1.4m	7 ROWS	1.8m	9 ROWS
3.25m					1.8m	9 ROWS	2.2m	11 ROWS
4.00m					2.4m	12 ROWS	3.0m	15 ROWS
5.00m					3.0m	15 ROWS	4.0m	20 ROWS

GEOLOK® 300 ON A 2.70m RADIUS



At 65° wall slope will need to reset the spacings of the blocks after approximately 8 rows (+/- 1.6 metres height)

At 70° wall slope will need to reset the spacings of the blocks after approximately 10 rows (+/- 2.0 metres height)

HORIZONTAL SETBACK FOR VARIOUS WALL SLOPES

GEOLOK RETAINING WALL HEIGHT IN ROWS	HEIGHT IN METRES	WALL SLOPE 65° HORIZONTAL SETBACK	WALL SLOPE 70° HORIZONTAL SETBACK	WALL SLOPE 75° HORIZONTAL SETBACK	WALL SLOPE 80° HORIZONTAL SETBACK
No. ROWS	m	m	m	m	m
1	0.2	0.093	0.073	0.054	0.035
2	0.4	0.187	0.146	0.108	0.070
3	0.6	0.280	0.218	0.162	0.105
4	0.8	0.373	0.291	0.216	0.140
5	1.0	0.466	0.364	0.270	0.175
6	1.2	0.560	0.437	0.324	0.210
7	1.4	0.653	0.510	0.378	0.245
8	1.6	0.746	0.582	0.432	0.280
9	1.8	0.839	0.655	0.486	0.315
10	2.0	0.933	0.728	0.540	0.350
11	2.2	1.026	0.801	0.594	0.385
12	2.4	1.119	0.874	0.648	0.420
13	2.6	1.212	0.946	0.702	0.455
14	2.8	1.306	1.019	0.756	0.490
15	3.0	1.399	1.092	0.810	0.525
16	3.2	1.492	1.165	0.864	0.560
17	3.4	1.585	1.237	0.918	0.595
18	3.6	1.679	1.310	0.972	0.630
19	3.8	1.772	1.383	1.026	0.665
20	4.0	1.865	1.456	1.080	0.700
21	4.2	1.958	1.529	1.134	0.735
22	4.4	2.052	1.601	1.188	0.770
23	4.6	2.145	1.674	1.242	0.805
24	4.8	2.238	1.747	1.296	0.840
25	5.0	2.332	1.820	1.350	0.875
26	5.2	2.425	1.893	1.404	0.910
27	5.4	2.518	1.965	1.458	0.945
28	5.6	2.611	2.038	1.512	0.980
29	5.8	2.705	2.111	1.566	1.015
30	6.0	2.798	2.184	1.620	1.050

NOTE: GEOLOK® 300 AND GEOLOK® 400 LIMITED TO A MAXIMUM ANGLE OF INCLINATION OF 70°





FREE SOFTWARE DESIGN PROGRAM AVAILABLE AT WWW.COROBRIK.CO.ZA

www.corobrik.co.za | info@corobrik.co.za

TRADE

Chris Mungle | chris.mungle@corobrik.co.za | 031 560 3111 | Durban Rob Jardine | rob.jardine@corobrik.co.za | 033 397 0949 | Pietermaritzburg

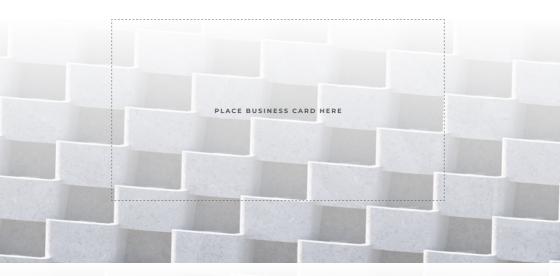
RETAIL - COROBRIK SALES CENTRES

OPEN TO THE PUBLIC

Avoca | avoca@corobrik.co.za | 031 565 1093
Pinetown | pinetown@corobrik.co.za | 031 702 2282
Mobeni | southcoast@corobrik.co.za | 031 469 0105

Pietermaritzburg maritzburg@corobrik.co.za | 033 397 0949/85/87

Glencoe | glencoe@corobrik.co.za | 034 393 1114



PLEASE NOTE GEOLOK® IS ONLY AVAILABLE IN KWAZULU-NATAL