



## Geolok® 300

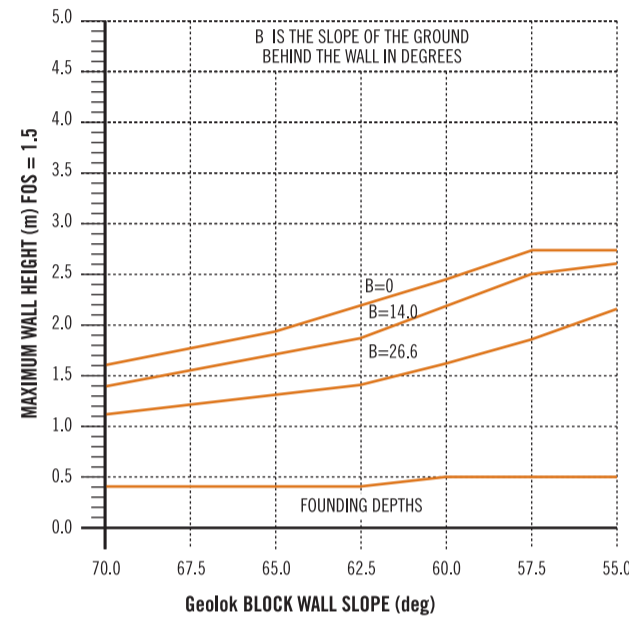
Maximum Geolok 300 block retaining wall heights vs wall slopes for fos = 1.5

Loose to medium dense sand : friction = 30 degrees

WALL SLOPE (degrees)	HORIZONTAL BACKFILL		SLOPE BEHIND 1 IN 4		SLOPE BEHIND 1 IN 2	
	G300 BLOCKS		G300 BLOCKS		G300 BLOCKS	
	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
60.0	2.47	0.50	2.15	0.50	1.58	0.50
57.5	2.70	0.50	2.50	0.50	1.82	0.50
55.0	2.71	0.50	2.63	0.50	2.12	0.50

Max Geolok 300 wall height vs wall slope

Loose sand - friction = 30 degrees



Note that the above Design Tables and Charts have been prepared to serve merely as a guide to installers and designers of Geolok 300 dry stack concrete block retaining walls. A professional engineer should be responsible for the design and certification of any retaining wall over 1m high.

## Geolok® 300

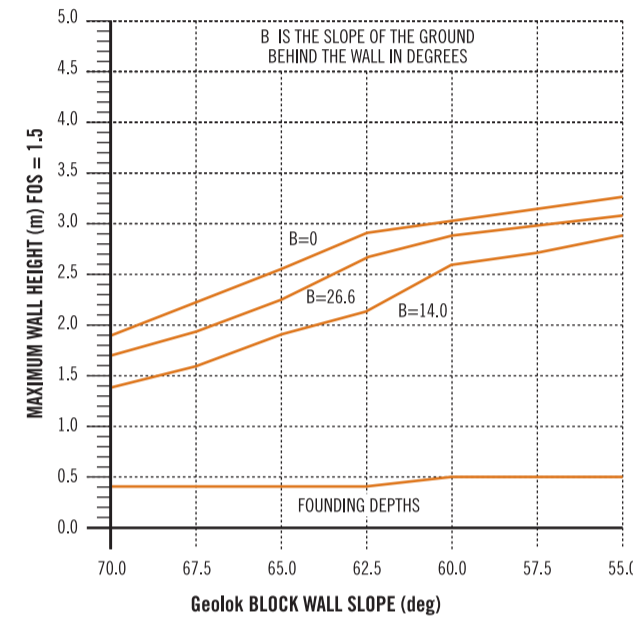
Maximum Geolok 300 retaining wall heights vs wall slopes for fos = 1.5

Dense sand : friction = 35 degrees

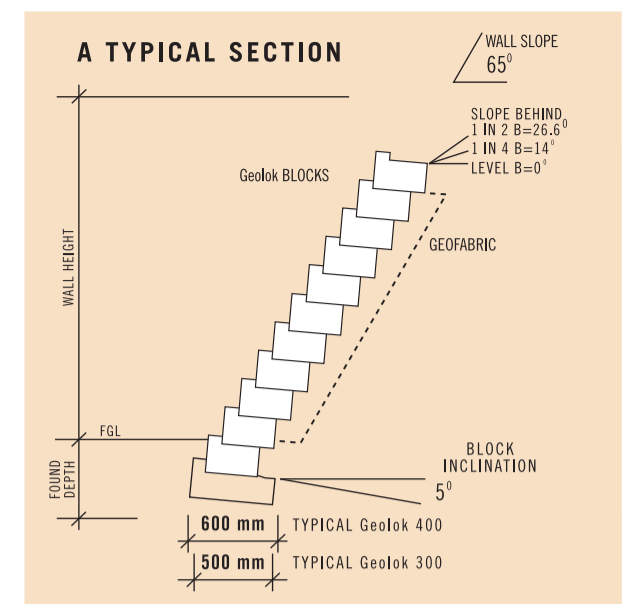
WALL SLOPE (degrees)	HORIZONTAL BACKFILL		SLOPE BEHIND 1 IN 4		SLOPE BEHIND 1 IN 2	
	G300 BLOCKS		G300 BLOCKS		G300 BLOCKS	
	MAX WALL HEIGHT	FOUND DEPTH	MAX WALL HEIGHT	FOUND DEPTH	MAX WALL HEIGHT	FOUND DEPTH
	(m)	(m)	(m)	(m)	(m)	(m)
70.0	1.92	0.40	1.73	0.40	1.45	0.40
67.5	2.19	0.40	1.97	0.40	1.64	0.40
65.0	2.53	0.40	2.28	0.40	1.89	0.40
62.5	2.97	0.50	2.67	0.50	2.20	0.50
60.0	3.06	0.50	2.94	0.50	2.62	0.50
57.5	3.13	0.50	2.98	0.50	2.79	0.50
55.0	3.20	0.50	3.07	0.50	2.89	0.50

Max Geolok 300 wall height vs wall slope

Dense sand - friction = 35 degrees



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## Notes

- All work above 1m to be designed by a specialist professional engineer
- Engineer to approve founding conditions prior to casting of concrete
- Set bottom row of blocks in wet concrete or cast foundation rib
- Foundation concrete strength to be 20mpa at 28 days
- Engineer's certificate of stability to be provided upon completion
- All backfill to be compacted to 93% Mod.AASHTO
- Storm water behind the top of the wall to be managed in such a manner as to obviate scour behind or over topping of the wall
- Backfill to be benched into competent ground
- Wall slope + block inclination = 70°  
e.g. 65° + 5° = 70°
- All blocks to be completely 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 stabilised



## Earth retaining systems

Users of concrete retaining block products should seek the advice of a professional geotechnical and / or civil engineer when designing any wall in excess of 1m in height. The following information is intended as a guide only.

### Products

Geolok 300 – generally suitable for walls up to 2m high – see design information

Geolok 400 – generally suitable for walls up to 4m high – see design information

**Note:** These heights can be exceeded with design and supervision by a specialist professional engineer.

### Benefits

- Visible mechanical interlock in the form of a nib, providing a high degree of shear resistance.
- The open face application requires less blocks per m<sup>2</sup> therefore is more cost competitive than closed face retaining block applications.
- Nib ensures a maximum angle of inclination of 70°.

**Note:** Requires geofabric or backfill stabilisation to avoid excessive soil loss through erosion.

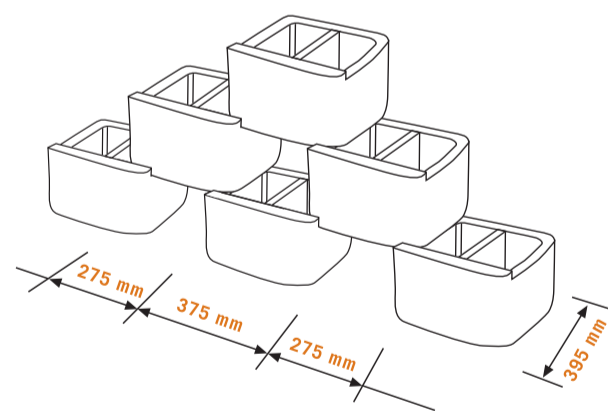
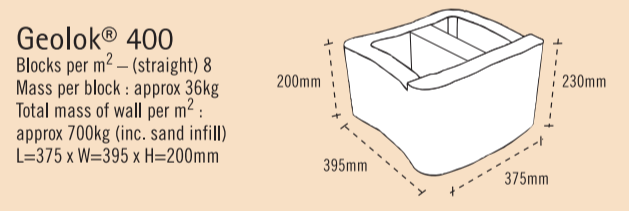
### Advantages

The same height (200mm) of the Geolok 400 and Geolok 300 allows the product to be interchangeable within a retaining block wall. This option is suitable when a single wall requires different levels of retaining capabilities, that vary between the Geolok 300 and 400 blocks.

This means that a similar overall appearance is maintained while affording the opportunity of using the more cost effective option on the lower walls.

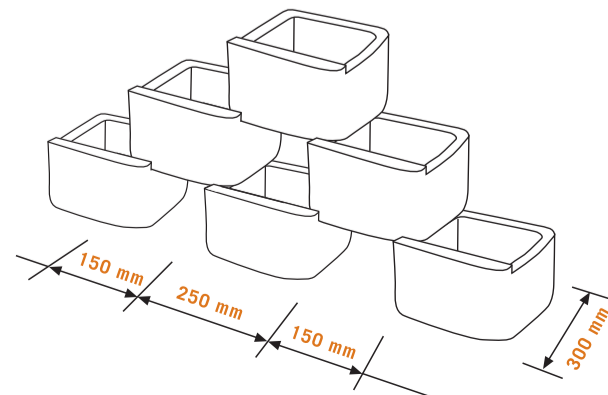
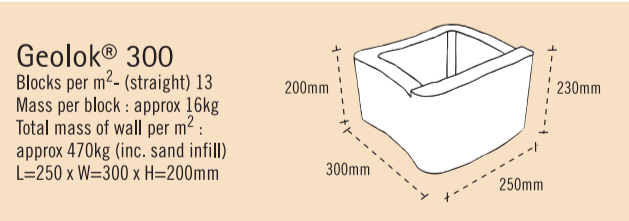
## Geolok® 400

Blocks per m<sup>2</sup> – (straight) 8  
Mass per block : approx 36kg  
Total mass of wall per m<sup>2</sup> : approx 700kg (inc. sand infill)  
L=375 x W=395 x H=200mm



## Geolok® 300

Blocks per m<sup>2</sup> – (straight) 13  
Mass per block : approx 16kg  
Total mass of wall per m<sup>2</sup> : approx 470kg (inc. sand infill)  
L=250 x W=300 x H=200mm



## Geolok® 400

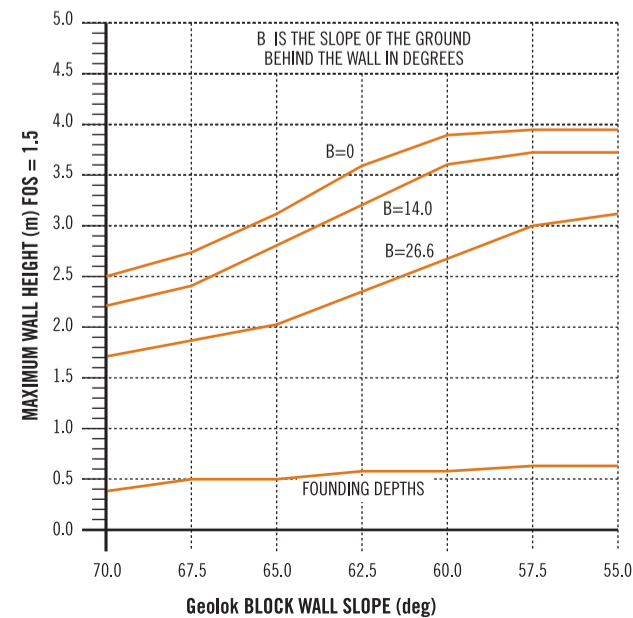
Maximum Geolok 400 block retaining wall heights vs wall slopes for fos = 1.5

Loose to medium dense sand : friction = 30 degrees

WALL SLOPE (degrees)	HORIZONTAL BACKFILL		SLOPE BEHIND 1 IN 4		SLOPE BEHIND 1 IN 2	
	G400 BLOCKS		G400 BLOCKS		G400 BLOCKS	
	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
60.0	3.87	0.60	3.60	0.60	2.61	0.60
57.5	3.92	0.65	3.74	0.65	3.03	0.65
55.0	3.92	0.65	3.74	0.65	3.10	0.65

Max Geolok 400 wall height vs wall slope

Loose sand - friction = 30 degrees



Note that the above Design Tables and Charts have been prepared to serve merely as a guide to installers and designers of Geolok 400 dry stack concrete block retaining walls. A professional engineer should be responsible for the design and certification of any retaining wall over 1m high.

## Geolok® 400

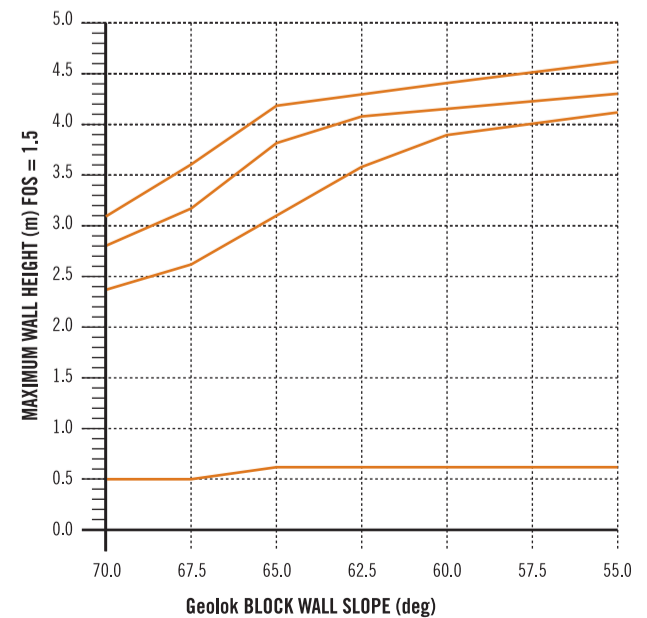
Maximum Geolok 400 block retaining wall heights vs wall slopes for fos = 1.5

Dense well graded sand : friction = 35 degrees

WALL SLOPE (degrees)	HORIZONTAL BACKFILL		SLOPE BEHIND 1 IN 4		SLOPE BEHIND 1 IN 2	
	G400 BLOCKS		G400 BLOCKS		G400 BLOCKS	
	MAX WALL HEIGHT	FOUND DEPTH	MAX WALL HEIGHT	FOUND DEPTH	MAX WALL HEIGHT	FOUND DEPTH
	(m)	(m)	(m)	(m)	(m)	(m)
70.0	3.11	0.50	2.80	0.50	2.34	0.50
67.5	3.59	0.50	3.22	0.50	2.67	0.50
65.0	4.20	0.60	3.77	0.60	3.10	0.60
62.5	4.30	0.60	4.12	0.60	3.65	0.60
60.0	4.37	0.60	4.20	0.60	3.92	0.60
57.5	4.50	0.60	4.30	0.60	4.04	0.60
55.0	4.60	0.60	4.40	0.60	4.18	0.60

Max Geolok 400 wall height vs wall slope

Dense sand - friction = 35 degrees



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