TrendStone[®] Commercial Projects



www.apexmasonry.com.au

TrendStone® Retaining Wall System



Designed and developed by Apex Masonry, our TrendStone® Retaining Wall system offers Australia's only range of standard and universal corner blocks with four bevelled edges on all block faces.

To guarantee our walls stay in bond, Apex Masonry supplies every block with an indicator for laying consistency and locating keys to ensure blocks remain in bond around curves.

Max. Wall Height (mm) With Road Base Footing With Concrete Footing With Specific Engineering	865 1065 3065
Circle - Min. External Diameter (mm)	2330 – 16 units
Suitable For:	
Retaining Walls	v
Straight & Curved Walls	v
Planter Boxes	v
Garden Walls & Edges	~
Steps	~
Courtyards	~

FEATURES

- > Natural Stone look
- Universal corner block
 no left & right corners
- > Only 3 components
- > Quick & easy to install
- Vertical faced
- > Always remains in bond
- Manufactured & Tested to Australian Standards
- > Bevels on all edges

TrendStone® Retaining Wall System



COLOURS - STANDARD RANGE





Charcoal

Pebble

COLOURS - DESIGNER RANGE







lvory

Fraser Sand

Fraser Coral

SPECIFICATIONS



TrendStone® Wall Unit 400 x 245 x 200mm No. Per Pallet: 78 No. Per m²: 12.5 Weight per Unit: 22.5kg



TrendStone® Corner 390 x 190 x 200mm No. Per Pallet: 75 Weight per Unit: 21.3kg



TrendStone® Cap 400 x 255 x 65mm No. Per Pallet: 120 No. Per Lm: 2.5 Weight per Unit: 14.5kg

TrendStone® Retaining Wall Engineering Guide

CONSTRUCTION INFORMATION

UN-REINFORCED GRAVITY WALLS (See Fig 1)

Heights listed below are for gravity walls with no reinforcement. Trendstone[®] retaining walls can be constructed up to several metres if fully engineered as a geo-grid reinforced wall, cantilevered wall incorporating steel reinforcing and concrete core-fill or No Fines Concrete Wall. To comply with most council requirements, please seek specific engineering advice for walls over 1 metre high, terraced walls, fences above walls, walls carrying vehicle traffic and any other special application.

Maximum Wall Height	Footing Type Option **	Surface Slope	Surcharge Load kPa	Drainage Type	Depth of Drainage (Area A)	Back Fill Material (Area B)
800mm	А	Level	2.5	Aggregate	150mm	150mm
800mm	А	1:4	2.5	Aggregate	300mm	200mm
1000mm	B Concrete Footing	Level	Nil	Aggregate	300mm	250mm

Maximum Wall Heights For Trendstone® Gravity Retaining Walls

*Walls over 800mm high must be built on a 600x150mm Concrete Footing.

****FOOTING TYPES**

The wall shall be built on a bearing pad, not less than 150 mm thick, consisting of one of the following options: **Option A**

Compacted crushed rock, well-graded and of low plasticity (without clay content), compacted by a plate vibrator; or cement stabilized crushed rock, with an additional 5% by mass of GP Portland cement thoroughly mixed, moistened and compacted by a plate vibrator; or

Option B

Lean-mix concrete with a compressive strength of not less than 15 MPa.

Construction Note:

1. Designed in accordance with AS4678 Structure Classification A and CMAA Manual MA 53 Appendix E.

2. The heights for landscaping walls shall not exceed the values given in the table above. If higher walls are required, they shall be designed by a qualified & experienced engineer using either the software package or the following detailed tables.

TrendStone® Retaining Wall Engineering Guide

FIGURE 1



Disclaimer: Apex Masonry takes no responsibility for any walls constructed outside parameters of engineering specifications supplied. Walls exceeding maximum heights shown will need to be designed and certified by a qualified engineer. Apex Masonry have extensive information available for use by qualified engineers certifying walls over the maximum heights shown in this brochure. The authors, publishers and distributors of these tables don't accept any responsibility for incorrect, inappropriate or incomplete use of this information; or for inadequate site investigation, design and specification.

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FIGURE 2

NO-FINES CONCRETE BACKED WALLS (See Figure 2)

	SOIL TYPE 1													
Height	F ooting	.	Surcharge	No-Fines	Base (Footing Details)									
(H) (mm)	Туре	Surface Slope	Load kPa	Concrete (D) (mm)	Base Thickness (B)	Base Width (W)	Base Toe (T)							
1000		Level	2.5	250	150	550	300							
1200		Level	2.5	350	150	600	300							
1400		Level	2.5	400	200	650	400							
1600		Level	5	650	200	900	400							
1800		Level	5	750	250	1000	500							
2000	Concrete	Level	5	800	250	1050	500							
2200		Level	5	900	300	1150	600							
2400		Level	5	1000	300	1250	600							
2600	-	Level	5	1100	300	1350	600							
2800		Level	5	1150	350	1400	700							
3000		Level	5	1250	350	1500	700							

NFC = No Fines Concrete; Sharp drainage gravel approx 15-20mm mixed with cement 5:1 ratio min, water (no fines or sand).

Compacted clay or similar to seal surface Drain (Min. 1 in 100 fall) to permanent stormwater system 150mm Min thickness Optional capping unit Min. fall 1 in 100 Top course (and cap unit, if used) fixed with two-part epoxy adhesive Compacted Fill Natural soil battered back Segmental Geofabric envelope Concrete Wall Units (if fill is clay or similar) 'H' No -Fines Concrete 10-20mm crushed 10 MPa 1600-1800kg/m³ Slotted PVC Ag. pipe draining stormwater at a Min. 1 in 100 fall. Position pipe as 'B' close to wall as practical, allowing for fall l Compacted foundation material Bearing pad as specified. 'T' Concrete footing Overall Base Width 'W' *Engineering - To comply with most council requirements, please seek specific engineering advise for walls over 1m high or for low walls carrying car traffic, etc. ם'

TrendStone® Retaining Wall Engineering Guide

GEOGRID REINFORCED WALLS (see Figure 3)

Height	No. of Geogrid	SOIL TYPE 1													
(H) (mm)	Layers			Backfi	ill Slope	ppe - Level				Backfill Slope - 1:4					
	Layers	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1000	3	1000	1000	1000					1100	1100	1400				
1200	3	1000	1000	1400					1100	1100	1600				
1400	3	1000	1000	1400					1100	1100	1600				
1600	4	1100	1100	1300	1700				1200	1200	1500	1900			
1800	4	1300	1300	1400	1900				1800	1800	1800	2100			
2000	5	1400	1400	1400	1700	2200			1800	1800	1800	2000	2400		
2200	5	1400	1400	1400	1700	2200			1900	1900	1900	2100	2400		
2400	6	1700	1700	1700	1700	2000	2500		2100	2100	2100	2100	2300	2700	
2600	6	1800	1800	1800	1800	2000	2500		2200	2200	2200	2200	2200	2800	
2800	7	2000	2000	2000	2000	2000	2300	2800	2400	2400	2400	2400	2400	2600	3000
3000	7	2100	2100	2100	2100	2100	2300	2800	2500	2500	2500	2500	2500	2500	3100

Height	No. of Geogrid	SOIL TYPE 2													
(H) (mm)	Layers			Backfi	ll Slope	- Level			Backfill Slope - 1:4						
. ,	Layers	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1000	3	1000	1000	1000					1200	1200	1400				
1200	3	1000	1000	1400					1200	1200	1600				
1400	3	1000	1000	1400					1200	1200	1600				
1600	4	1100	1100	1300	1700				1600	1600	1600	1900			
1800	4	1300	1300	1400					1800	1800	1800	2100			
2000	5	1400	1400	1400	1700	2200			1900	1900	1900	1900	2400		
2200	5	1400	1400	1400	1700	2200			2000	2000	2000	2000	2400		
2400	6	1700	1700	1700	1700	2000	2500		2200	2200	2200	2200	2200	2700	
2600	6	1800	1800	1800	1800	2000	2500		2300	2300	2300	2300	2300	2800	
2800	7	2000	2000	2000	2000	2000	2300	2800	2500	2500	2500	2500	2500	2500	3000
3000	7	2100	2100	2100	2100	2100	2300	2800	2600	2600	2600	2600	2600	2600	3100

Height	No. of Geogrid		SOIL TYPE 3												
(H) (mm)	Layers	yers Backfill Slope - Level Backfill Slope - 1:4													
	Layers	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1000	3	1000	1000	1000					1600	1600	1600				
1200	3	1000	1000	1400					1800	1800	1800				
1400	3	1100	1100	1400					2100	2100	2100				
1600	4	1500	1500	1500	1700				2400	2400	2400	2400			
1800	4	1700	1700	1700					3700	3700	3700	3700			
2000	5	1700	1700	1700	1700	2200			3900	3900	3900	3900	3900		
2200	5	1800	1800	1800	1800	2200			4100	4100	4100	4100	4100		
2400	6	2000	2000	2000	2000	2000	2500		4500	4500	4500	4500	4500	4500	
2600	6	2100	2100	2100	2100	2100	2500		4700	4700	4700	4700	4700	4700	
2800	7	2300	2300	2300	2300	2300	2300	2800	5100	5100	5100	5100	5100	5100	5100
3000	7	2400	2400	2400	2400	2400	2400	2800	5300	5300	5300	5300	5300	5300	5300

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Figure 3



Soil Type Description											
Type 1 Soil	Type 2 Soil	Type 3 Soil									
Friction Angle at least 35	Friction Angle at least 30	Friction Angle at least 25									
Includes FCR, rock, sandstone & gravels	Includes stiff sand clays & gravely clays	Includes soft & firm clay, fine sands & silty clays									

Construction Notes (Applies to NFC Backed Walls & Geo-grid Reinforced Walls):

1. Designed in accordance with As4678 Structure Classified A & B & Ma53 as appropriate.

2. Retaining walls up to and including 1.5m high are designed for an imposed load (live load) or 3.2.5kPa.

3.Retaining walls over 1.5m high designed for an imposed load (live load) of 5.0kPa

4. Footings should be 5% cement-stabilised crushed rock to dimensions shown.

5. Before the bottom course is positioned, the footing should be moistened to ensure bond between the block & footing.

6. For reinforces soil systems (incorporating polyester Geo-grids), the minimum number of grids in three & the minimum length of grids in 1m.

7. Geo-grid lengths from design tables above are measured from the back of the wall.

8. All Geo-grids are Fortrac 35-20/equivalent. The spacing of Geo-grids is 400mm (every second block) except at the base of the wall, where it is 200mm (one course).

9. These tables are a guide, all retaining walls over 1 metre in height need to be designed & certified by a qualified engineer.

HOW TO BUILD STEPS

DRAWINGS

Steps can be easily built using Trendstone' Wall Units and Caps. The Cap is to be adhered to the top of the wall unit to form a step tread.



STEP SIZING

Permissible Step Dimensions (in accordance with BCA requirements)





F	۲	(3	2R+G			
Maximum	Minimum	Maximum	Minimum	Maximum	Minimum		
190	115	365	250	700	550		

TERRACED WALLS

Walls may be terraced to increase the aesthetic appeal of the retaining wall, to level off a sloping site and sometimes reduce the single wall heights to that the individual wall can behave as a gravity wall (reduces the requirement to use geogrid or no-fines concrete.

For a wall to act as a individual wall the minimum distance between the walls must be at least 1.5 times the height of the lower wall. This rule does not apply when walls are built on steep sites or in poor soils. A global stability analysis must be undertaken by a qualified engineer where such conditions exist.

Where there is insufficient room on a site to space the terraces at 1.5 times the height of the lower wall the bottom terrace wall must be engineer designed to accommodated the loading from the top wall. The terrace wall design analysis has to take into account the wall as a single structure (eg. H1 + H2) to allow for the additional load from the upper terrace wall on the lower terrace wall.



CURVED WALLS

For convex curved walls simply knock the back fins off the block with a hammer.

MINIMUM DIAMETER - 2170mm (16 Trendstone Wall Units = 2330mm).



EXTERNAL CORNER

BLOCK SETOUT

Corners are constructed by using the special purpose made universal corner blocks. Masonry adhesive (masonry liquid nails) is required when fixing these corner blocks together. Trendstone Corner Units can be cut to create ends and step downs if required.







CAP

Caps can be cut to the following plan. Masonry adhesive (masonry liquid nails) is required when fixing the cap to the wall blocks.







INTERNAL CORNER

BLOCK SETOUT

Corners are constructed by using the special purpose made universal corner blocks. Masonry adhesive (masonry liquid nails) is required when fixing these corner blocks together.



CUTTING CAPS FOR CURVES

When cutting caps for curves in the wall, an important note to remember is not to take all the trimming off one side of the cap. Take even amounts off each side. Example: a cap which needs to be trimmed by 20mm should have 10mm cut off each side as per the following image:





CAP OPTIONS FOR EXTERNAL CURVES





CAP OPTIONS FOR INTERNAL CURVES



FINISHING OPTIONS

OPTION 1

Use a cap to end the wall, simply use an adhesive to glue the cap to the edge of the Trendstone Wall Unit.



OPTION 2 Use a corner unit to end the wall.



Testimonials

WHAT OUR CUSTOMERS SAY

"I've been an established Landscaper in Yeppon for 35 years and dealing with a wide range of products I've found that Trendstone and Apex Masonry have a clean and great product range, Trendstone is not only a great looking product but a dream to work with, engineering becomes quite simple with its design and the finished product is outstanding, by far the best looking retaining wall on the market, check out my website to see finished jobs first hand".

DUWAYNE - KEPPEL COAST PAVING

"My first purchase from Apex couldn't have gone better. The price was very competitive, the delivery went on schedule even after several changes and the office was just great to work with. All my masonry will definitely be from Apex in the future."

CHATBURN & CO



Our Trusted Engineers & Installers

Apex Masonry: Your Trusted Partner in Masonry Solutions

When it comes to masonry projects, you deserve nothing but the best. At Apex Masonry, we take immense pride in delivering top-quality masonry solutions that stand the test of time. Our commitment to excellence is unwavering, and we know that your project deserves the most skilled engineers and installers. That's why we're thrilled to recommend some of the industry's highly recommended professionals who can bring your vision to life.

Why Choose Apex Masonry?

Apex Masonry has been at the forefront of the masonry industry for over 20 years. We've built a reputation for providing exceptional craftsmanship and unmatched service. Our team consists of seasoned experts who are passionate about delivering outstanding results, no matter the scope or complexity of your project.

Our Trusted Engineers & Installers

To ensure the success of your masonry project, we have carefully selected a network of highly recommended engineers and installers who share our commitment to excellence. These professionals have a proven track record of turning ideas into reality and ensuring the structural integrity of every project they undertake.

Your Vision, Our Expertise

At Apex Masonry, we believe that your masonry project should reflect your vision. By collaborating with our recommended engineers and installers, you're not only ensuring the success of your project, but also bringing your creative ideas to life.

Contact Us Today

Don't compromise on the quality of your masonry project. Trust Apex Masonry and our network of highly recommended engineers and installers to make your vision a reality. Get in touch with us today to discuss your project and take the first step towards turning your dreams into a beautifully constructed reality.

For inquiries, quotes, and to learn more about our recommended engineers and installers, please contact us at:

Phone: 1300 626 194 Email: sales@apexmasonry.com.au Website: www.apexmasonry.com.au



FREE PALLET COLLECTION For free pallet collection service call 1300 781 620 or lodge a pick up online at www.apexmasonry.com.au or drop pallets back to place of purchase.



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COLOUR VARIATION

Due to the changes in raw material, variation in colour can occur. When ordering your product, order all products of your project together to reduce the possibility of colour variation. We do not guarantee different batches will be the same colour.

EFFLORESCENCE

Efflorescence (a salty deposit) is a natural occurrence in masonry products. Efflorescence does not affect the structural integrity of the product and will usually diminish and disappear in the course of time as the product is exposed to the elements. No responsibility will be accepted for the occurrence of efflorescence.

CLAIMS

Claims must be reported within 72 hours of delivery. No claims will be accepted once product has been installed. Please contact the store where goods were purchased to report any concerns regarding product delivery or quality.

Minimum order quantities apply to Made to Order colours.