



STONE STANDARDS

2010 EDITION

STANDARD CODE FOR GRANITE AND MARBLE STONework (MG C1)

1. General quality of materials and workmanship
2. Tolerances in manufacturing process
3. Tolerances in installation process
4. Handling and storage
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- 1985 Monier Granite
- 1995 Revised - Master Monumental Masons & Sculptors Association of South Australia
- 2001 Revised - Stone Forum
- 2004 Revised - Stone Industry SA Standards Board
- 2006 Revised - Stone Industry SA Standards Board
- 2008 Revised - Stone Industry SA Standards Board
- 2010 Revised – Stone Industry SA Standards Board

Note. The initiator and or agent of this Standard Code does not accept any claim whatsoever, by any party as a result of the use and or misuse of any part of this document.



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MEMBERS

Ace Granite

Adelaide Marble Specialists Pty. Ltd.

All State Marble and Granite Pty. Ltd.

Apex Glass Services Pty. Ltd.

Best Point

Concept Stone and Woodcraft Pty. Ltd.

Emperor Stone & Tile Pty. Ltd.

Italia Ceramics

Pyramid Stone Pty. Ltd.

Rockstone Industries Pty. Ltd.

Stoneware Productions Pty. Ltd.

Tillett Natural Stone Industries

The Marble House of Australia Pty. Ltd.



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1. GENERAL QUALITY OF MATERIALS AND WORKMANSHIP

- 1.1 Stone is a natural building material and, therefore, variations in texture, colour, consistency and molecular structure occur. However as natural stone varies, it is recommended for the client to request viewing of the particular stone to be used.
- 1.2 Spotting/Colour
The presence of impurities, flairs, pit marks shall be deemed as being part of the natural stone. Colour variations may occur with particular types of stone that show a lot of texture and patterns. This is to be viewed as a feature of the stone.
- 1.3 Workmanship
Structurally unsafe stone members shall not be processed and installed in any structure or building. Processing, handling and installation of natural stone shall be carried out in a professional tradesman-like manner. Allowances for loads and conditions shall be made in the design stage - eliminating replacement due to failure of a stone member. On bench tops - cabinets and support structures are to allow for sufficient strength to absorb design loads.

Climatic conditions and light can alter a surface finish and change a colour of a particular stone.
This is not a result of poor workmanship.
- 1.4 Samples
Samples are not absolute guarantee as to colour, texture, and possible impurities and are indicative only of the stone type to be used.
- 1.5 Generic Terms
Marble, Granite, Sandstone, Limestone etc. are to be viewed as generic terms and their use characterises a particular family of rocks.



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2. TOLERANCES IN MANUFACTURING PROCESS

2.1 General

Cracked and obviously unsound stone shall not be processed as a stone member - carrying loads or being subjected to various weathering conditions. All stone shall be cut and surface finished within a prescribed tolerance.

2.2 Tolerances

(A) Wall panels polished, honed, gang-sawn surface finish.

(aa) Tolerances of length and width

0.6 M2 and under	+ or -	1.5 mm
over 0.6 M2	+ or -	2.0 mm

(ab) Panels diagonals + or - 4.0 mm

(ac) Flatness, twist of panels + or - 1.5 mm

(ad) **Note:** On exfoliated surfaces adjustments on flatness and twist of panels are allowed to be made in order to suit the general plane of the finished surface. These adjustments have to be made on the edges.

(B) Floor panels polished, honed gang-sawn, exfoliated surface finish.

(ba) Tolerances in length and width

0.6 M2 and under	+ or -	1.5 mm
over 0.6 M2	+ or -	2.0 mm

(bb) Panels diagonals + or - 4.0 mm

(bc) Flatness, twist of panels + or - 2.0 mm

(bd) **Note:** Exfoliated surfaces, flatness and twist of panels - same rule applies as with wall panels (2.2 (ad)).

(C) Bench Tops

(ca) Tolerances in length and width + or - 3.0 mm

(cb) Panels diagonals + or - 4.0 mm

(cc) Flatness, twist of panel + or - 1.5 mm

(cd) Overhang tolerance - cabinet + or - 5.0 mm

(ce) Thickness + or - 3.0 mm

(D) Artistically Tooled Stone Members Hammered and nipped surface finish

(da) Tolerances of length and width + or - 4.0 mm

(db) Diagonals + or - 5.0 mm

2.3 Impurities

On gang-sawn and exfoliated surfaces - iron oxide particles



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causing oxidation (rust) shall be washed out using a mixture of phosphoric - or oxalic acid and water.

2.4 Recommended Thickness of Stone Members

- (a) Wall panels 30 mm
- (b) Floor panels 20 - 30 mm
- (c) Wall panels - exfoliated 40 mm
- (d) Bench Tops 20 - 30 mm

(e) **Note:** Variations in thickness does occur due to cutting and tooling methods used.

2.5 Surface Finishes

- (a) Gang-sawn finish.
- (b) Exfoliated finish - the surface shall be flame spalled to a dept to elevate cutting marks.
- (c) Glass beaded finish.
- (d) Honed finish
- (e) Polished finish - stone shall be finished to a natural, high gloss.
- (f) Hammered finish - uniform bush hammered finish.
- (g) Diamond Wire sawn.
- (h) Block sawn.



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3. TOLERANCES IN INSTALLATION PROCESS

3.1 General

All stonework shall be installed according to the general trade practice for stonemasons, by competent tradesmen.

3.2 Technique

Variations of installation techniques warrant a deviation of tolerances applicable in individual circumstances.

3.3 Tolerances - Granite/Marble/Sandstone / Reconstituted Quartz

(A) Wall Panels

(aa) Standard joint width 5 mm nominal

(ab) Maximum stepping across joint

1.2 M² and under + or - 2.0 mm

Over 1.2 M² + or - 2.5 mm

(B) Floor Paving

(ba) Standard joint width 3 mm nominal

(bb) Maximum stepping across joint

0.6 M² and under + or - 1.5 mm

Over 0.6 M² + or - 2.0 mm

3.4

(A) Bench Tops

(aa) Standard joint width 2 mm nominal

(ab) Maximum stepping across joint

0.6 M² and under + or - 0.5 mm

Over 0.6 M² + or - 0.75 mm

Note: At no time and or circumstance should a stone panel be installed against a adjacent stone panel without a minimum gap of at least 1 mm.

(ac) Joint width against other building elements.

Bench Tops 4.0 mm nominal

Wall panels / Cabinets 4.0 mm nominal

Note: Irregularities in walls - Panels are to be cut in straight lines, measured to the mean rectangular and or parallel line.

(ad) Variation in thickness of stone + or - 3.0 mm

(B) Bench Tops

(ba) Non visible surfaces and underside of bench tops are sawn - as standard.

(bb) Standard lamination width is 100 mm max. Wider than 100 mm is regarded as Non - Standard.

(bc) Patching of edges caused by cutting and grinding is allowable. This



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applies also to joint locations where two panels are glued together.

- (bd) Under slang bowls shall have a minimum stone overhang of 1 mm, up to 10 mm from the edge of the bowl.
 - (be) Drainer board depth tolerances + or - 2.0 mm
 - (bf) Sink installation - No screw clips to be used. The installation is to be carried out by a licensed plumber.
 - (bg) Kitchen Designers / Cabinet Makers are to allow for sufficient strength of cabinets and or shelf supports.
 - (bh) Front edge skirting should avoid cutting angles of 45 deg. or less. Preference should be given to butt up to the underside of the bench top panel.
 - (bi) End panels should not be cut to 45 deg. or less, to form corner details. Preference should be given to butt up to the underside of the bench top panel. This detail should be applied when the end panel is supported by a concrete floor, or a timber floor.
 - (bj) The maximum un supported overhang on Quartz Bench Tops is 200mm. This applies to 20 mm and 30 mm thick stone.
 - (bk) The maximum un supported overhang on Granite and Marble Bench Tops is 300 mm on 30mm thick stone and 250 mm on 20 mm thick stone.
 - (bl) Quartz Bench Top cut outs require a 150 mm minimum clearance from a panel joint and or panel end. The front and back strip section of such a cut out needs to be a minimum of 70 mm wide.
 - (bl) On Quartz Bench Tops, L shapes are not allowed.

On Granite Bench Tops, L shapes in general are not allowed, but can be made at the discretion of the stone mason.
- 3.5 Fixings
All fixing materials shall be of good quality and strong enough to support load and stress factors which are of common nature. No guarantee is given whenever structural movements cause the failure of stone and fixing.
- 3.6 Cleaning
All stonework shall be cleaned after installation with non-destructive cleaning agents. On marble, trachite, sandstone and porphyric stone, none of the acids or acid forming cleaning agents shall be used. Sealing of stone is at the discretion of the supplier.
- 3.7 Clearance of Veneer, Tops or Paving to Supporting Structure
- (A) Wall panels to structure - veneer 20 mm nominal
 - (B) Floor panels to structure



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Allowance for mortar bed 20 mm nominal

(C) Stone Tiles/Panels to structure 4 mm nominal

(D) Counter panels to structure 0 - 5 mm nominal
(Depending on supporting structure)

3.8 Structural joints - Flooring / Walling / Bench Tops

Structural joints, as defined, are placed to eliminate cracking of the stone panel due to structural, thermal and or design load principles. Typical locations of such joints are sink and oven locations as well as corner sections on bench tops. Placement of joints are at the discretion of the stone mason.

3.9 Compounding Tolerances

A compounding of a manufacturing tolerance into the installation tolerance whenever occurring, shall be adjusted to split the compounded tolerance at the joint junction into half and half. This applies only if the tolerance compounds over the plane of a panel.



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4. HANDLING AND STORAGE

- 4.1 At the construction site or storage yard, the granite or marble shall be stacked on timber or platform at least 100 mm of the ground. If a multiple stacking of panels is to be performed - care shall be taken in positioning timber bearers, in line with the preceding one. To prevent staining, plastic material shall be placed between timber and finished stone surface. Thin and oversize stone panels shall be stored in a semi - vertical position.
- 4.2 During handling and storage, care shall be taken to protect corners and sharp edges from damage.



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5. APPENDIX - STONE PROPORTION INDEX

(A)	Veneer Claddings Walls		
	10 mm thick	400 x 400 mm	Glue fixed
	20 mm thick	1200 x 1200 mm	Glue fixed
	30 mm thick	1800 x 900 mm	Mechanical anchor fixed
	40 mm thick	1800 x 1000 mm	Mechanical anchor fixed
(B)	Floor Paving		
	10 mm thick	400 x 400 mm	Glue fixed
	20 mm thick	600 x 600 mm	Glue fixed, Mortar fixed
	30 mm thick	800 x 500 mm	Mortar fixed
	40 mm thick	1000 x 600 mm	Mortar fixed
(C)	Bench Tops		
	20 mm thick	1500 x 600 mm	Silicon fixed
	30 mm thick	2500 x 1000 mm	Silicon fixed
	40 mm thick	2800 x 1000 mm	Silicon fixed
(D)	Wall Blocks		
	100 mm thick	600 x 400 mm	Mortar fixed

Note: The above index shows relative proportions to general principles.
Engineering advice shall be taken, to apply to a particular requirement.

