S T O N E L A M I N A . C O M

stone lamina

TECHNICAL SPECIFICATIONS (SLTS)

Version 3 - 2017

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1. Terms and definitions

For the purpose of this document the terms and definitions given in SLTS (Stone Lamina Technical Specification) and the following apply.

1.1 panel for cladding

panel cut to size which forms a wall and ceiling finishes for outside or inside use, fixed to a structure mechanically

1.2 dimensions of panels for cladding

the length l, width b and thickness d are the dimensions of a panel for cladding. They are given in the stated sequence in inch (see Figure 1)

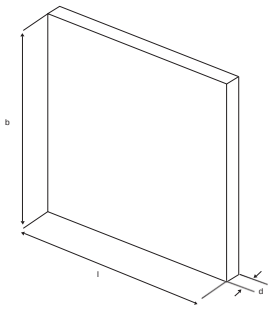

Figure: 1

2. Requirements

2.1 Requirements for geometric characteristics

2.1.1 General

All measurements shall be carried out in accordance with SLTS and all measured values of individual units shall fall within the required tolerances.

2.1.2 Requirements for thickness by more than given in Table 1.

Table 1 – tolerances on the nominal thickness

Nominal thickness in inches	Tolerance
More than 1/2” up to and including 2”	± 1/8”
More than 2” up to and including 5”	± 1/4”
More than 5”	± 1/2”

The required thickness of panels shall result from a structural analysis or similar procedure which takes into account the technical and physical properties of the panel and the intended application.

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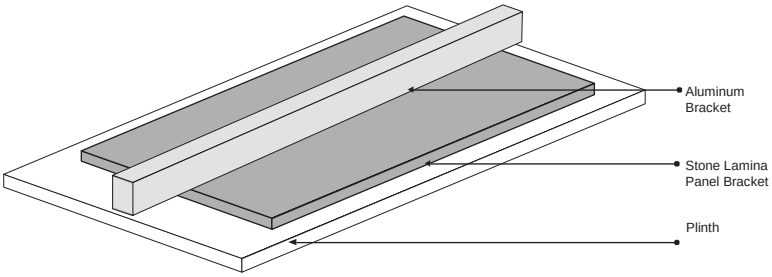
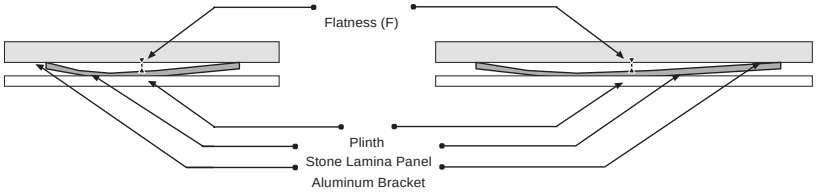
2.1.3 Requirements for flatness

The deviation from flatness of the surface shall not exceed 0.2" % of the panel length and shall not exceed 1/4". For natural cleft faces, the tolerance on flatness shall be declared by manufacturer.



	TRANSVERSAL		LONGITUDINAL	
Thickness	Width	F	Length	F
1"	60"	≤ 1/16"	135"	≤ 1/8"



2.1.4 Requirements for length and width

The length or width shall not deviate from the nominal size by more than given in

Table 2 – Tolerances on length and width

Nominal length or width in inch	**< 24"**	**≥ 24"**
Sawn edges thic ness	± 1/16"	± 1/8"

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2.1.5 Requirements for angles and special shapes

The permissible tolerance at any point shall be as stated in Table 2 (see Figure 2).

Each panel angle shall be in accordance with the agreed geometry. Pieces of special or irregular shape shall be checked for compliance with the required shape by use of a suitable template, the permissible tolerance at any point shall be as stated in Table 2.

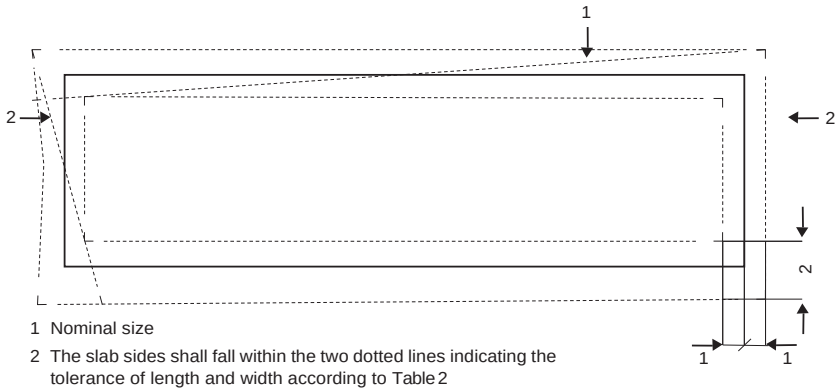

Figure: 2 – Example of tolerances on angles

Key

1 Nominal size

2 The slab sides shall fall within the two dotted lines indicating the tolerance of length and width according to Table 2

Max. angle tolerance is ± 0.5%

2.1.6 Requirements for holes

The size of holes (porosities) should not be bigger than 1/16”.

2.1.7 Requirements for surface finish

2.1.8.1 General

Surface finishes shall be carried out uniformly to the edges of the cladding panel.

The surface finishing of some types of stones may typically involve the use of patching, fillers or other similar products for natural holes, faults or cracks; this is to be considered as part of the normal processing. In such cases the type of treatment, as well as the type and nature of additional materials, shall be declared.

2.1.8.2 Requirements for surfaces after surface finishing

Surfaces shall have a regular appearance as a function of the finishing process and shall be worked to meet the specified finish (e.g. making reference to samples) on all exposed surfaces

Note 1 Surfaces obtained by grinding are, for example:

- Rough ground surfaces obtained, e.g. by means of a grinding disk of grain size F60 (Acid wash);
- Medium ground surfaces obtained, e.g. by means of a grinding disk of grain size F120;
- Fine ground surfaces obtained, e.g. by means of a grinding disk of grain size F220;
- Matt finished surfaces obtained, e.g. by means of a grinding disk with grain size F400;
- Highly polished surfaces obtained, e.g. by means of a polishing disk or felt F600.

Note 2 Surfaces obtained by means of percussion tools are as per sample

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2.2 General

This characteristic shall always be declared.

The colour, veining, texture, etc. of the Material shall be identified visually, typically by a reference sample of the same stone suitable for providing a general description of visual appearance. The reference sample shall be provided by the supplier.

2.3 Reference sample, visual inspection and acceptance and acceptance criteria

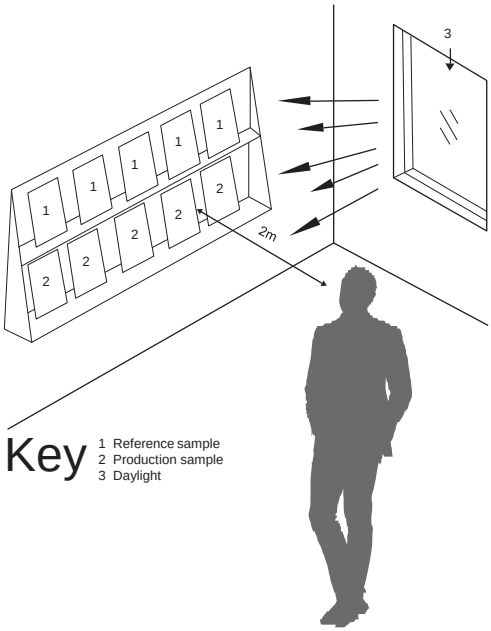
A reference sample shall be an adequate number of pieces of natural stone of sufficient size to indicate the general appearance of the finished work. The dimensions of individual pieces shall be at least 0,01 square meters (typical values are between 0,01 and 0,25 square meters in face area but may be more) and shall indicate the range of appearance regarding the colouring, the vein pattern, the physical structure and the surface finish. In particular the reference sample shall show specific characteristics of the stone, such as holes for travertine, worm holes for marble, glass seams, spots, crystalline veins and rusty spots.

The reference sample does not imply strict uniformity between the sample itself and the actual supply; natural variations may always occur.

If the processing of the stone involves the use of patching, fillers or other similar products for natural holes, faults or cracks, then the reference sample shall similarly display the impact of the same on the finished surface.

All the characteristics as shown by the reference sample shall be considered typical of the stone and not as flaws, therefore they shall not become a reason for rejection, unless their concentration becomes excessive and the typical character of the stone is lost.

Any comparison between production sample and reference sample shall be carried out by placing the reference sample against the production samples and viewing them at a distance of about two meters under normal daylight conditions and recording any visible differences in the characteristics of the stones (Figure 3).



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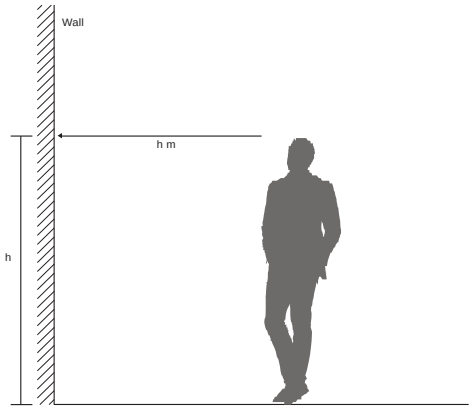
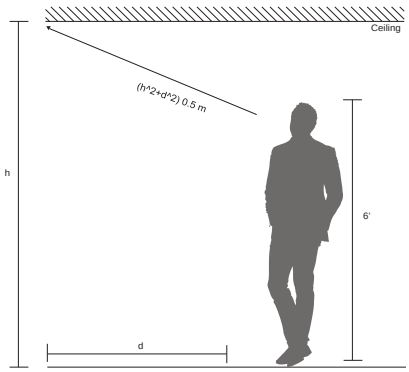
2.4 Damage to walls caused by movement of panel and footing and other causes.

Description of typical damage and required repair	Crack width limit	Crack Category
Hairline Cracks	< 0.1mm	0
Fine cracks that do not need repair	1/16”	1
Cracks noticeable but easily filled.	<1/4”	2
Cracks can be repaired and possibly a small amount of wall will need to be replaced.	1/4 - 3/4” (or a number of cracks 0.12” or more in one group)	3
Extensive repair work involving breaking-out and replacing sections but also depends of walls.	3/4 - 1” but also depends on number of cracks	4

2.5 Inspection surfaces from a normal viewing position

Generally, variations in the surface colour, texture and finish of walls, ceilings, floors and roofs, and variation to be viewed where possible from a normal viewing position. A normal viewing position is looking at a distance minimum 2 meters with the surface or material being illuminated by ‘non-critical light’ means the light that strikes the surface is diffused and is not glancing or parallel to that surface.





2.6 The measurement of SLTS tolerances

Vertical Surfaces

Deviations of vertical surface from a true vertical plane are to be measured from a plumb line through a plan position or reference point nominated in the contract documents or inferred if none is nominated. The maximum deviation of a vertical surface from that plumb line will not exceed than 1/4” from a plane surface (Bow) in any 2 m length. Refer to diagram below diagrams. Where diagrams are provided for the clarification of details, the diagram shows only detail relevant to the issue and is not intended to be used as general details for construction.

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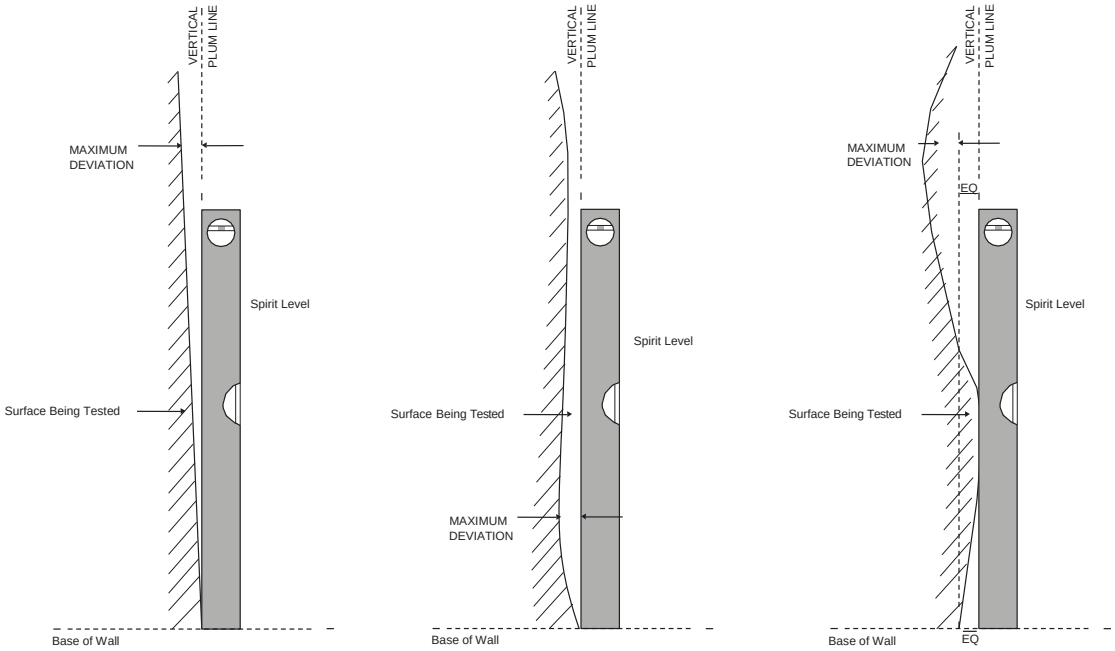
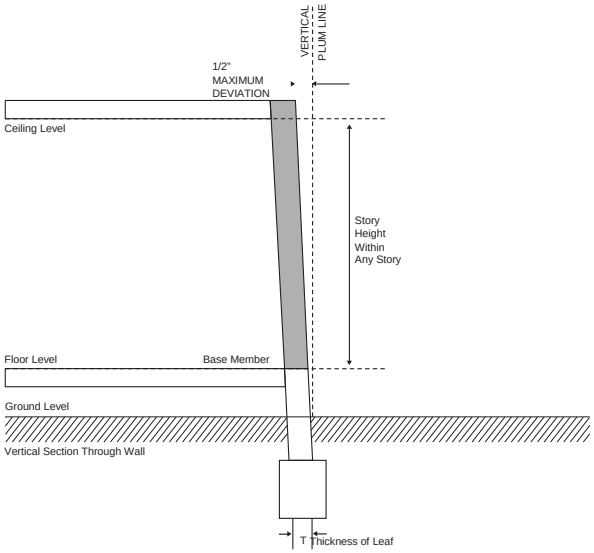


2.7 Tolerance in Stone Lamina Panel installation



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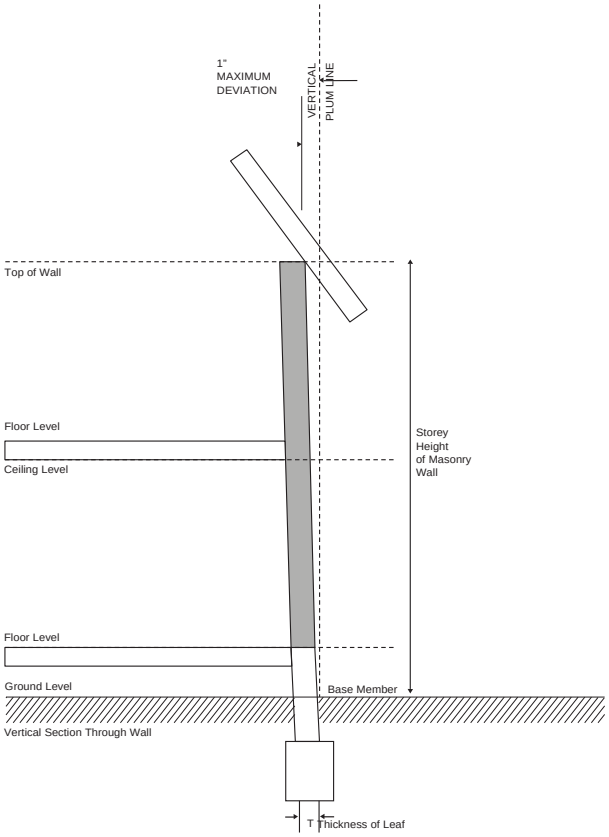

2.8 Tolerances in installation of Stone Lamina panels

For width of panel 1500 mm: ± 1/4" - 0,1%

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2.9 Tolerances in installation of Stone Lamina panels- Joint Tolerances

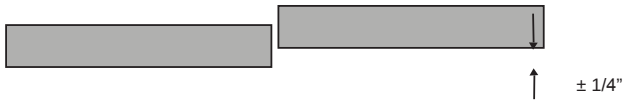
Acceptable panel to panel: all ceiling and floor joint gaps

Description of the joint condition	Joint size	
	Min	Max
Panel to Panel	1/8"	1/2"
Panel to Wall	0"	1-3/4"
Panel to Ceiling	0"	1-3/4"
Panel to Floor	0"	1-3/4"

Note: Site conditions and wall conditions may effect the acceptable tolerances. The Min and Max acceptable tolerances are calculated based on the highest point on the outages.

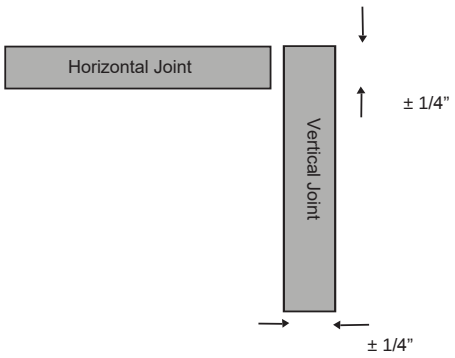
2.10 Tolerances in installation of Stone Lamina panels- Panel joints

For panel alignment: Ins and outs - Max ±1/4"



2.11 Tolerances in installation of Stone Lamina panels- Horizontal and Vertical joints

For panel alignment: Horizontal joint to Vertical joint - Max ±1/4"



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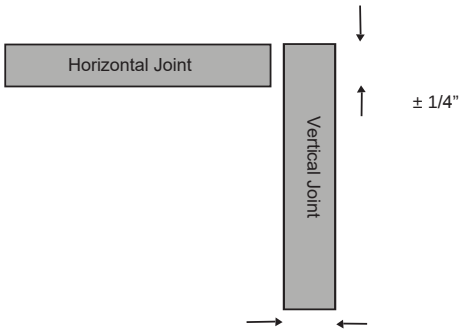
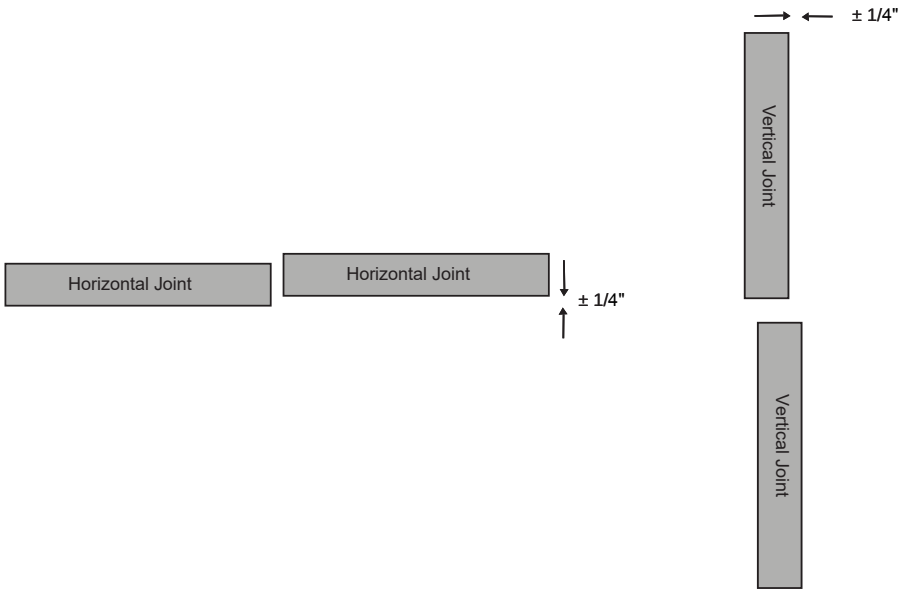
2.12 Tolerances in installation of Stone Lamina panels- Horizontal and Vertical joints

For panel alignment: Horizontal joint to Vertical joint - Max ±1/4"



2.13 Tolerances in installation of Stone Lamina panels- Alignment

For panel alignment: Horizontal joint to Horizontal joints / Vertical to vertical joints - Max ±1/4"



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2.14 Tolerances in installation of Stone Lamina panels- Joint consistancy

For the joint between the panel at 1500 mm and more: ±1/4"