



QUALITY PARAMETERS



STANDARD & ACCEPTABLE QUALITY



Definition of 'A' Grade Slab

“A” Grade slabs are defined as slabs that pass all aspects of the individual inspections described in this document. Failure of any Individual inspection criteria immediately constitutes considering that slab product as “less than A grade” and is not permitted to be Loaded in 1st Choice materials. In all circumstances where material fails one or more of the objective criteria outlined in this document requires the Operations Manager to engage and determine if there is a use of this specific material within the Pacific Engineered Surfaces platform at some discounted rate. Regardless of the ability to either use or not use the failed slab product, in all cases where an inspection failure has occurred the inspector keeps a track of the following-:

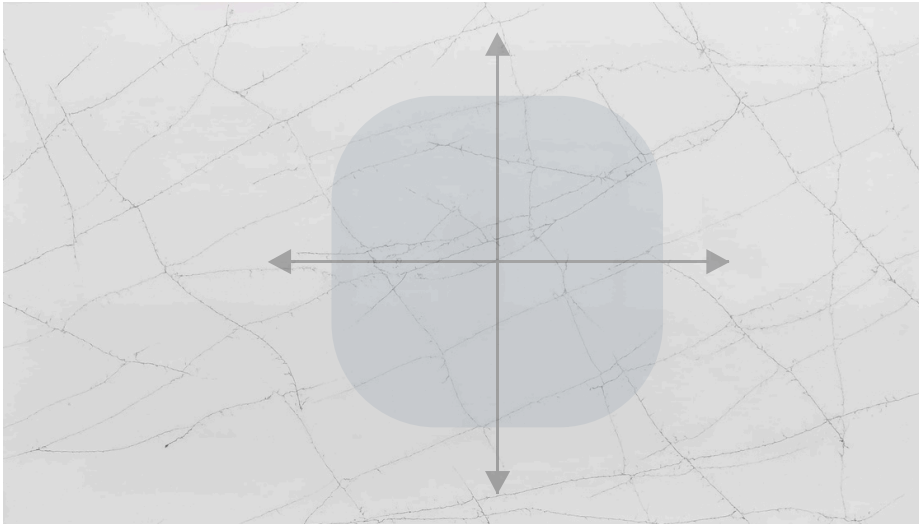
- Specific inspections or inspections that failed
- The observed variances to standard
- The date of the inspection
- The color name and SKU and the customer’s color name and SKU
- The approver remarks of the failure or failures in the product.



QUALITY PARAMETERS

Four Quadrant

Visually, the Quartz slab is divided into 4 quadrants, as shown in the following image



All objective measurements performed during a material inspection at a manufacturing facility are performed in each of the four (4) quadrants of the finished slab. The quadrants are defined as the slab being divided into four (4) equal components. The slab would be demised down the center of the long and short axis. This creates 4 equal rectangles of varying dimensions depending on the overall slab size. These quadrants can be visually determined without the requirement of determining the specific boundaries of any individual quadrant.

Flatness

Flatness is observed across both the long and short dimensions of the slab. Each of these observations occurs at or near the mid- point of that dimension. The observations are performed using a manufacture-provided aluminum 10-foot level. Maximum allowable deflection at the mid-point of the aluminum level across the long dimension at the mid-deflection greater than the stated amount allowed are to be immediately rejected with no further inspection required.

Flatness needs to be observed at the following frequency

- **1 slab per 10 slabs of 2CM**
- **1 slab per 15 slabs of 3CM**



Thickness

Non-textured surfaces	20 mm +/- 1.5 mm
	30 mm +/- 1.5 mm

This measurement inspection is performed with the use of a digital caliper. Slabs that are observed to have variance greater than the stated amount allowed are to be immediately rejected with no further inspection required.

Overall Slab Size

Slab size is measured in both long and short dimensions (length and width). Depending upon manufacture, the stated slab format size will be determined in the measurement observed. In variance, they cannot vary more than or less than 5 mm in the long dimension and 3 mm in the short dimension.

This measurement is performed with a standard tape measure. Slabs that are observed to have variances greater than the stated amount allowed are to be immediately rejected with no further inspection required.

Overall slab size needs to be observed at the following frequency:

1 slab per 20 slabs in either 2CM or 3CM

Color Tone

Control samples are be provided to the inspector of enough size to determine the variation from production slabs. There is an acceptable and expected variability within any color SKU from production batch to production batch. The inspector makes a subjective judgement if the slab being inspected meets the standard of the control sample. The variability is expected within a reasonable range in tone. This observation is performed with a great deal of common sense.

- **1 slab per 10 slabs of 2CM**
- **1 slab per 15 slabs of 3CM**



Polish Gloss

There is a strict rule of gloss reading per slab being measured. Two (2) readings are conducted per quadrant. Readings are performed using a standard gloss meter set at 60-degrees. The higher the gloss reading more desirable is the finished product. The larger the particulate content the lower the gloss reading is likely to be. In “matt e” or “honed” finishes the same standard applies.

**Slab gloss should be measured at the following frequency;
1 slab out of 10 in both 20 mm and 30 mm format thickness**

Particulate Size & Color

Control samples are provided to the inspector of enough size to determine the variation from production slabs. With respect to particulate size, depending on the specific SKU being inspected, no variability from the control sample is acceptable to the slab being inspected. This is true in SKUs that have multiple visible particulate sizes and SKUs that have a single and uniform particulate size. Uniformity of particulate, when compared to the control sample, is a key consideration. It is also critical to observe the color of the particulate on the slab being inspected. In some SKUs, a single-color tone of visible particulate is used. In other SKUs there are multiple colors of visible particulate used.

**Particulate size and color should be observed at the following frequency;
1 slab out of 20 in both 20 mm and 30 mm format thickness**

Particulate Distribution

Distributions of particulate across the body of the slab are even and equal. Observable overall irregularity of distribution from any of the four (4) quadrants of the slab constitutes an immediate failure and is rejected. Exceptions to this would be applicable in SKU patterns that are designed to create a “commercial or unequal” distribution of pattern and tone. Particulate pooling or the absence of particulate any irregularity that exceeds 18 mm in any direction constitutes an inspection failure and results in an immediate rejection of that individual slab. The consequence of either pooling or the absence of particulate (staining) is a totally random occurrence. In all cases we locate and reject these slabs within our own internal quality assurance process.

**Particulate distribution should be observed at the following frequency;
1 slab out of 20 in both 20 mm and 30 mm format thickness**



Voids

Voids or “pinholes” of any size are unacceptable and constitute a failure from an “A” grade/1st Choice slab. Voids of any size should be filled at the point of manufacture. Scratches or Polishing Marks are duly taken care in this process as well.

**Voids should be observed at the following frequency;
1 slab out of 20 in both 20 mm and 30 mm format thickness**

Backside Slab Smoothness

The backside (unpolished side) of the slab is smooth to the touch. It is free of ridging that can be felt with your hand running across the surface. There is no expectation that the surface is completely “machined”, but the slab should be reasonably smooth.

Plastic Film

Plastic film is applied to the finished side of each slab. This film covers the entire slab in both length and width. The film is reasonably critically examined and easily removable. In certain circumstances, the film requires significant effort to remove as a part of statutory packing norms.



COMMERICAL SLABS

- Grade - B
- Grade - C

Presence of Contaminants - Grade B

Contamination may appear on the surface of the slab caused by other materials than those typical of quartz slabs such as iron, rubber, or wood, etc. All these materials are identified as non-conforming. Occasionally during the manufacturing process, pieces of the mirror might be protruding or indenting slightly outwards or inwards of the slab. The polisher can break small pieces of the mirror upon polishing and the slab may be left with a few small indentations. This is the nature of the manufacturing process and is considered compliant.



Pattern Problem - Grade B

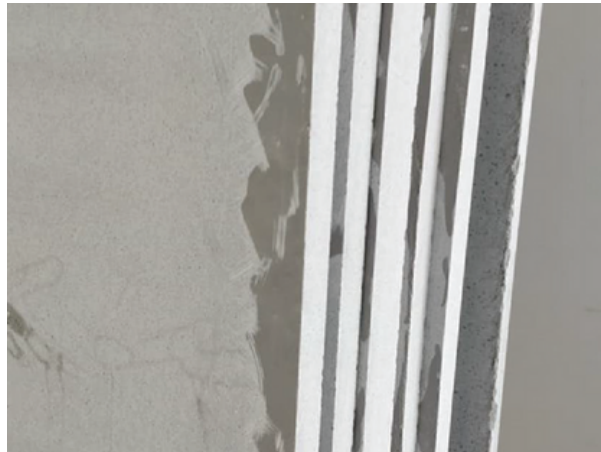
The variety of patterns can include tiny flecks on solid background, mostly solid coloring, larger lines and flecks against a solid background, and slight variations on all these. It can look natural as other slabs, or, with less natural pigment colors, can look bold or festive.





Wrinkles Paper Dip On The Underside Of Slabs - GRADE B

The wrinkles are similar to valleys that appear on the surface of the material and are considered conforming.



Pinholes In The Polished Surface - GRADE C

The variety of patterns can include tiny flecks on solid background, mostly solid coloring, larger lines and flecks against a solid background, and slight variations on all these. It can look natural as other slabs, or, with less natural pigment colors, can look bold or festive.



Fissures in the Surface - GRADE C

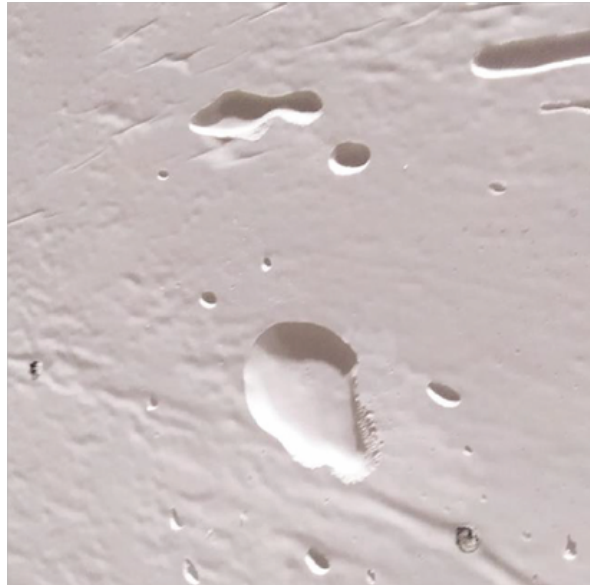
Occasionally fissures or cracks may appear on the polished surface of the material. This fault is considered non-conforming.





Cavity on the top of the slab

The cavity on the slab is visualized as a crater on the surface of the slab. The loss of uniformity on the material. This is the nature of the manufacturing process and is considered a complaint.



AUSTEN



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