

# PRODUCT QUALITY INSPECTION GUIDE

## PURPOSE

This document outlines the quality inspection process for Avonite Surfaces® acrylic solid surface sheets and STUDIO Collection® Design Resin. Use this document as a guide when inspecting product to determine if sheets are within tolerance.

## CONTENTS

|  |   |
|--|---|
| Purpose.....                                   | 1 |
| Color Match.....                               | 1 |
| Color Match Test                               |   |
| Identification Number                          |   |
| Florence, KY (Avonite Surfaces®)               |   |
| Belen, NM (STUDIO Collection®)                 |   |
| Color and Chip Inconsistency.....              | 2 |
| Color Consistency Analysis.....                | 2 |
| Sheet Length and Width.....                    | 2 |
| Sheet Thickness.....                           | 2 |
| Warping.....                                   | 3 |
| Breakage.....                                  | 3 |
| Face Side Contamination.....                   | 3 |
| Face Side Pinholes, Voids, and/or Ripples..... | 3 |
| Back Side Pinholes, Voids, and/or Ripples..... | 3 |
| <b>APPENDICES</b>                              |   |
| Double Belt Continuous Casting Overview.....   | A |
| Performance Testing/External Results.....      | B |

## COLOR MATCH

Avonite Surfaces® acrylic solid surface sheets are manufactured in continuous cast production cycles to reduce the variation in sheet characteristics. STUDIO Collection® Design Resin is manufactured in smaller batch quantities. Different production cycles of the same product may show minor variations in characteristics, including color.

For *optimal* color match, the following checks should be taken to ensure best results.

1. Check the product identification number printed on the sheet
2. Conduct a color match test

## IDENTIFICATION NUMBER

The product identification number format will differ based on production facility.

### FLORENCE, KY Avonite Surfaces®

Sheets produced at the Florence, KY facility will have the product identification number printed on the side and/or bottom of the sheet and consists of nine numeric digits in the following format:

**170914307**

|      |       |     |              |                 |   |   |   |   |
|------|-------|-----|--------------|-----------------|---|---|---|---|
| 1    | 7     | 0   | 9            | 1               | 4 | 3 | 0 | 7 |
| YEAR | MONTH | DAY | BATCH NUMBER | PRODUCTION LINE |   |   |   |   |

The full identification number should be identical for optimum color match. Sheets with the same date and production line number but different batch number were manufactured during the same production cycle and should pass a color match test.

### BELEN, NM STUDIO Collection®

Sheets produced in Belen, NM show the product identification number on a label affixed to the side of the sheet, in the following format:

**02F5021711A0043**

|   |            |       |      |             |                |               |   |   |   |   |   |   |   |   |
|---|------------|-------|------|-------------|----------------|---------------|---|---|---|---|---|---|---|---|
| 0                                       | 2          | F     | 5    | 0           | 2              | 1             | 7 | 1 | 1 | A | 0 | 0 | 4 | 3 |
| TOTAL # OF PRODUCTION RUNS YEAR-TO-DATE | COLOR CODE | MONTH | YEAR | SHEET WIDTH | BATCH # OF RUN | SHEET # (1-7) |   |   |   |   |   |   |   |   |

A production run consists of multiple batches of seven sheets each. When seaming the preference is to use sheets from the same run # and batch #. Sheets from adjacent batches but same day are acceptable but should undergo a color match test to verify.

If the identification number of two or more sheets does not match the criteria above, a color match may still be possible. Conduct a color match test to verify.

## COLOR MATCH TEST

Follow these steps to conduct a color match test:

1. Cut a sample strip from the sheets intended to be used together
2. Seam the samples together and polish to desired finish
3. Inspect the seam for proper color match

## COLOR AND CHIP INCONSISTENCY

The manufacturing process will provide a factory finish which may show superficial defects not representative of final product quality. It is important to follow the recommended final finishing steps found in the Fabrication Guide online before conducting a visual inspection or color match test.

Chip filled sheets are designed to have a random particle distribution which may lead to similar chips being grouped together. This is not considered to be a defect but is a designed aspect of the Avonite Surfaces® solid surface sheet and STUDIO Collection® Design Resin. Chip distribution defects often appear as an area of the sheet with little to no chips and other areas with a high concentration. If color inconsistencies such as blotches/clouding or chip inconsistencies such as washouts are found and cannot be worked out, **contact our customer service.**

## COLOR CONSISTENCY ANALYSIS

When feasible, the color consistency of each production batch of material is analyzed with a Color Spectrophotometer and compared against the target CIE L\*a\*b Color Scale values. For sheets that have marble or veining patterns, or contain large chips, the color consistency is analyzed against a Master Sample under controlled lighting conditions.

## SHEET LENGTH AND WIDTH

Length and width tolerances vary based on product category

| PRODUCT CATEGORY   | LENGTH TOLERANCE      |                    | WIDTH TOLERANCE       |                    |
|--------------------|-----------------------|--------------------|-----------------------|--------------------|
| Avonite Surfaces®  | + 0.5in. / - 0.0in.   | + 12.7mm / - 0.0mm | + 0.125in. / - 0.0in. | + 3.2mm / - 0.0mm  |
| STUDIO Collection® | + 0.75in. / - 0.75in. | + 19mm / - 19mm    | + 0.25in. / - 0.5in.  | + 6.4mm / - 12.7mm |

## SHEET THICKNESS

Thickness tolerance can vary based on nominal caliper and product category.

| PRODUCT CATEGORY   | NOMINAL THICKNESS | THICKNESS TOLERANCE      |                        |
|--------------------|-------------------|--------------------------|------------------------|
| Avonite Surfaces®  | 0.472 in. (12 mm) | + 0.020 in. / -0.020 in. | + 0.508 mm / -0.508 mm |
|                    | 0.236 in. (6 mm)  | + 0.015 in. / -0.015 in. | + 0.381 mm / -0.381 mm |
|                    | 0.118 in. (3 mm)  | + 0.010 in. / -0.010 in. | + 0.254 mm / -0.254 mm |
| STUDIO Collection® | 0.472 in. (12 mm) | + 0.020 in. / -0.020 in. | + 0.508 mm / -0.508 mm |

If the sheet does not match the above tolerance, or if the thickness variation within a sheet differs by -.13mm/+ .13mm, **contact customer service.**

## WARPING

Lay sheet on flat surface. If the edges of the sheet deflect up (forming a "bowl") greater than 1.5 mm per meter in any direction, **contact customer service.**

## BREAKAGE

Corner or edge chips are acceptable if the usable width and length meet or exceed the nominal sheet size.

## FACE SIDE CONTAMINATION

For a sheet to be considered defective due to contamination, it must have five or more spots of contamination that are larger than 0.1mm<sup>2</sup> and/or a single contaminant spot greater than 0.25mm<sup>2</sup> per ISFA-2-01 (2013) SST 5.1-00.

Exception: No more than 5 particles of 0.3 mm<sup>2</sup> or larger size each per square meter of sheet, on the below list of colors.

*(9117 Kokoura, 7810 Malt, 7921 Boardwalk, 7848 Snow Mist, 7749 Mellow, 8206 Alpine Shimmer, 7817 Harland, 7728 Relic, 1060 Twinkle... and other recycled product; 4310 Coastline, 4331 Khaki, 4330 Honey Crunch, 8698 Bone, 8699 White, 6641 Brown Sugar, 6640 Back Roads, 6636 White Sands, 6638 Palm Desert, 8200 Kaleidoscope, 6637 Crushed Lava, 6600 Cotton Wood.)*

## FACE SIDE PINHOLES, VOIDS, AND/OR RIPPLES

Any face side pinhole or void is considered defective. Other face side surface imperfections are considered acceptable if they can be removed by orbital sanding with 320-grit sandpaper.

## BACK SIDE PINHOLES, VOIDS, AND/OR RIPPLES

Light porosity, such as pinholes or voids, are acceptable in the back side of the sheet. Any ripples, bumps, or divots are considered defective as is any glossy (non-sanded) area more than 0.5mm in depth.

## CUSTOMER SERVICE

### US and Canada

Phone: +1-800-4-AVONITE (1-800-4-2866483)  
Email: [info@aristechsurfaces.com](mailto:info@aristechsurfaces.com)

### France, Germany, UK

Phone: 00800-5263-5263  
E-mail: [info.europe@aristechsurfaces.com](mailto:info.europe@aristechsurfaces.com)



[www.aristechsurfaces.com](http://www.aristechsurfaces.com)

GLOBAL HEADQUARTERS  
7350 Empire Drive, Florence, KY 41042, USA  
+1.800.354.9858

BELEN OFFICES  
1945 Hwy 304, Belen NM 87002, USA

INTERNATIONAL OFFICES  
Clerkenwell Workshops, Unit 301, 27/31 Clerkenwell Close  
Farringdon, London EC1R 0At, UK  
+44.208.065.5405



## Avonite Surfaces® ACRYLIC SOLID SURFACE MANUFACTURING PROCESSES

Aristech Surfaces LLC uses a double belt continuous cast manufacturing process for producing solid surface products. A double-belt production process better regulates temperature and applies uniform pressure, giving better control over sheet thickness and limits sheet warping, optimizing the flatness of the surface.

### BENEFITS OF USING DOUBLE BELT CONTINUOUS CASTING

- Uniformity of each batch is achieved by mixing all of the batch components together at once.
- Within batch color variation and batch to batch color variation is minimized using this approach.
- Heat of polymerization is removed from both top and bottom belt surfaces leading to a more uniform temperature across the sheet thickness and more uniform physical properties.



[www.aristechsurfaces.com](http://www.aristechsurfaces.com)

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## Avonite Surfaces® ACRYLIC SOLID SURFACE EXTERNAL TEST RESULTS FOR SOLID COLORS

Comparison of Avonite Surfaces® Acrylic Solid Surface and their competitors based on independent external testing.

|  | <b>Products</b>                  | <b>Avonite Surfaces®<br/>8016 White</b> | <b>Competitor #1<br/>White #1</b> | <b>Competitor #2<br/>White #2</b> |
|--|----------------------------------|---|-----------------------------------|-----------------------------------|
| <b>Property</b>                                      | <b>Test Method</b>               | <b>Test Results</b>                     | <b>Test Results</b>               | <b>Test Results</b>               |
| Flexural Strength                                    | ISO 178                          | Good                                    | Good                              | Good                              |
| Hardness   | ISO 2039                         | Good                                    | Good                              | Good                              |
| Cleanability Rating<br>Common Household<br>Chemicals | ISO 4586-2, Section 31, Method B | Good                                    | Good                              | Good                              |
| Resistance to Dry Heat                               | ISO 4586-2, Section 18, Method B | Good                                    | Good                              | Better                            |

Independent external testing completed by St. Louis Testing Laboratories for the following Test Methods: ISO 178, ISO 2039, ISO 4586-2, Section 31, Method B and ISO 4586-2, Section 18, Method B



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