



ISO 9001:2008 CERTIFIED
DEFORMULATION
MATERIALS IDENTIFICATION
FAILURE ANALYSIS
LITIGATION SUPPORT
CONSULTING

Test Report: Testing of Panel Durability to Specific Cleaning Solvents

Arcoplast

Ghislain Beauregard

USA

October 16, 2017

EAG Job #V1HWU286

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TESTING SUMMARY FOR Ghislain Beauregard Arcoplast

October 16, 2017

TESTING METHOD NAME AND NUMBER

V1HWU286 Evaluate client provided test panels using a modified ASTM D1308 method

RESULTS

Of the three Steris cleaning solutions received, only the S6 material (LpH se One-Step Germicidal Detergent) tested in the “as received” state negatively impacted the provided client panels surface, though not the sealant material. When the S6 material was diluted to the manufacturer recommended conditions, the test panel was not observably impacted event at the exposure times of 72 hours.

SAMPLE PREPARATION

The sample was prepared for analysis using the following approaches:

- As received
- Diluted per manufacture specification (ratio of 0.5 fluid ounce S6 to 1-gallon water)

ASTM D1308 (MODIFIED)

The as-received S2 and S1 panels were exposed to the received S4, S5 and S6 samples as well as the prepared diluted S6 sample. The analysis conditions are 1, 3, 24 and 72 hours at ambient conditions with a clean crystalizing dish place over the exposed area. The diluted S6 sample was placed on the S1 panel without a sealant where the as received cleaning solution samples were tested with the solution of interest overlapping the sealant seam as well as in contact with the substrate. The results of the analysis are summarized in Table 1 below. Tables 2, 3, 4 and 5 contain the individual time point observations and Attachments 1 through 4 contain the photos from each 72-hour testing condition before, during and after exposure.

Table 1. Exposure results overall results

CHEMICAL	1 HOUR		3 HOURS		24 HOURS		72 HOURS	
	DEFECT ON PANEL?	DEFECT ON SEALANT?	DEFECT ON PANEL?	DEFECT ON SEALANT?	DEFECT ON PANEL?	DEFECT ON SEALANT?	DEFECT ON PANEL?	DEFECT ON SEALANT?
S4 - Steris Coverage Plus NPD One-Step Cleaner Disinfectant	No	No	No	No	No	No	No	No
S5 - Steris SPOR-KLENZ Ready to Use Cold Sterilant	No	No	No	No	No	No	No	No

S6 - Steris LpH se One-Step Germicidal Detergent	No	No	Yes	No	Yes	No	Yes	No
S6 - Steris LpH se One-Step Germicidal Detergent Diluted to Manufacturer Recommendations	No		No		No		No	

Table 2. Exposure observations for 1 hour exposure

CHEMICAL	DEFECTS FROM CHEMICAL RESISTANCE TESTING FOR GLASS/RESIN MATRIX	DEFECTS FROM CHEMICAL RESISTANCE TESTING FOR SEALANT
S4 – Steris Coverage Plus NPD One-Step Cleaner Disinfectant	No observable change	No observable change
S5 – Steris SPOR-KLENZ Ready to Use Cold Sterilant	No observable change	No observable change
S6 – Steris LpH se One-Step Germicidal Detergent	No observable change	No observable change
S6 – Steris LpH se One-Step Germicidal Detergent Diluted to Manufacturer Recommendations	No observable change	

Table 3. Exposure observations for 3 hour exposure

CHEMICAL	DEFECTS FROM CHEMICAL RESISTANCE TESTING FOR GLASS/RESIN MATRIX	DEFECTS FROM CHEMICAL RESISTANCE TESTING FOR SEALANT
S4 – Steris Coverage Plus NPD One-Step Cleaner Disinfectant	No observable change	No observable change
S5 – Steris SPOR-KLENZ Ready to Use Cold Sterilant	No observable change	No observable change
S6 – Steris LpH se One-Step Germicidal Detergent	Gloss loss, substrate etched away some	No observable change
S6 – Steris LpH se One-Step Germicidal Detergent Diluted to Manufacturer Recommendations	No observable change	

Table 4. Exposure observations for 4 hour exposure

CHEMICAL	DEFECTS FROM CHEMICAL RESISTANCE TESTING FOR GLASS/RESIN MATRIX	DEFECTS FROM CHEMICAL RESISTANCE TESTING FOR SEALANT
S4 – Steris Coverage Plus NPD One-Step Cleaner Disinfectant	No observable change	No observable change
S5 – Steris SPOR-KLENZ Ready to Use Cold Sterilant	No observable change	No observable change
S6 – Steris LpH se One-Step Germicidal Detergent	Gloss loss, substrate etched away	No observable change
S6 – Steris LpH se One-Step Germicidal Detergent Diluted to Manufacturer Recommendations	No observable change	

Table 5. Exposure observations for 72 hour exposure

CHEMICAL	DEFECTS FROM CHEMICAL RESISTANCE TESTING FOR GLASS/RESIN MATRIX	DEFECTS FROM CHEMICAL RESISTANCE TESTING FOR SEALANT
S4 – Steris Coverage Plus NPD One-Step Cleaner Disinfectant	No observable change	No observable change
S5 – Steris SPOR-KLENZ Ready to Use Cold Sterilant	No observable change	No observable change
S6 – Steris LpH se One-Step Germicidal Detergent	Gloss loss, substrate considerably etched away	No observable change
S6 – Steris LpH se One-Step Germicidal Detergent Diluted to Manufacturer Recommendations	No observable change	

SAMPLE LOG-IN

SAMPLE NUMBER	DESCRIPTION
S1	Solid Matrix Core EP Class A Fire Retardant - White A-8016 Thickness - 1/4 inch (6mm) 3/8 inch (9.5mm) 1/2 inch (12mm) (4 Each)
S2	Solid Core Class A Fire Retardant - White A-8016 Thickness - 3/8 inch (9.5mm) 1/2 inch (12.5mm) 3/4 inch (19mm) Aluminum Spline Joint System (6 Each)
S3	Solid Core Panel Corner 2 inch x 2.5 inch x 2.75 inch x 12.5mm (4 Each)
S4	Steris Coverage Plus NPD

	One-Step Cleaner Disinfectant
S5	Steris SPOR-KLENZ Ready to Use Cold Sterilant
S6	Steris LpH se One-Step Germicidal Detergent

Please remember we dispose of samples 30 days after the date of this Testing Summary unless instructed otherwise.

ATTACHMENTS

Attachment 1 S4 Testing Images

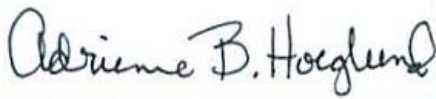
Attachment 2 S5 Testing Images

Attachment 3 S6 Testing Images

Attachment 4 S6 diluted Testing Images

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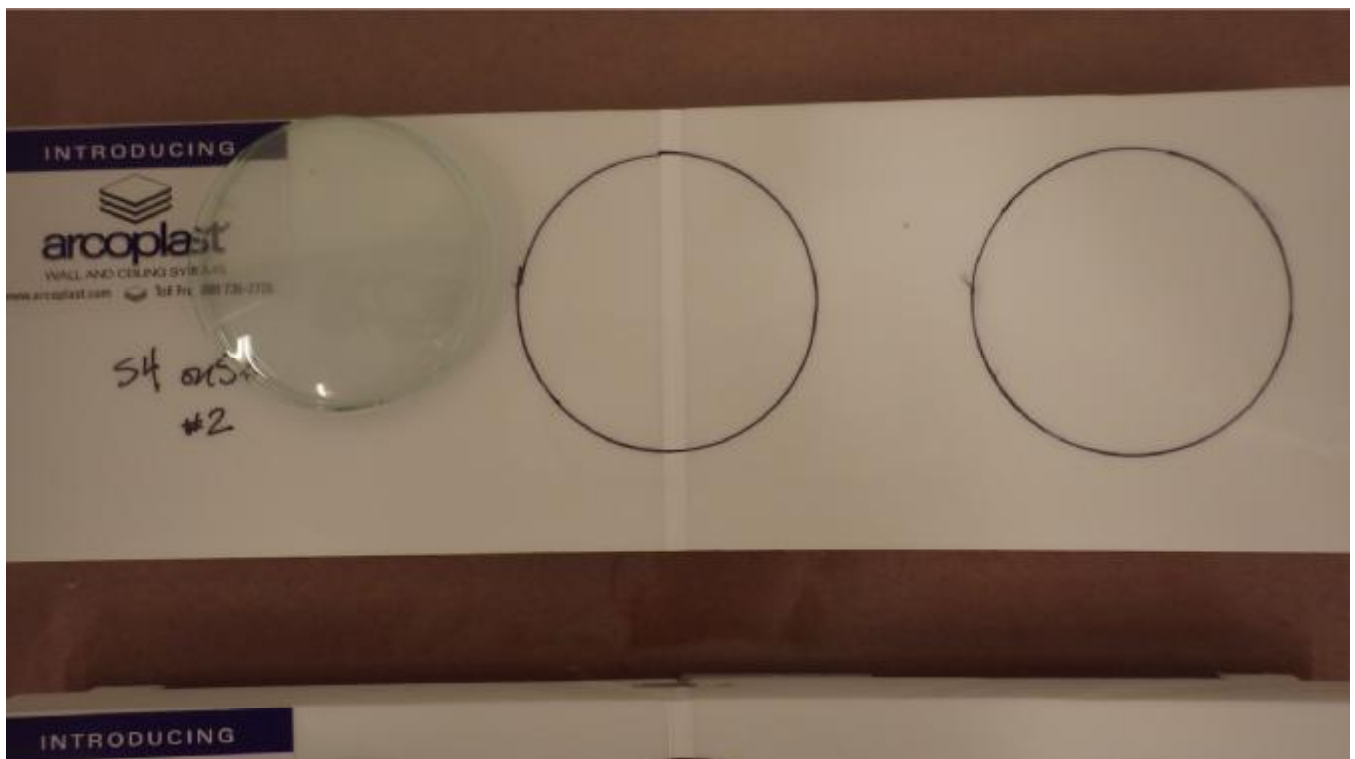
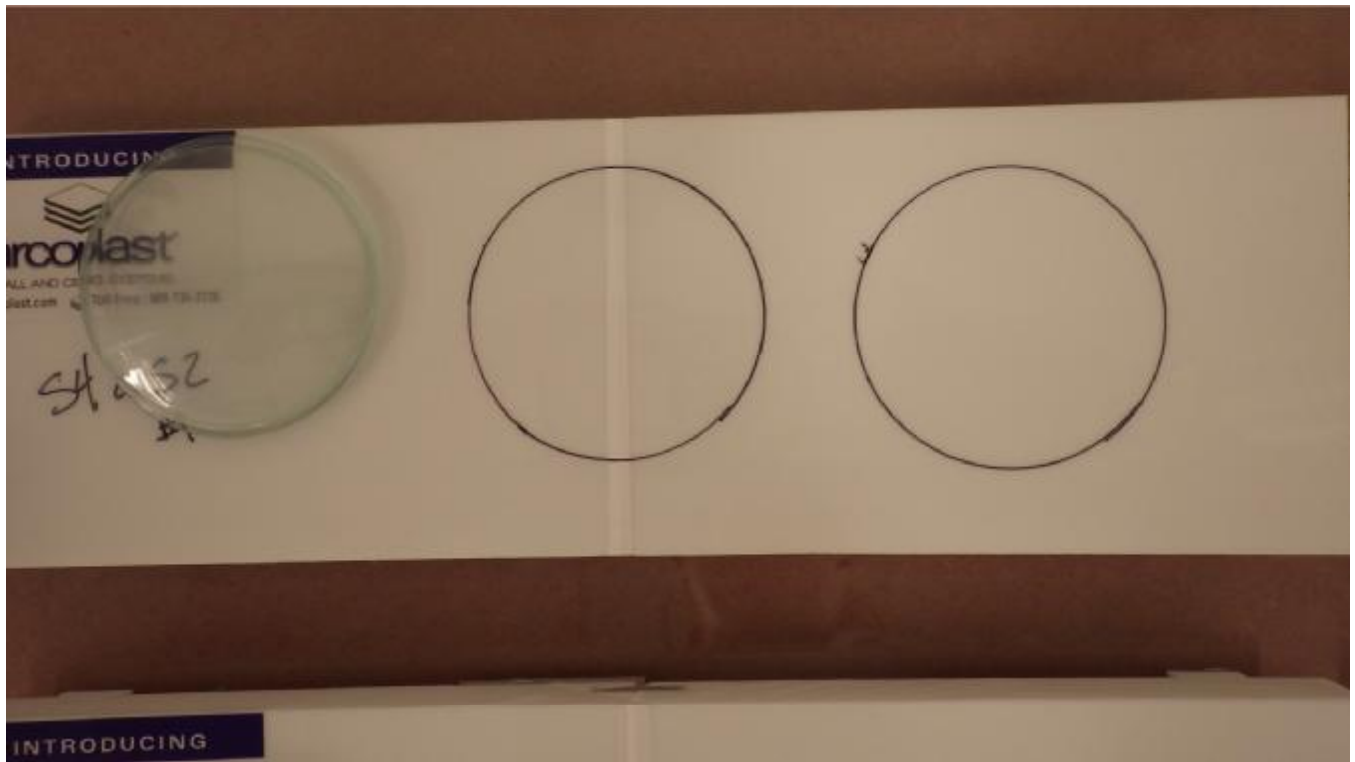
TECHNIQUE DESCRIPTIONS

ASTM D1308

This method is used for evaluating a substrate and/or coatings ability to resist change when exposed to common household chemicals, which may include cleaners and food products. Common types of failures or changes include, but are not limited to, discoloration, change in gloss, blistering, softening, swelling and loss of adhesion. The specific household chemicals used and exposure times should be listed in the Results section.

ATTACHMENT 1

S2 - Solid Core with Class A Fire Retardant
White A-8016
tested with
S4 (Coverage Plus NPD)
As Received before, during and after 72 hours



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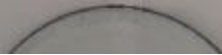
SH on S2
#1



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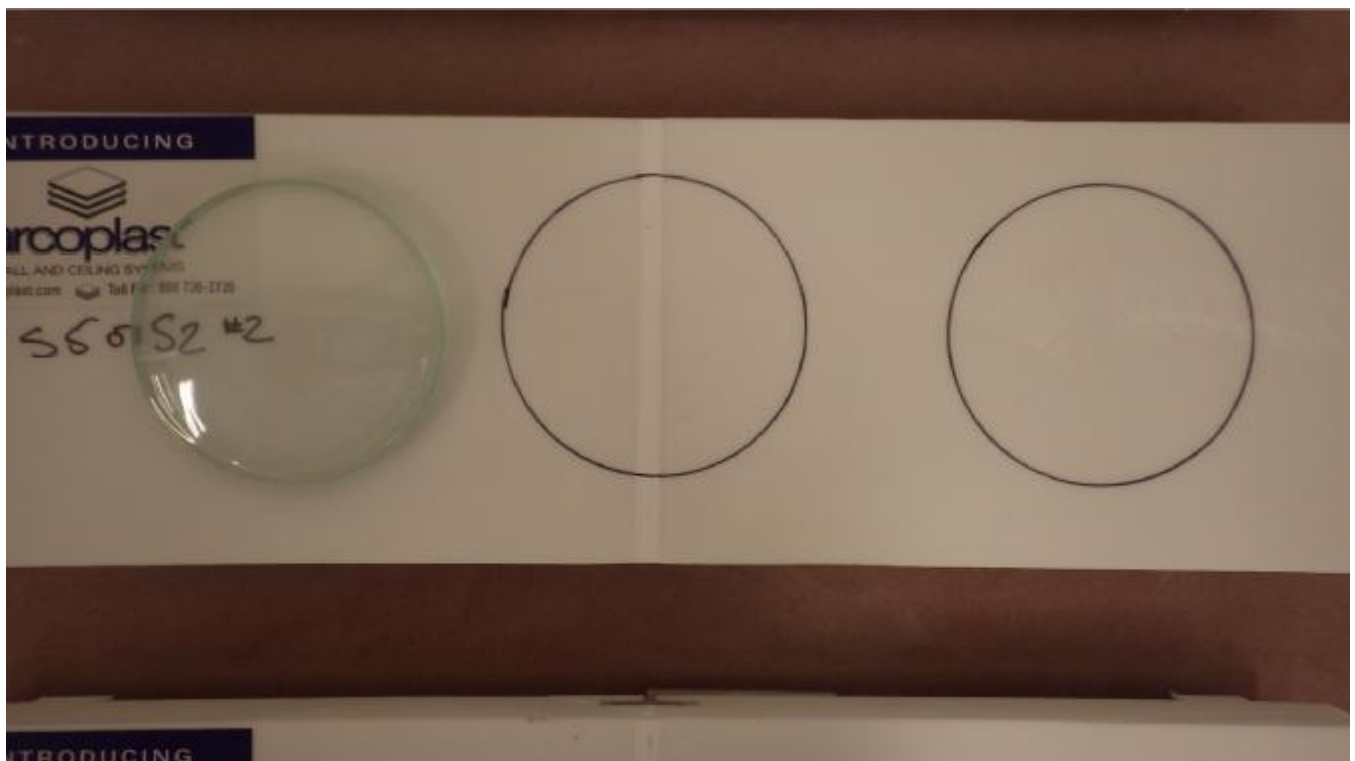
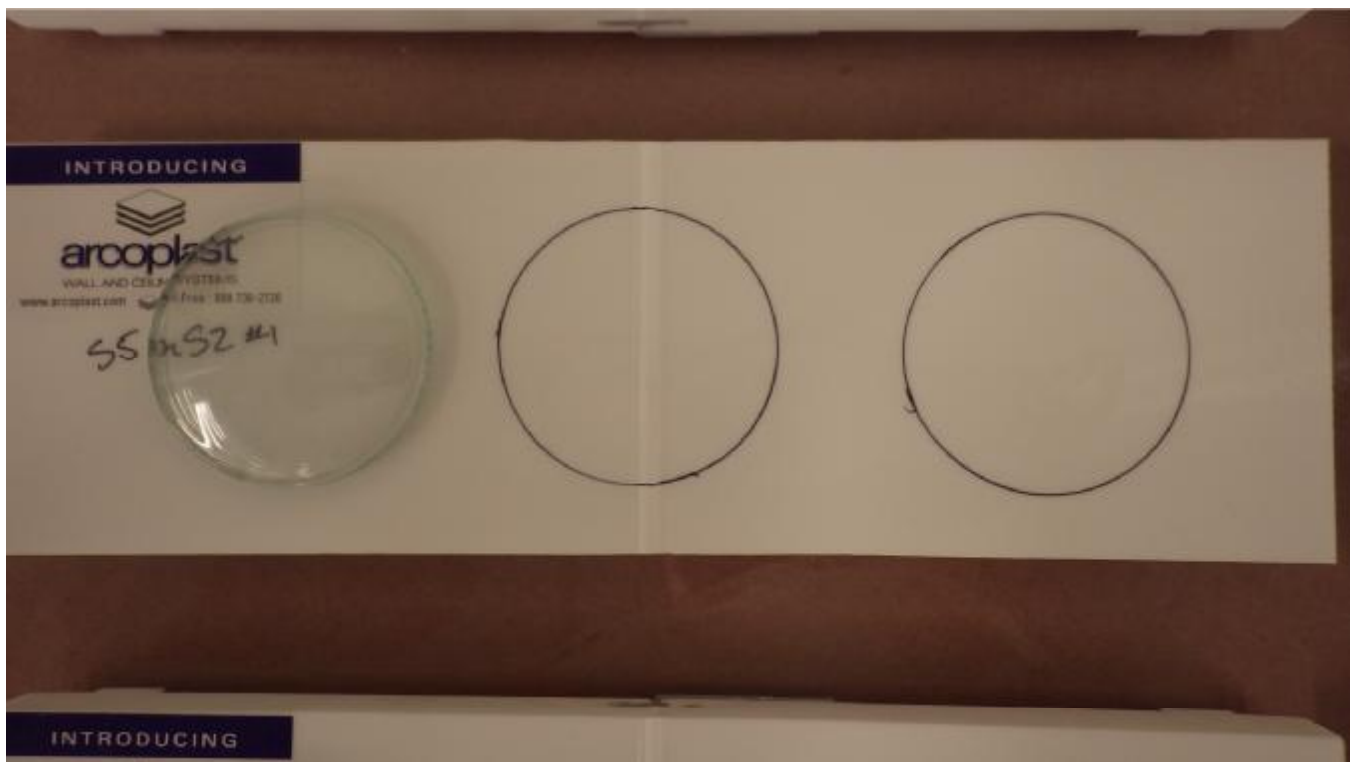
SH on S2
#2





ATTACHMENT 2

S2 - Solid Core with Class A Fire Retardant
White A-8016
tested with
S5 (SPOR-KLENZ Ready to Use)
As Received before, during and after 72 hours





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SS on S2 #2



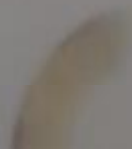
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SS on S2 #1



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ATTACHMENT 3

S2 - Solid Core with Class A Fire Retardant
White A-8016
tested with
S6 (LpH se)

As Received before, during and after 72 hours

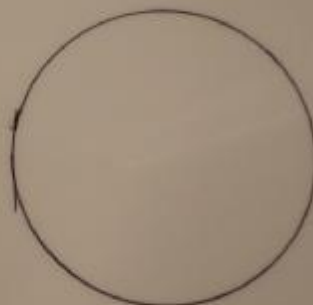
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SL6 or S2 #1



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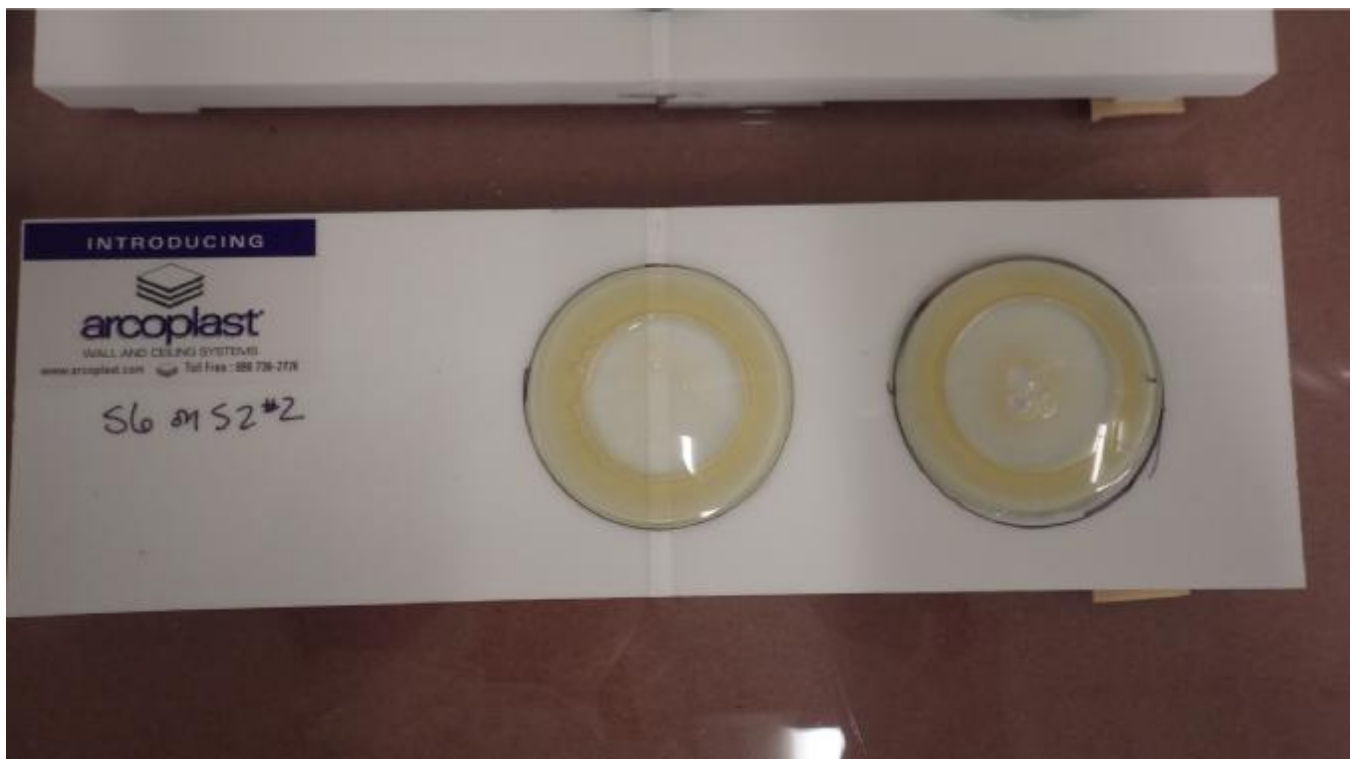


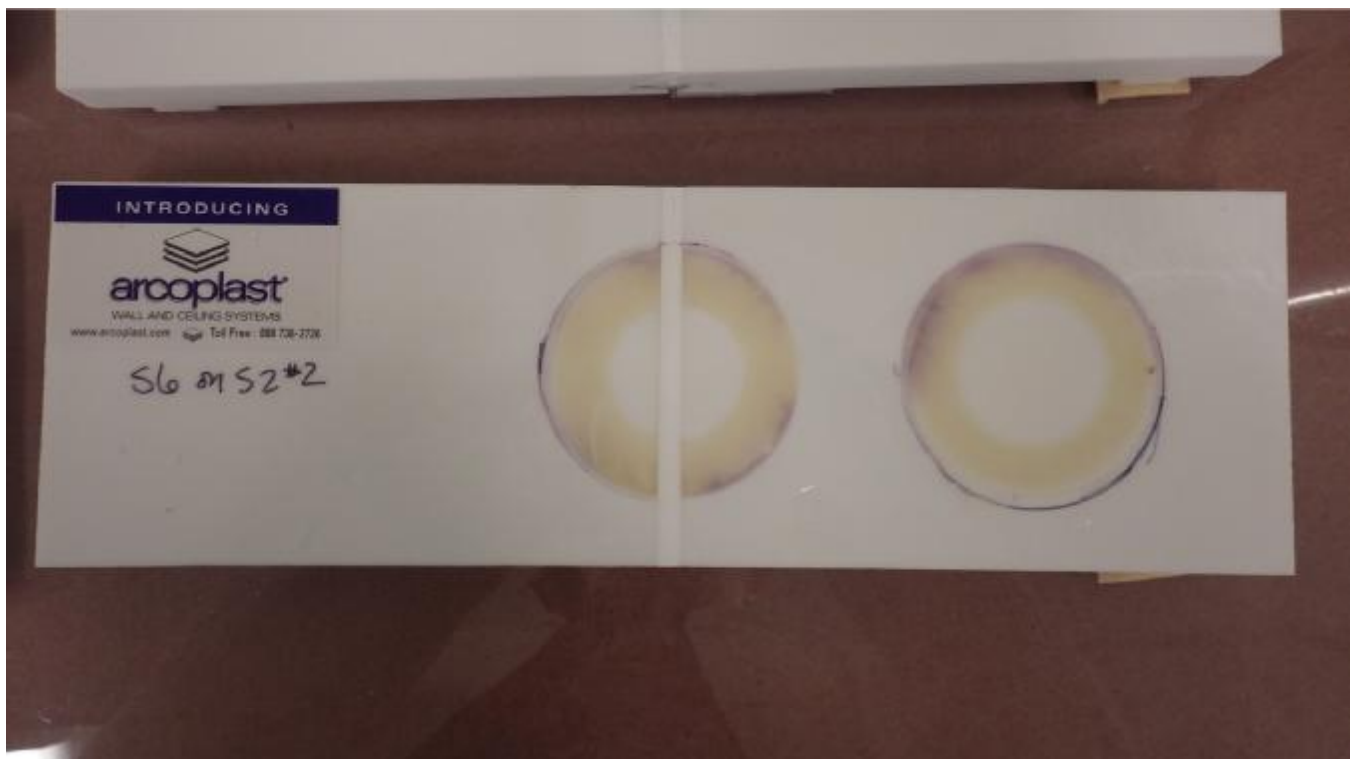
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SL6 or S2 #2









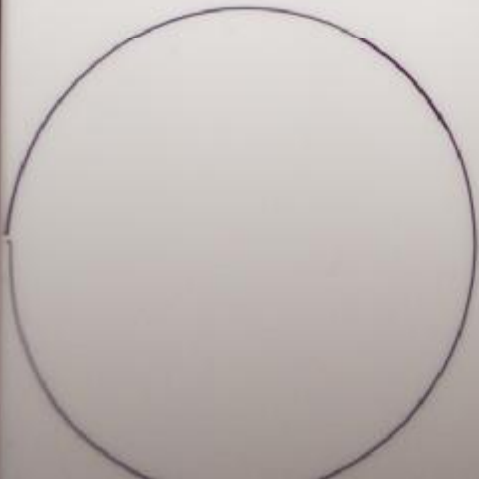
ATTACHMENT 4

S2 - Solid Core with Class A Fire Retardant
White A-8016
tested with
S6 (LpH se)
Diluted before, during and after 72 hours

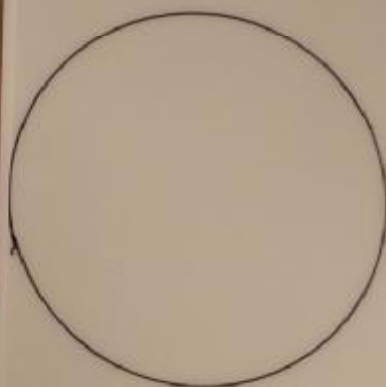
Sl6 diluted



Sl6-diluted



56 diluted



86 - diluted

