



TEST REPORT

**Clear Optic Material Samples
Graffiti**

Prepared For:

Sam Truong

Optic Clear Solutions

46 Tessera Avenue

Foothill Ranch, CA 92610

| | |
|-------------------------------------|---|
| PROJECT NO.: | PR062771 |
| P.O. NO.: | Credit Card 133758 |
| REVISION NO.: | R1 |
| ISSUE DATE: | 05/10/17 |
| SECURITY CLASSIFICATION: | Unclassified |
| DESCRIPTION OF ITEMS TESTED: | Clear Optic Material Samples SN00006 and SN00007 |

Approval:

| | |
|---------------------|--|
| PREPARED BY: | Erik Rohr – Test Technician III ERIK ROHR |
| APPROVED BY: | Jit Gupta – Quality Manager JG |

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TEST SUMMARY

| Test Title | Test Dates | Specification | Results |
|------------|-------------------------|----------------------------------|---------|
| Graffiti | 05/08/17 to 05/09/17 | OCS-TP-0002 ref ASTM D6578-13 | Conform |



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GRAFFITI TEST REPORT

TEST DATES

05/08/17 to 05/09/17

TEST SPECIMENS

Two (2) Clear Optic Material Samples

REFERENCES AND REQUIREMENTS

OCS-TP-0002 ref ASTM D6578-13

TEST PROCEDURE

A grid of markings was applied to each material sample, and six types of solvent were used to remove the markings, as follows:

3.1.1. Marking Materials

3.1.1.1. Solvent-Based Permanent Ink Marker "BLUE"

3.1.1.2. Solvent-Based Acrylic Spray Paint "RED"

3.1.1.3. Solvent-Based Alkyd Spray Paint "RED"

3.1.1.4. Wax Crayon "BLUE"

3.1.1.5. Ballpoint Ink

3.1.1.6. Water-based Ink Marker, "BLACK"

3.1.2. Cleaning Agents

3.1.2.1. Dry, Lint-Free Cotton Cloth

3.1.2.2. Mild Detergent – 5% sodium phosphate

3.1.2.3. Isopropyl Alcohol

3.1.2.4. Mineral Spirits

3.1.2.5. Xylene

3.1.2.6. Methyl Ethyl Ketone (MEK)



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LIST OF ANY DEVIATION/EXCLUSION FROM AGREED TEST METHOD

None

TEST RESULTS

Testing was conducted as described in the test procedure section above. All markings were removed by scrubbing with the dry cotton cloth. The cleanability rating was 10. Note however, that the blue solvent based marker and red alkyd spray paint could not be removed using the mild detergent after either 4 hour or 24 hours. All other cleaners removed all other markings.



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PHOTOGRAPHS



Solvent-Based Permanent Ink Marker - Blue (Sharpie)



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Solvent-Based Acrylic Spray Paint - Red

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Solvent-Based Alkyd Spray Paint - Red



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Wax Crayon - Blue



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Ballpoint Pen Ink



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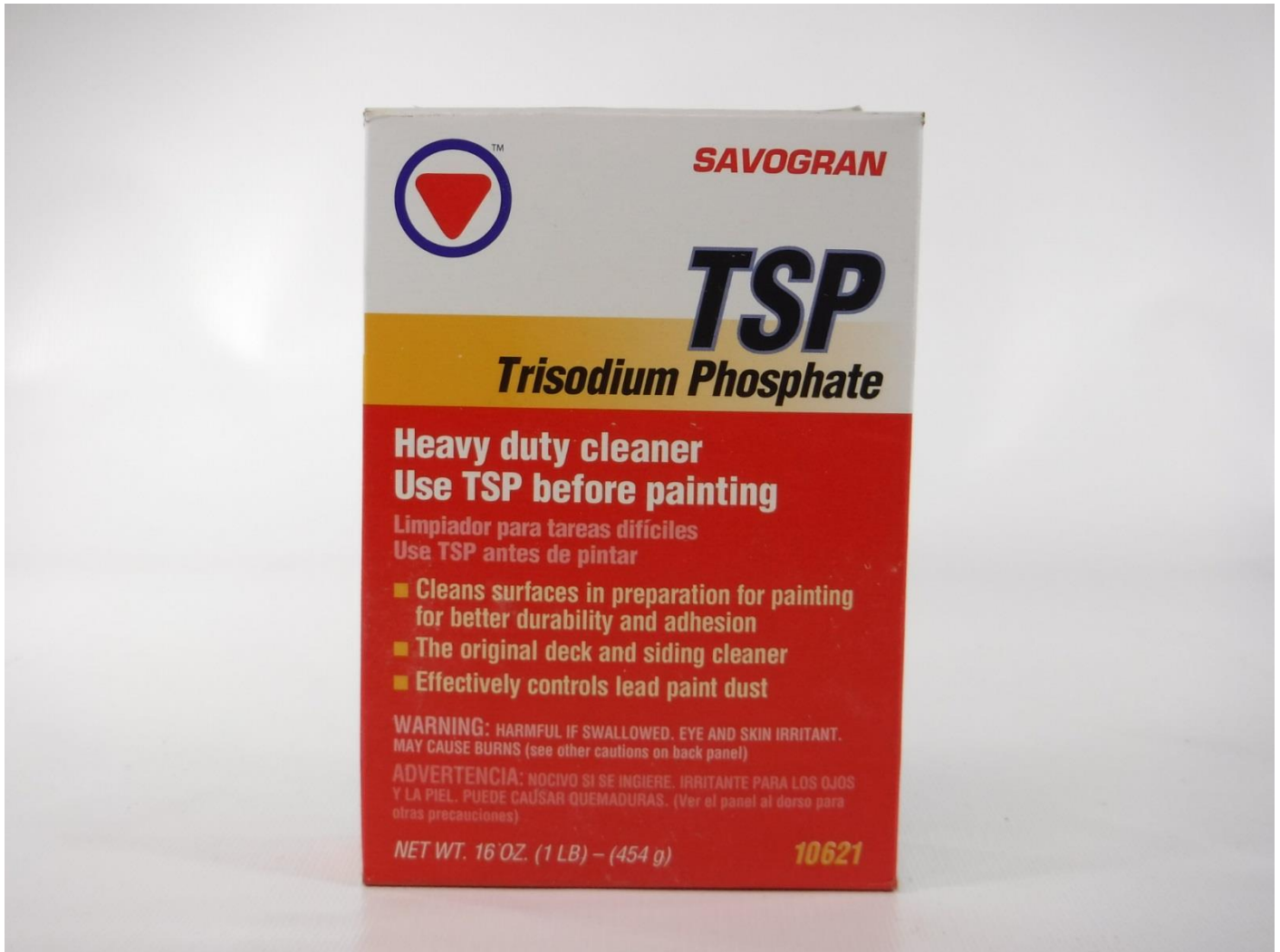
Water-Based Ink Marker - Black

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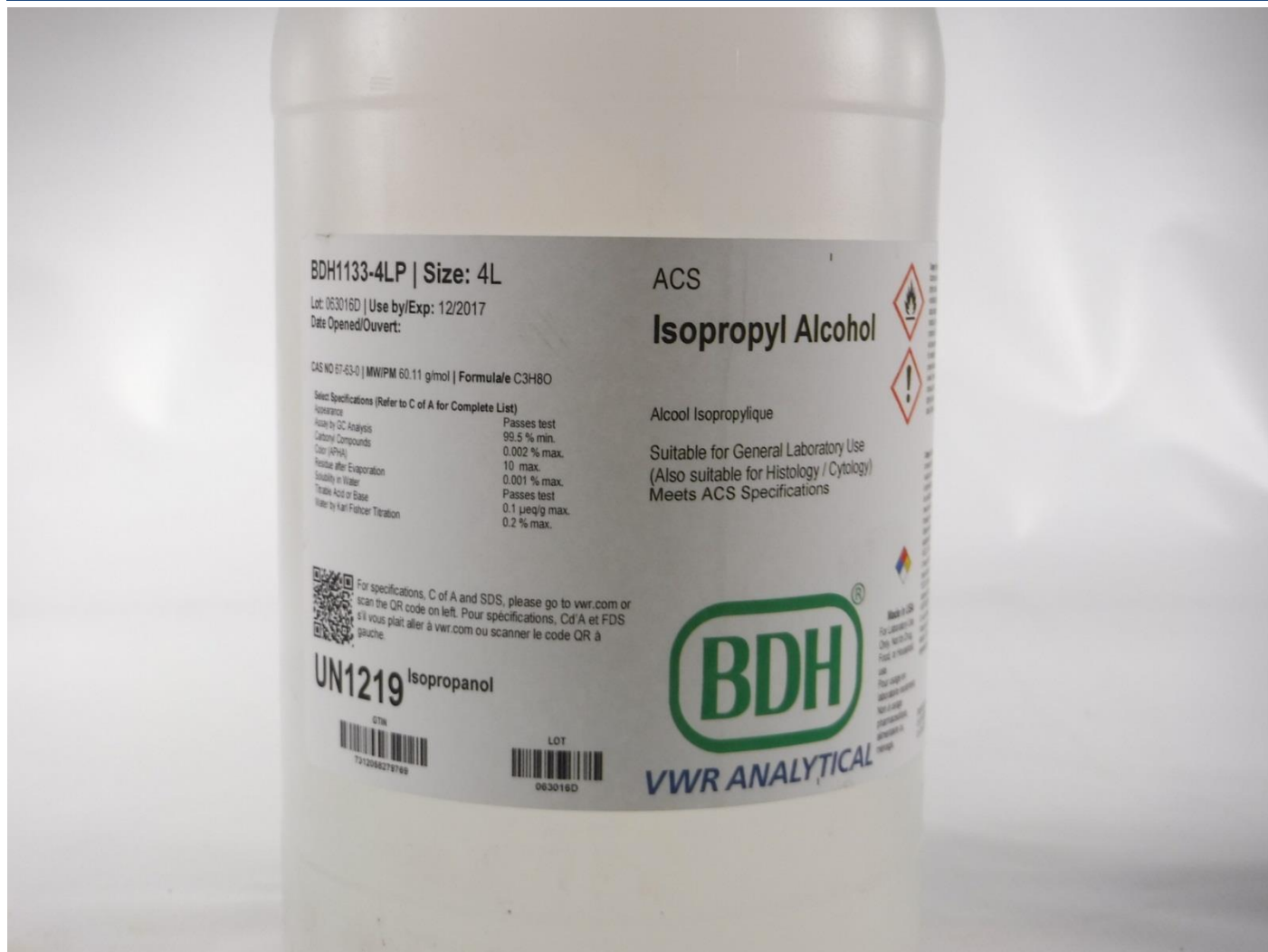
Dry, Lint-Free Cotton Terry Cloth

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Mild Detergent – 5% Sodium Phosphate

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Isopropyl Alcohol

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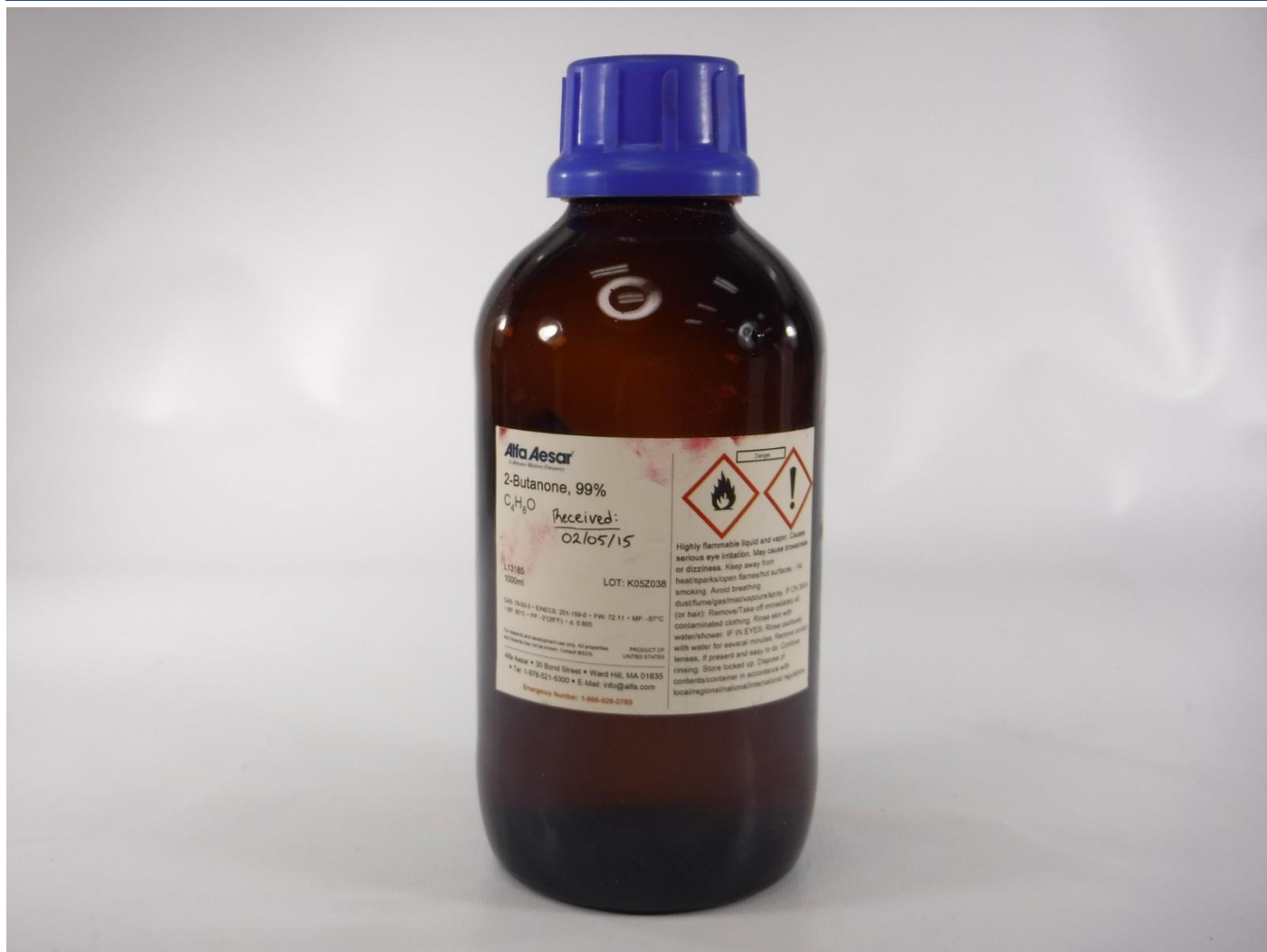
Mineral Spirits

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Xylene

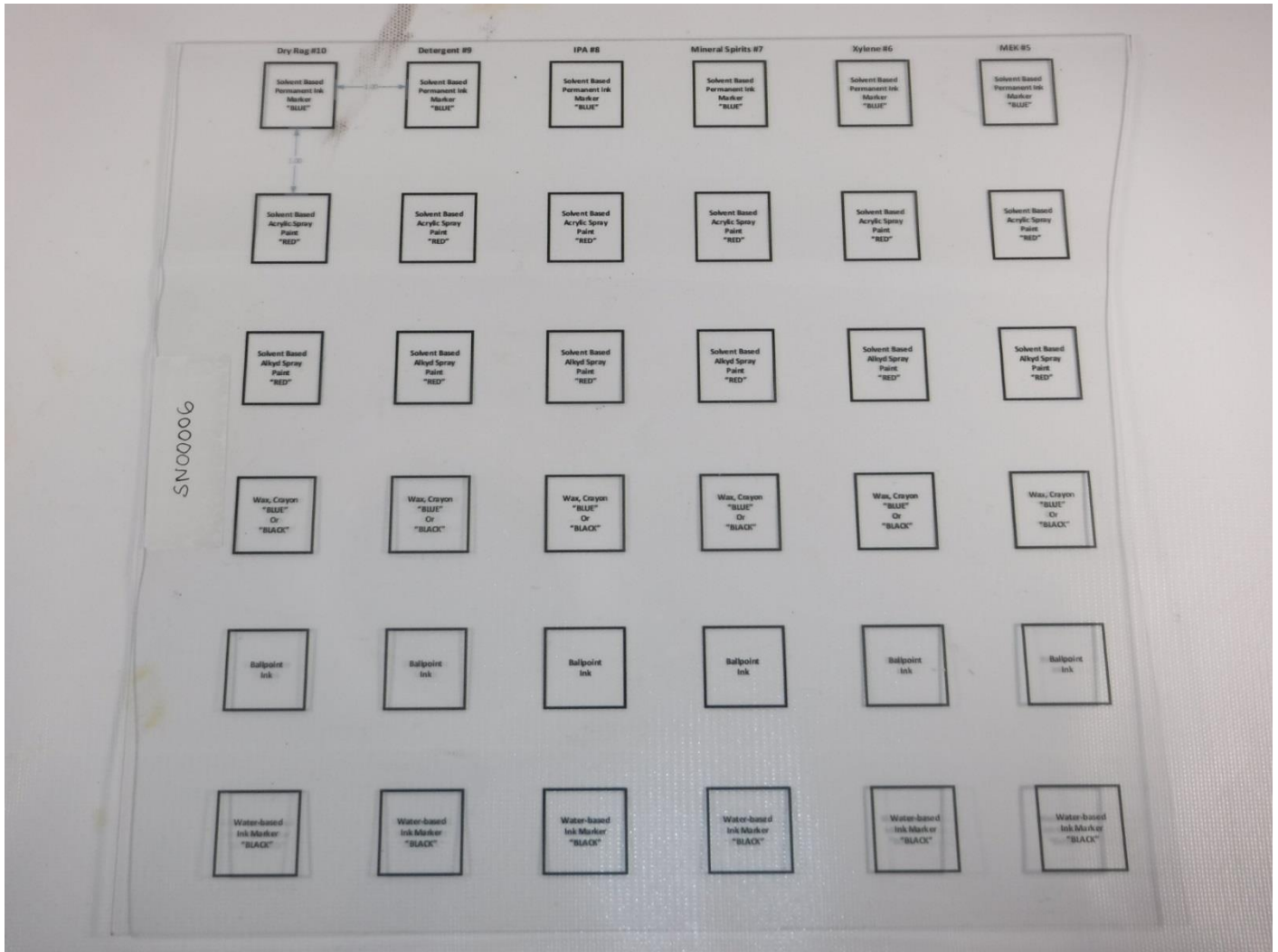
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Methyl Ethyl Ketone (MEK) (2-Butanone)

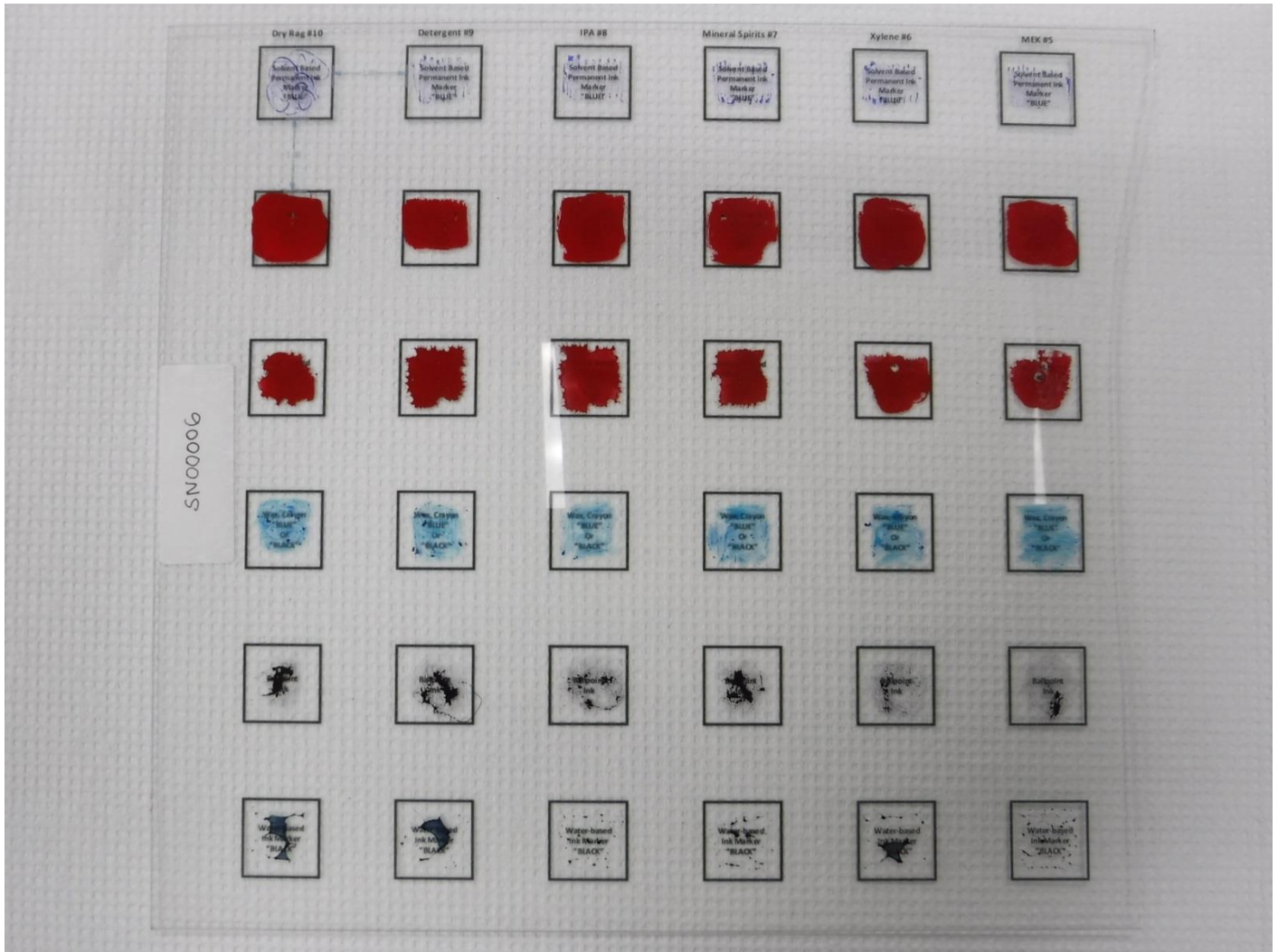


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SN0006 Before Test

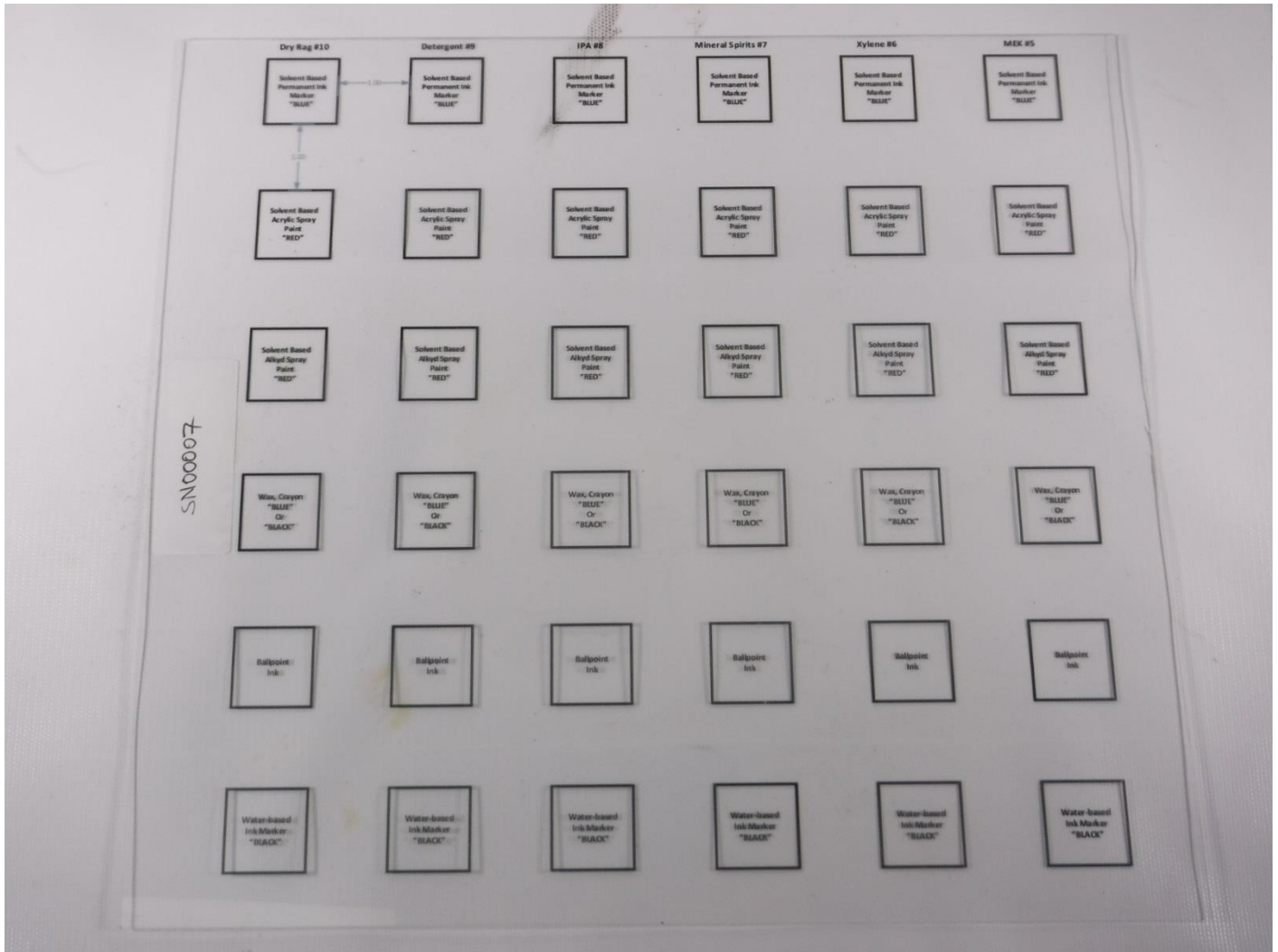
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SN00006 During Test

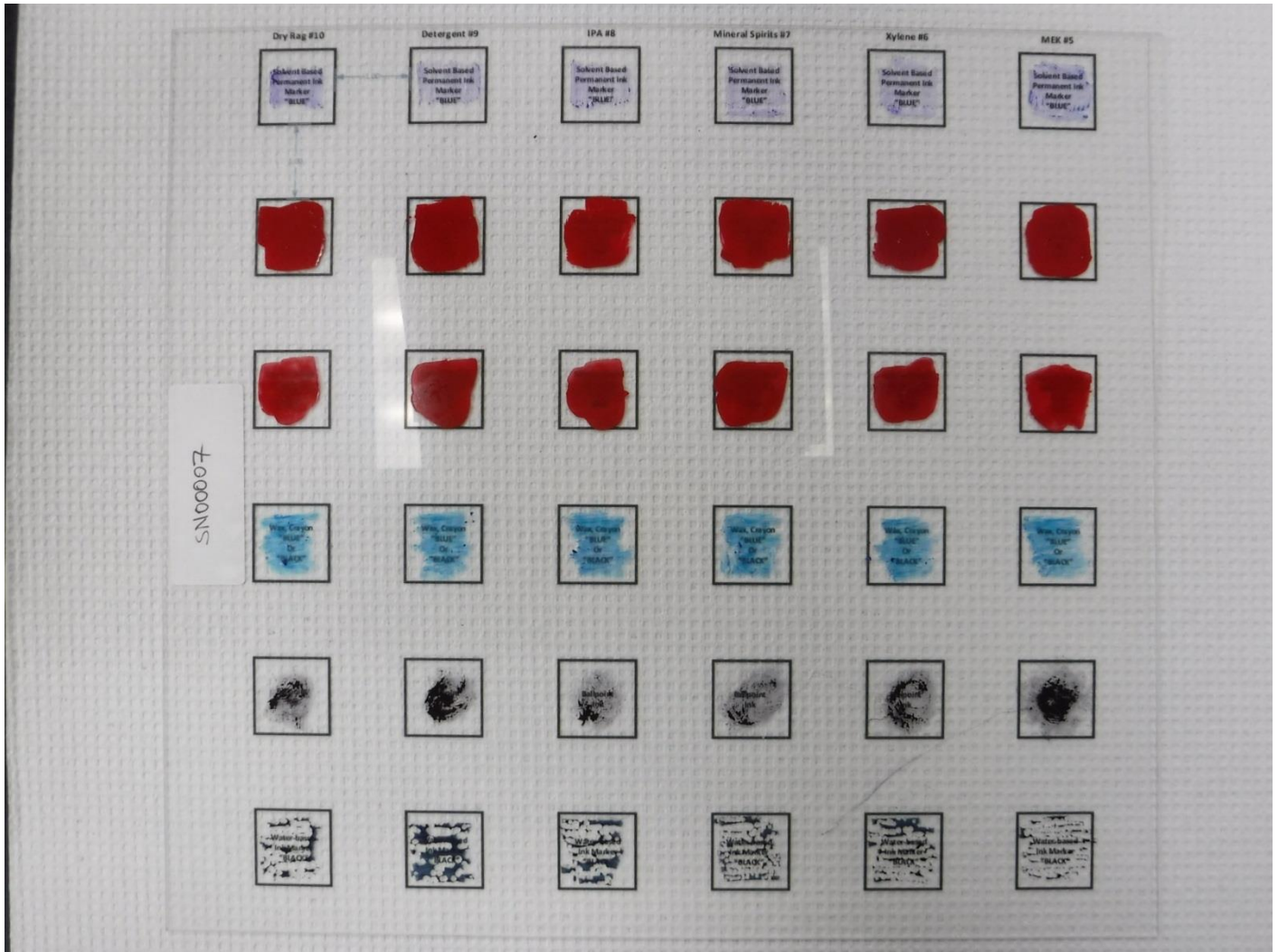


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SN00007 Before Test

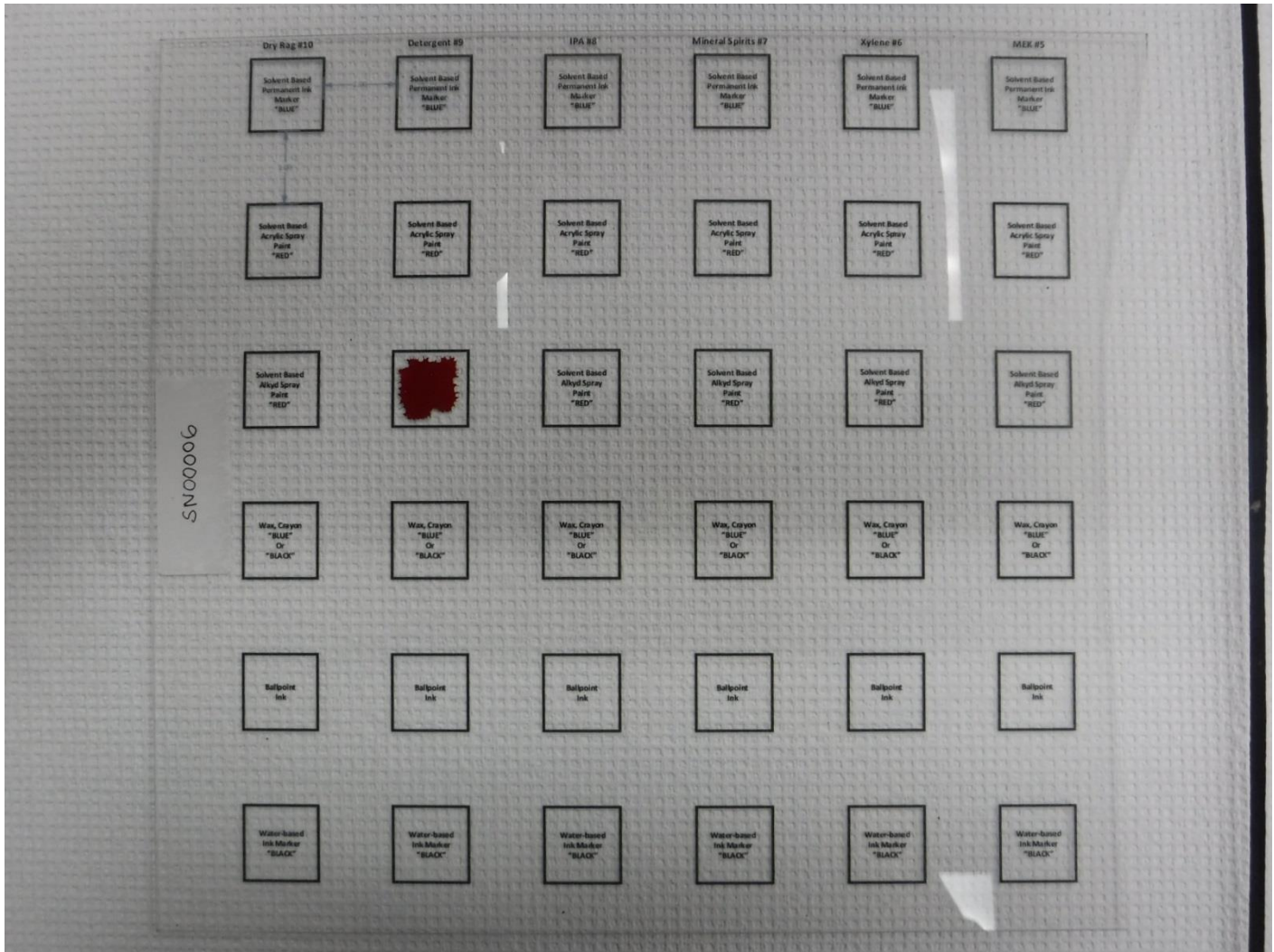
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SN00007 During Test

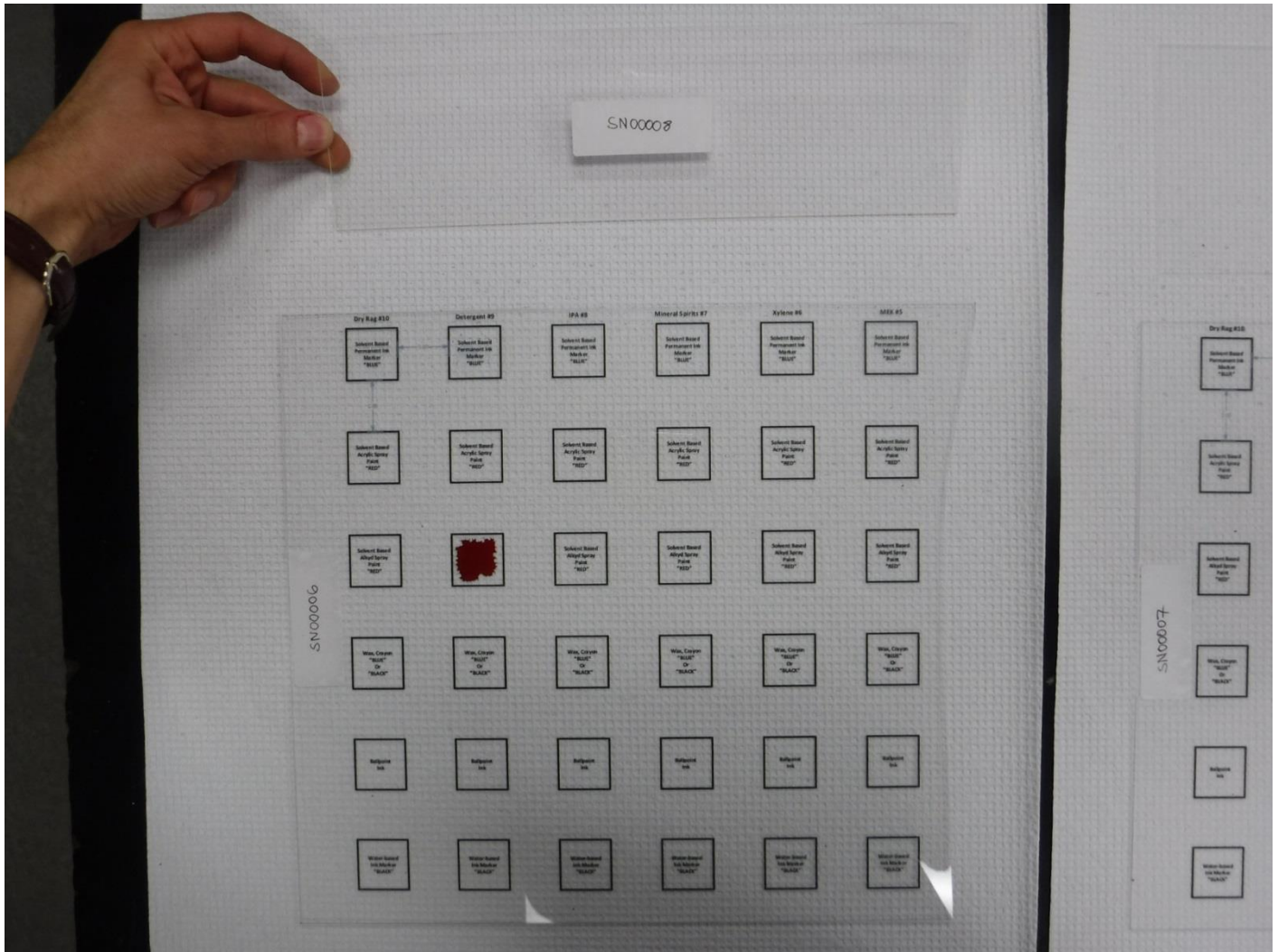


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SN00006 After Test

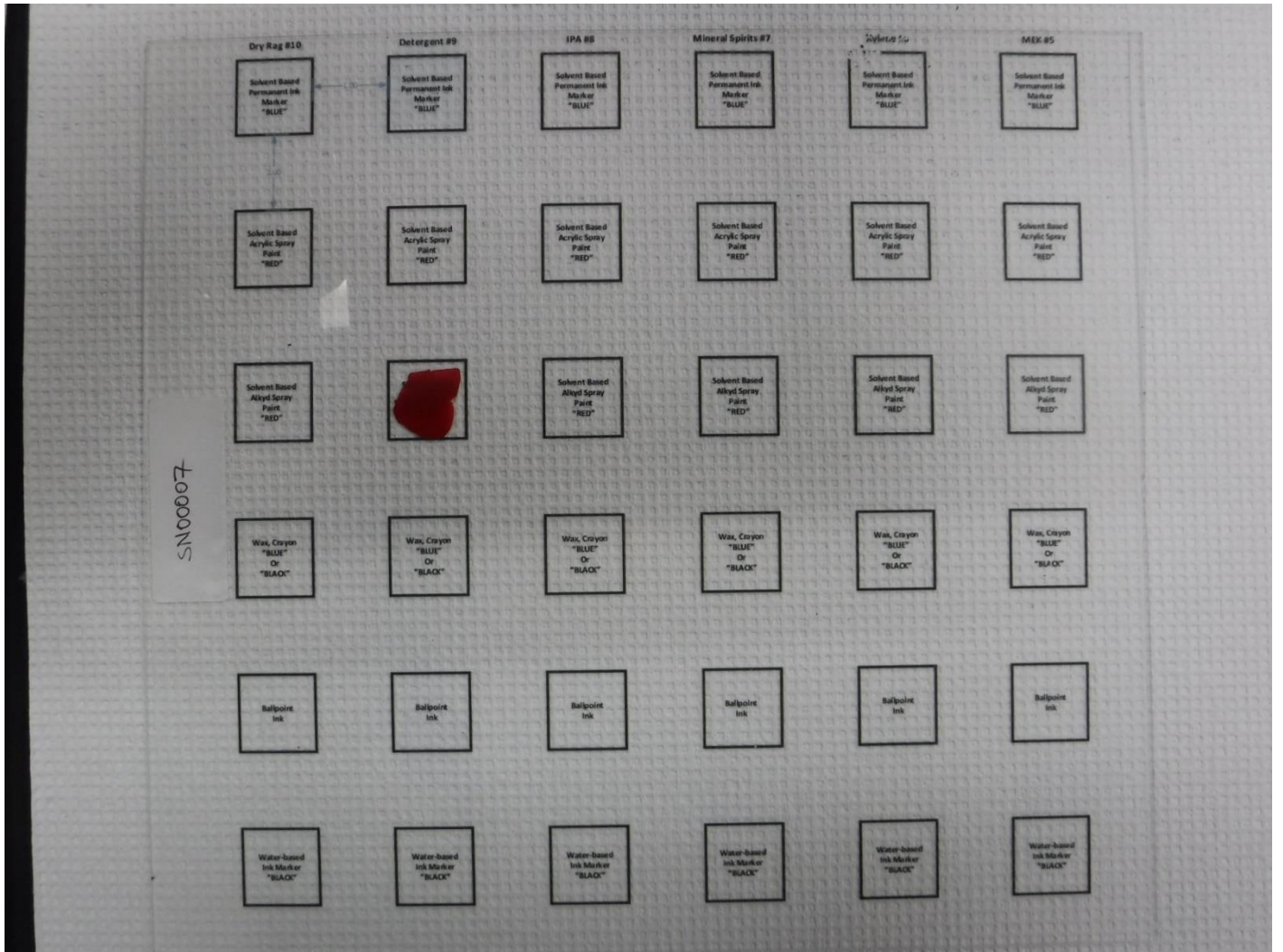
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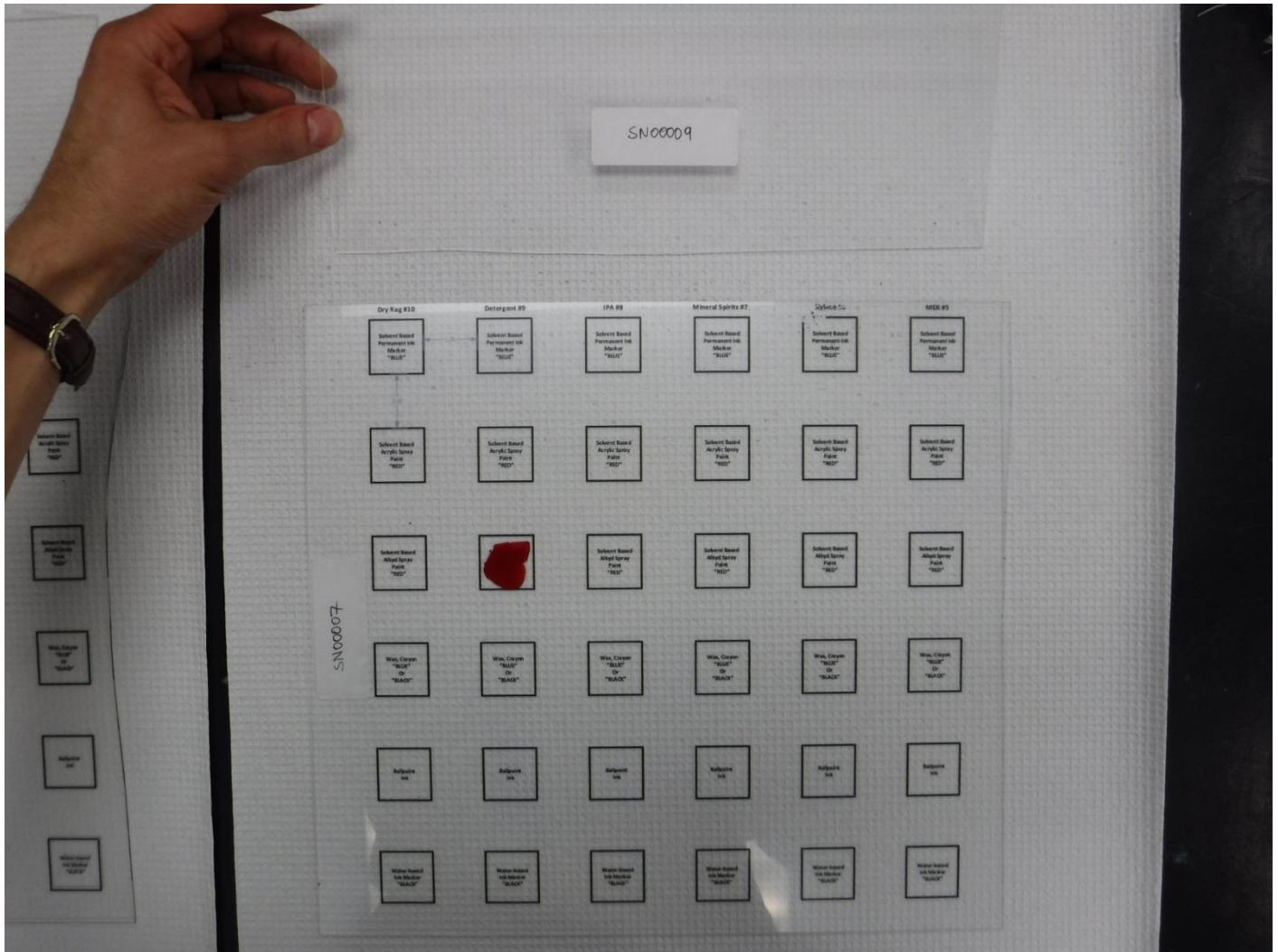
SN00006 (and Comparison SN00008) After Test



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SN0007 After Test



SN00007 (and Comparison SN00009) After Test

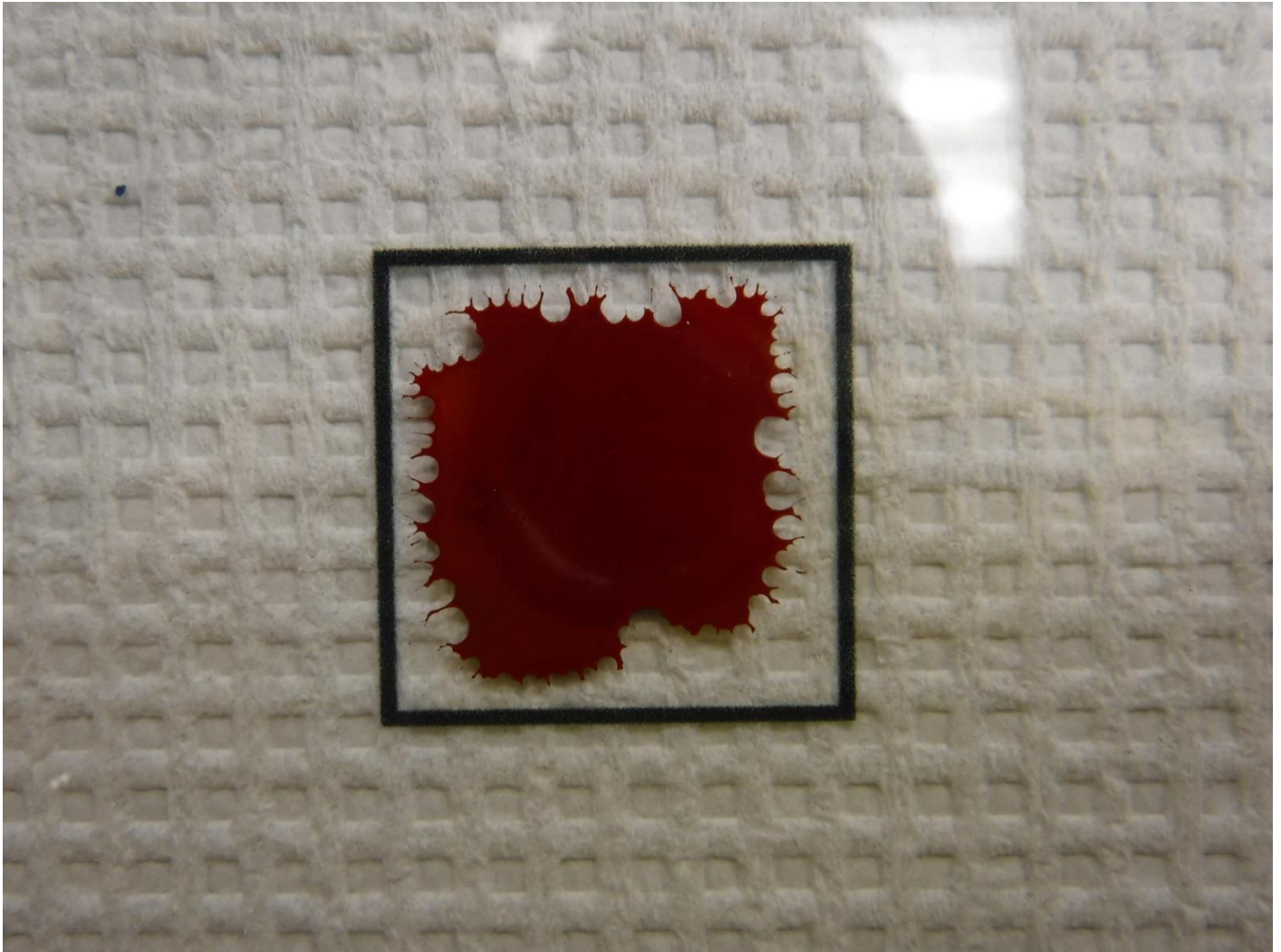


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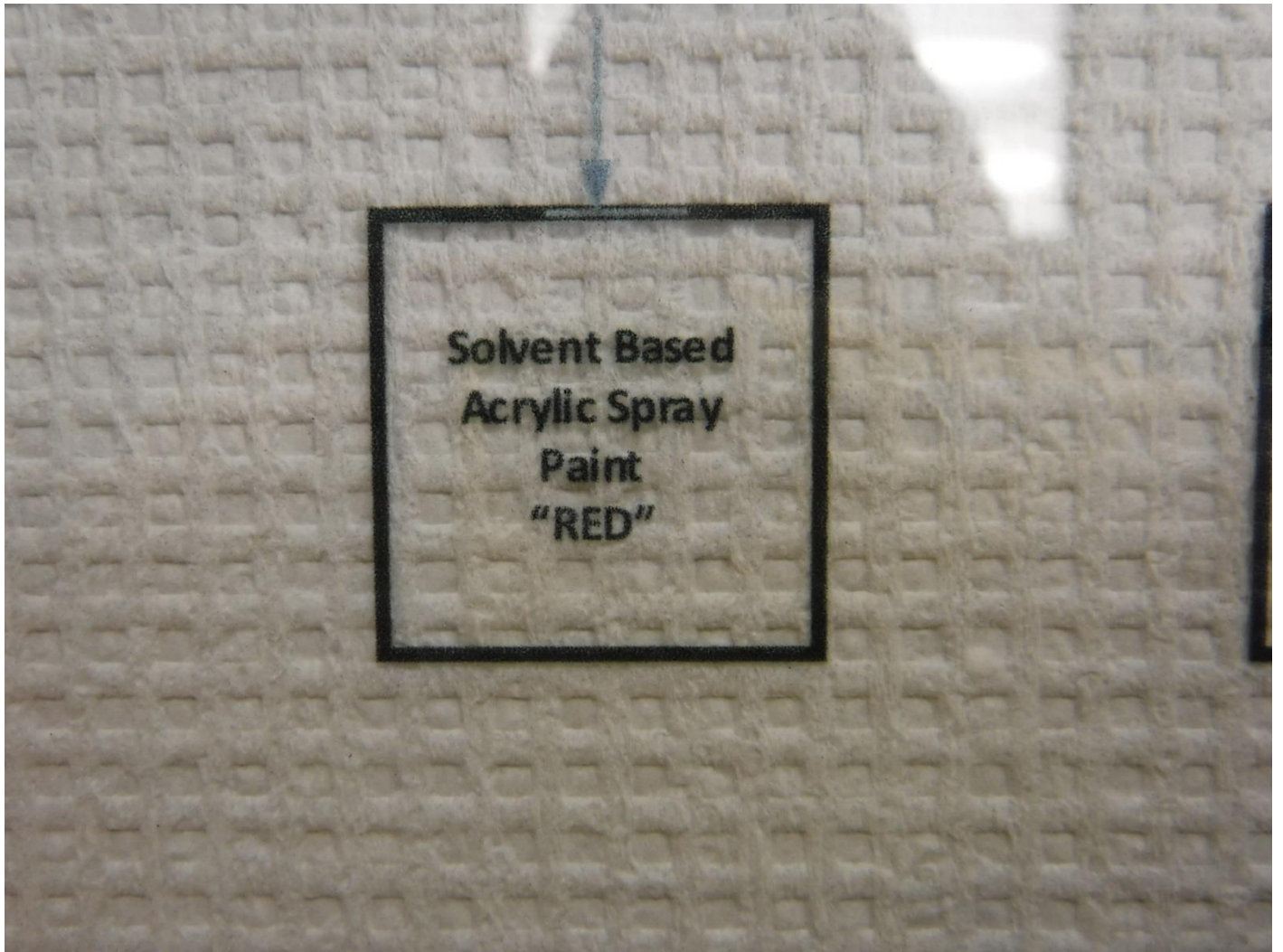
Samples After Test

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SN00006 After Test - Alkyd Paint Red (Detergent)

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SN00006 After Test - Representative Acrylic Spray Paint Red

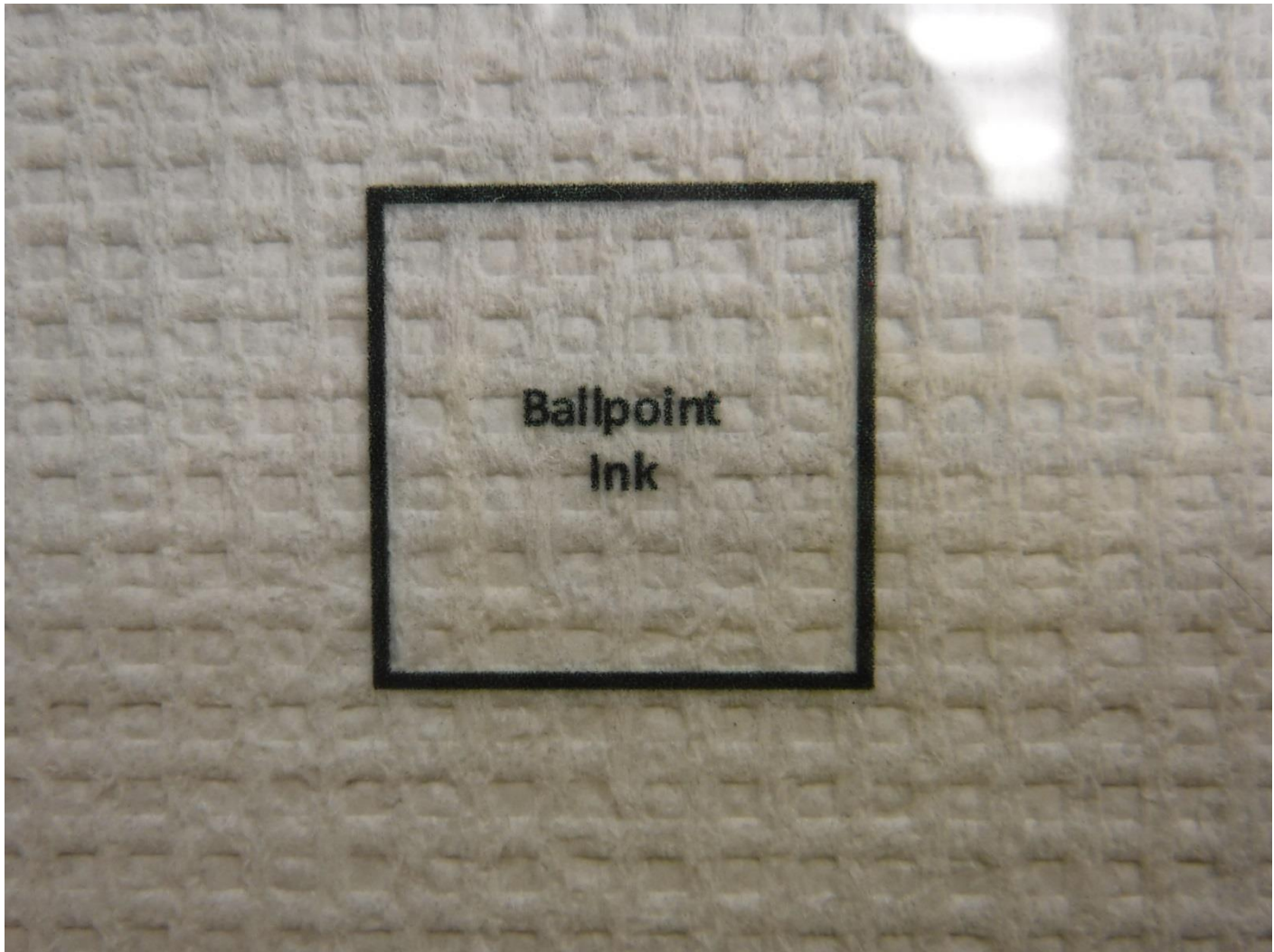
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SN00006 After Test - Representative Alkyd Spray Paint Red



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SN00006 After Test - Representative Ballpoint Ink

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SN00006 After Test – Representative Solvent Based Ink Marker

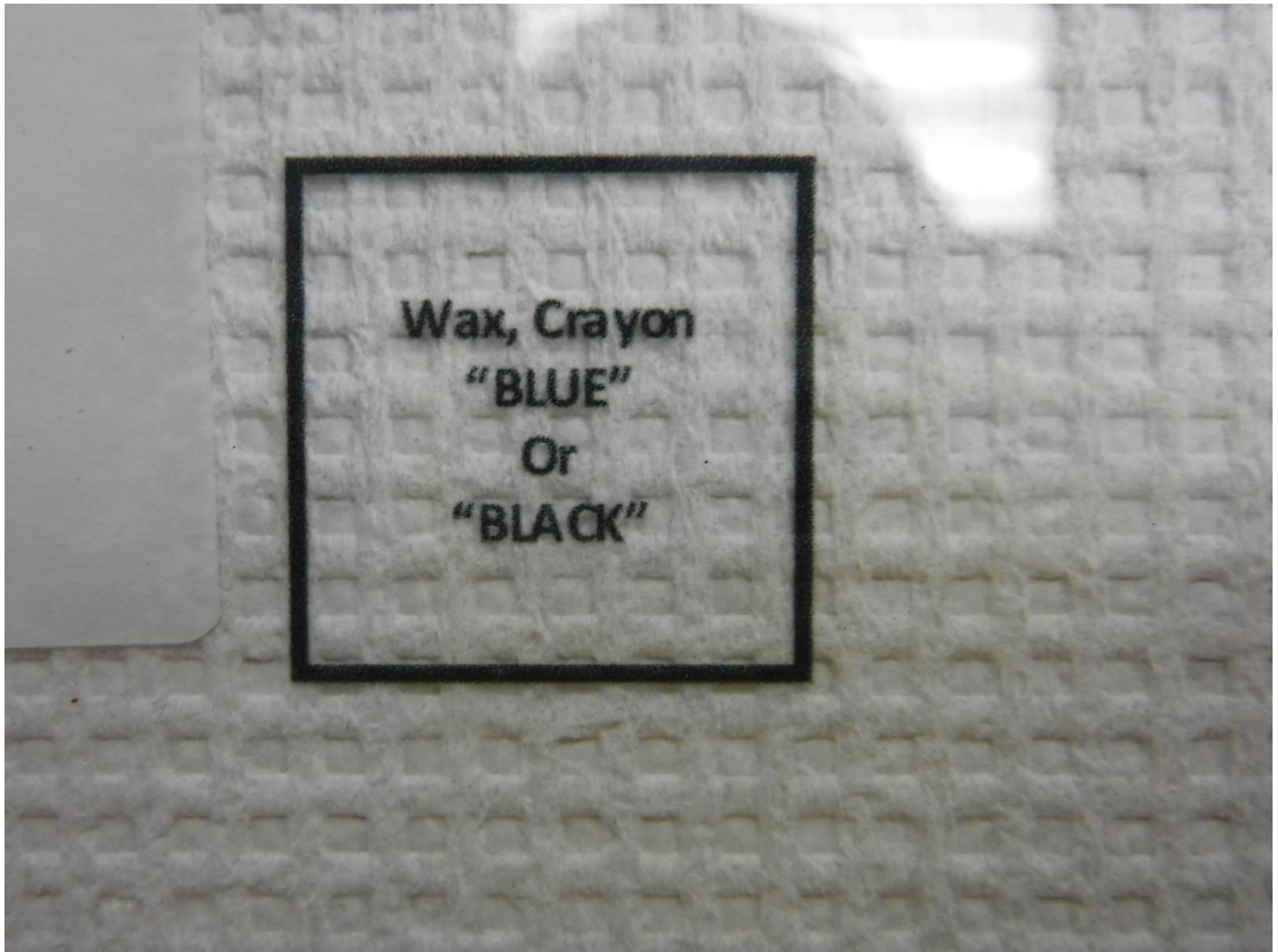


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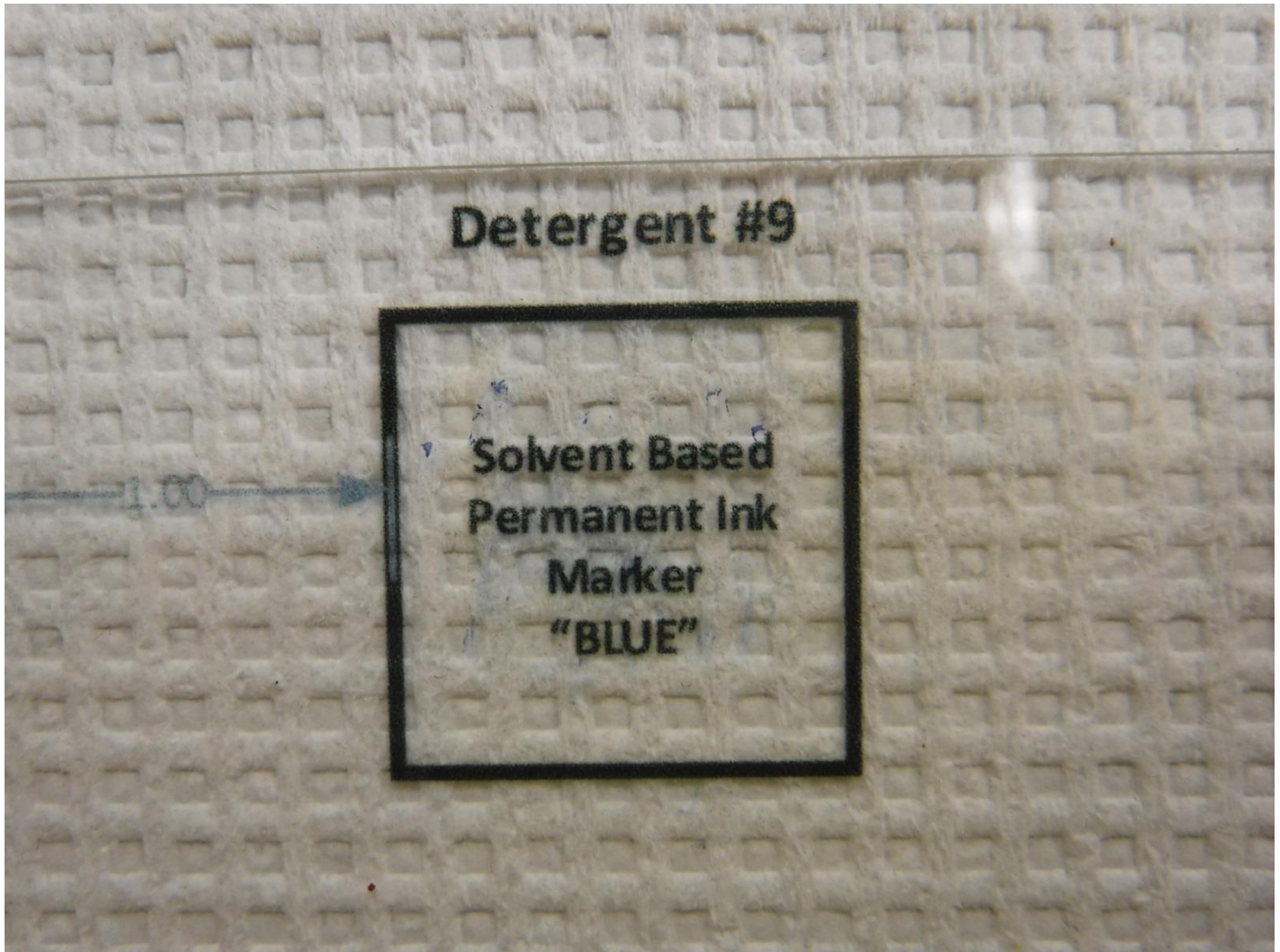
SN00006 After Test - Representative Water Based Ink Black

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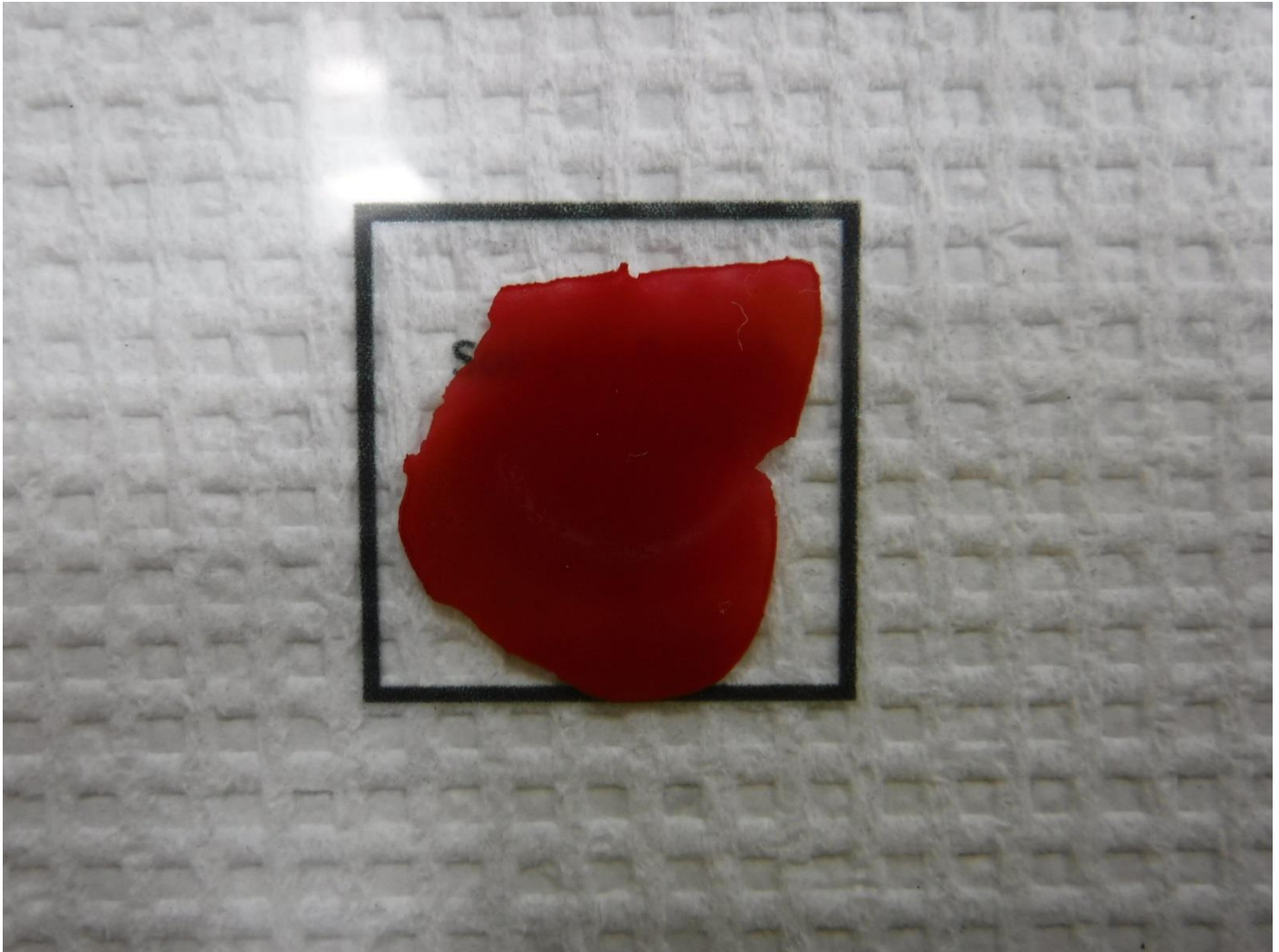
SN00006 After Test - Representative Wax Crayon Blue

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SN00006 After Test - Solvent Based Ink Blue (Detergent)

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SN00007 After Test - Alkyd Spray Paint Red (Detergent)

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SN00007 After Test - Representative Acrylic Spray Paint Red



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SN00007 After Test - Representative Alkyd Spray Paint Red

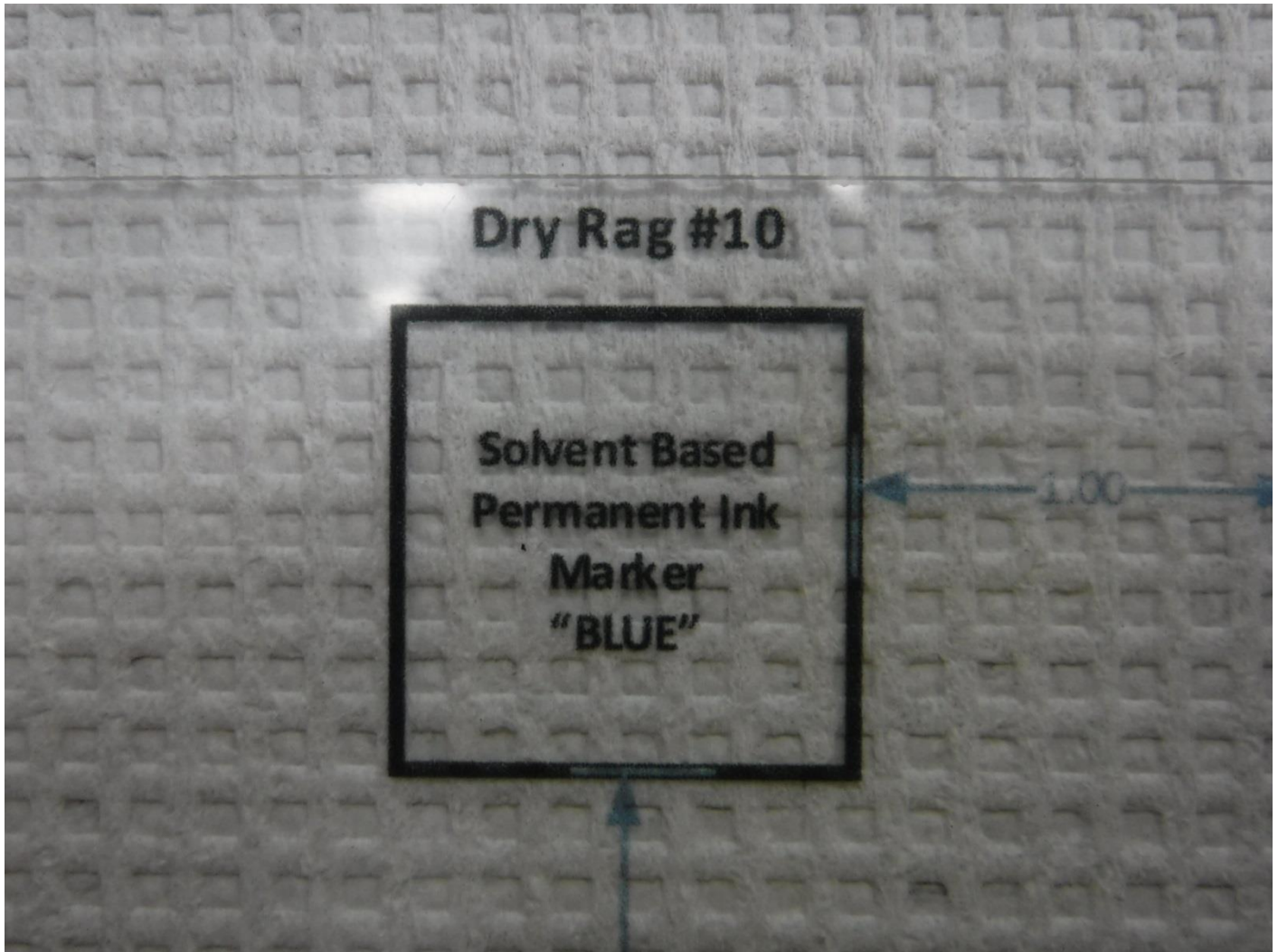


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SN00007 After Test - Representative Ballpoint Ink

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SN00007 After Test - Representative Solvent Based Ink Blue

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SN00007 After Test - Representative Water Based Ink Marker Black

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SN00007 After Test - Representative Wax Crayon Blue

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SN00007 After Test - Solvent Based Ink Marker Blue (Detergent)



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REVISIONS

| Revision # | Reason for Revision | Date |
|------------|--|----------|
| R0 | Initial Release | 05/10/17 |
| R1 | Markers and solvents photograph sequence was arranged to match the test plan | 05/16/17 |