

# When Life Gives you Velvet...

## Preservation Considerations in the Making of a Period Shadowbox Frame



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Chase home, After 1885. The William Merritt Chase Archives, The Parrish Art Museum, Southampton, N  
Gift of Jackson Chase Storm

### Introduction

Photographs of William Merritt Chase in his studio show us that the artist displayed some of his paintings within shadowbox frames. Dr. David Park Curry, Senior Curator of American Art at the Baltimore Museum of Art, wants to exhibit Chase's *After the Rain – Venice*, an oil painting on panel from 1913, in the upcoming American Wing Reinstallation at The Museum, scheduled in 2015.

It will be displayed in its original brightly gilded frame inside a Victorian-era wooden shadowbox lined with red velvet and encased behind glazing. After aesthetic deliberation, and with the desired product in mind, we discussed potential problems and tests that could provide us with more information before deciding on an end result.



William Merritt Chase c. 1912  
The William Merritt Chase Archives,  
The Parrish Art Museum, Southampton, NY  
Gift of Jackson Chase Storm

### The Velvet: Considerations, Testing and Preparation

A velvet lining in a small enclosed environment presents the possibility for off-gassing that might be harmful to the artwork. Six fabrics were investigated. The final choice of fabric was determined by two major factors: the curator's preference and its ability to maintain color and pile after washing. In order to remove any fire retardants or chemicals that may have been applied to the fabric during manufacture, we devised eight different washing methods and then conducted Oddy tests to help determine the most effective cleaning method. Preparations involved various detergents, water temperatures and solvent rinses.

The parameters of this project did not allow for the kind of testing that would produce more conclusive scientific results. We completed this project using all of the resources available with the end goal of creating the most stable environment for the painting. Oddy test results for the washed fabric samples were in fact inconclusive. Metal coupons in the control group (without fabric sample) showed changes in appearance. X-ray fluorescence spectroscopy was used to detect elements present in the painting. During our review of the XRF spectra and Oddy test results, the detected elements copper, lead, iron and zinc were kept in mind.

The second washing method with an additional acetone rinse as seen in Figure 2, produced the least change in the coupons overall. The large panels of velvet that were to be used in the actual construction of the shadowbox were prepared in this manner. The acetone rinse was devised to remove any chemicals that were not water-soluble (possible fire retardants or stain resistant treatments). Information regarding chemical treatments on the fabric could not be obtained from the manufacturer. After soaking the fabric in acetone we discovered a precipitant left behind in the solvent and on the fabric (figs. 6 & 7). This discovery required us to wash the fabric a second time.

Fig. 6 Stain left on fabric  
after acetone bath and  
before final washing

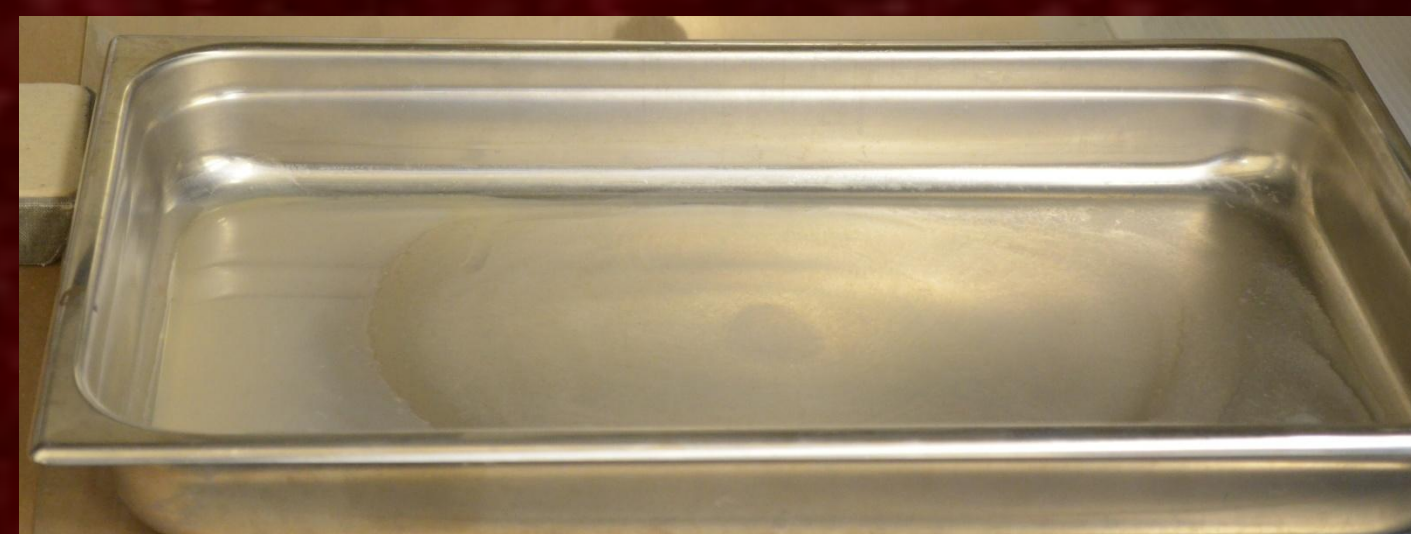
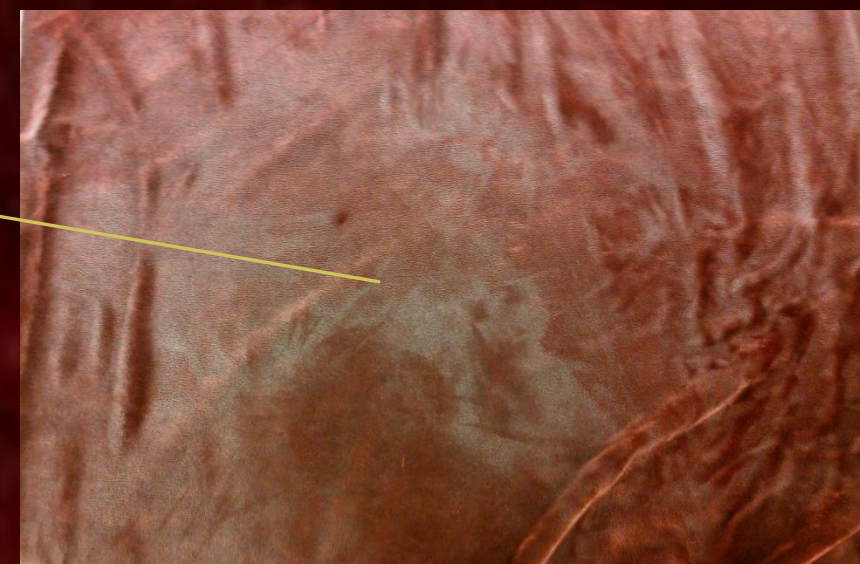


Fig. 7 Precipitant left behind after acetone bath



Fig. 1 Preparing coupons

	Wash 1	Wash 2	Wash 3	Wash 4
Detergent	1% AIP detergent and deionized water	2% Oxyva WA Paste <sup>®</sup> and deionized water	1% AIP detergent and deionized water	2% Oxyva WA Paste <sup>®</sup> and deionized water
Water Temp	60° C	60° C	24° C	24° C
Wash Technique	Booker with stir bar	Booker with stir bar	Booker with stir bar	Booker with stir bar
Duration of wash	10 Minutes	10 Minutes	10 Minutes	10 Minutes
Rinse Technique	In 250 ml. deionized water at room temperature 10 minutes. Water changed at 5 minutes. Rinsed under running deionized water with light agitation for 1 minute.	In 250 ml. deionized water at room temperature 10 minutes. Water changed at 5 minutes. Rinsed under running deionized water with light agitation for 1 minute.	In 250 ml. deionized water at room temperature 10 minutes. Water changed at 5 minutes. Rinsed under running deionized water with light agitation for 1 minute.	In 250 ml. deionized water at room temperature 10 minutes. Water changed at 5 minutes. Rinsed under running deionized water with light agitation for 1 minute.
Duration of rinse	11 minutes	11 minutes	11 minutes	11 minutes
Solvent rinse (Acetone)	1/2 of all samples soaked for 10 minutes	1/2 of all samples soaked for 10 minutes	1/2 of all samples soaked for 10 minutes	1/2 of all samples soaked for 10 minutes

Fig. 2 Table of washing techniques



Fig. 3 Map of XRF sample sites

Number	Detected Elements
1	Ca, Fe, Cu, Zn, Pb
2	Fe, Cu, Zn, Pb
3	S, Zn, Hg, Pb
4	Fe, Co, Zn, Hg, Pb
5	Fe, Zn, Hg, Pb
6	Fe, Zn, Cd, Hg, Pb
7	Zn, Pb
8	Fe, Zn, Hg, Pb
9	Cr, Fe, Cu, As, Pb
10	S, Fe, Co, Zn, Hg, Pb

Fig. 4 Elements detected in XRF sample sites

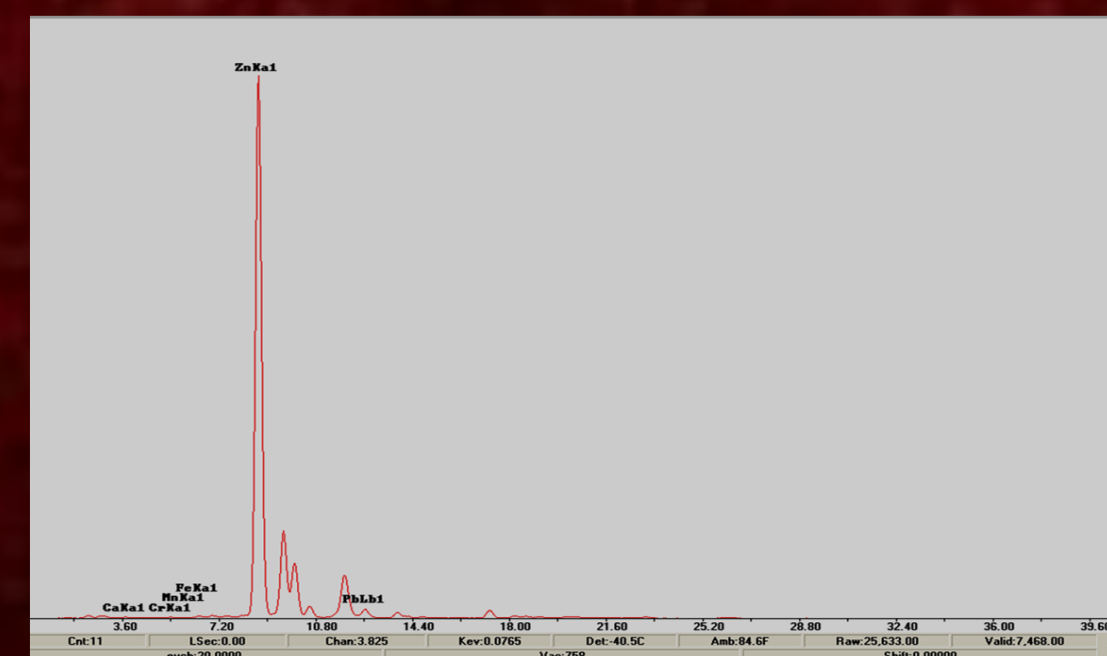


Fig. 5 XRF Spectrum of sample location # 2

### The Micro-environment and Necessary Modifications

The period shadowbox frame was purchased for the painting, and its interior was outfitted with purpose-built beveled walls, spacer and platform constructed of poplar to hold the original gilded frame and to provide a construct for the silk velvet lining. The successful washing preparation of the silk velvet was a critical first step, one that would be taken in any case preparation containing artifacts. After testing the fit of the gilded frame in its new shadowbox case, a plan was devised to allow for air exchange within the frame. The beveled slant and supporting panel were put through a table saw to add long central vents that run parallel

to the rails. All newly constructed wood pieces were dismantled (taking care to retain registration marks and screw holes) then laminated with heat-set MarvelSeal<sup>®</sup> 360 to eliminate off-gassing from the wood. A Willard<sup>®</sup> hot spatula with a fine iron tip was used to seal the vent interiors. In an effort to further reduce the possibility of off-gassing from the velvet itself, scavengers will be placed within the frame. A MicroChamber<sup>®</sup> paper product (general purpose zeolite and activated carbon paper) was situated atop the sealed slant before wrapping with velvet. The choice of adhesive was considered as well.

Beva<sup>®</sup> 371 film was selected to attach the velvet to the surfaces.

This was in part to eliminate extra bulk because of the close fit in the frame, but also to reduce staining of the velvet during the process of wrapping. The glazing chosen for the case frame was not a traditional glass, but instead non-reflective Tru Vue Optium Museum<sup>®</sup> acrylic. The low reflection and static properties combined with UV protection were a desirable combination of qualities. The red velvet fabric requires the use of UV-filtering glazing and low light levels to reduce fading.



Fig. 8 Frame installed to reveal slants, before venting



Fig. 9 Frame installed, slants covered with MarvelSeal

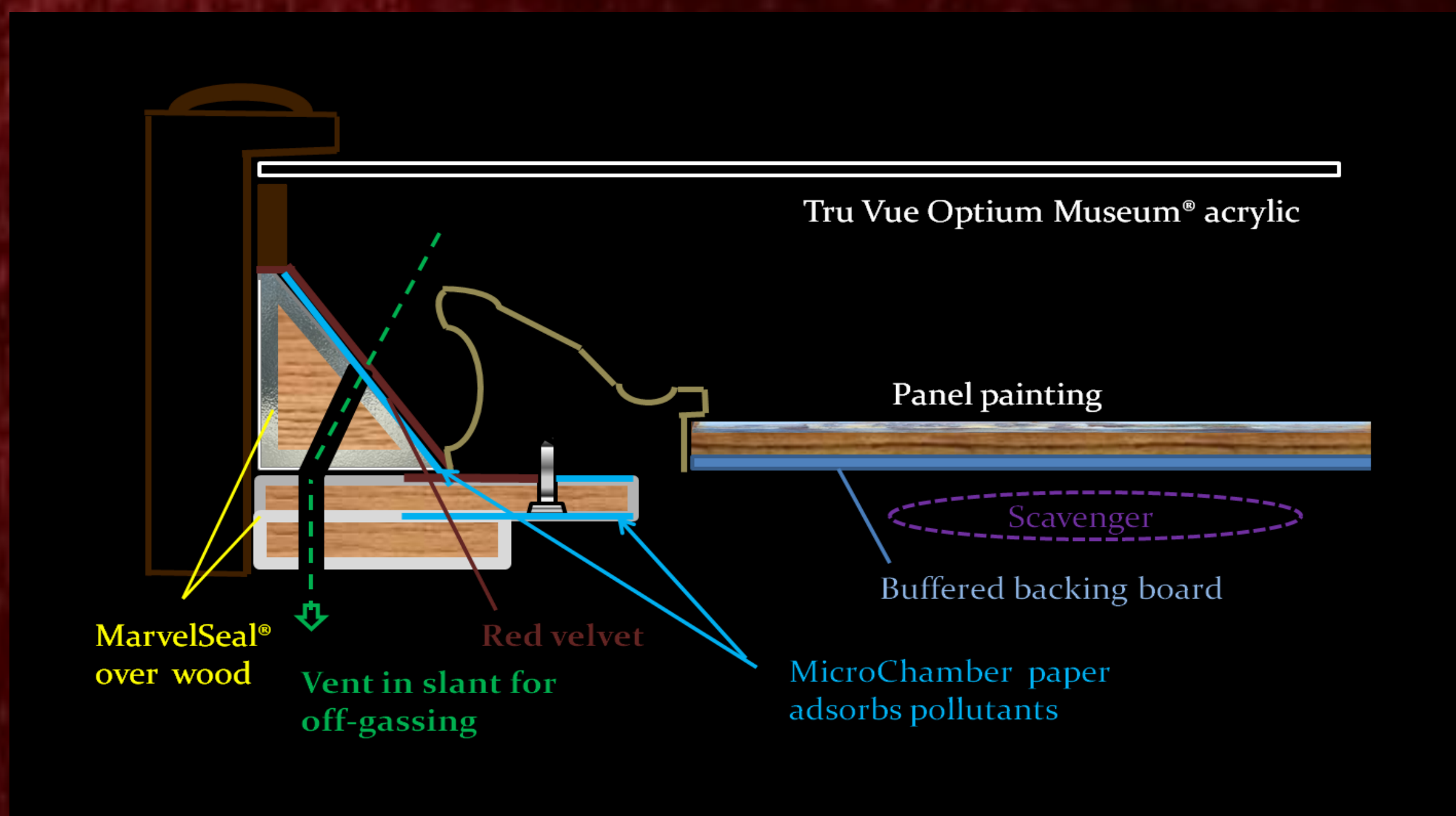


Fig. 10 Diagram of the Chase Shadowbox

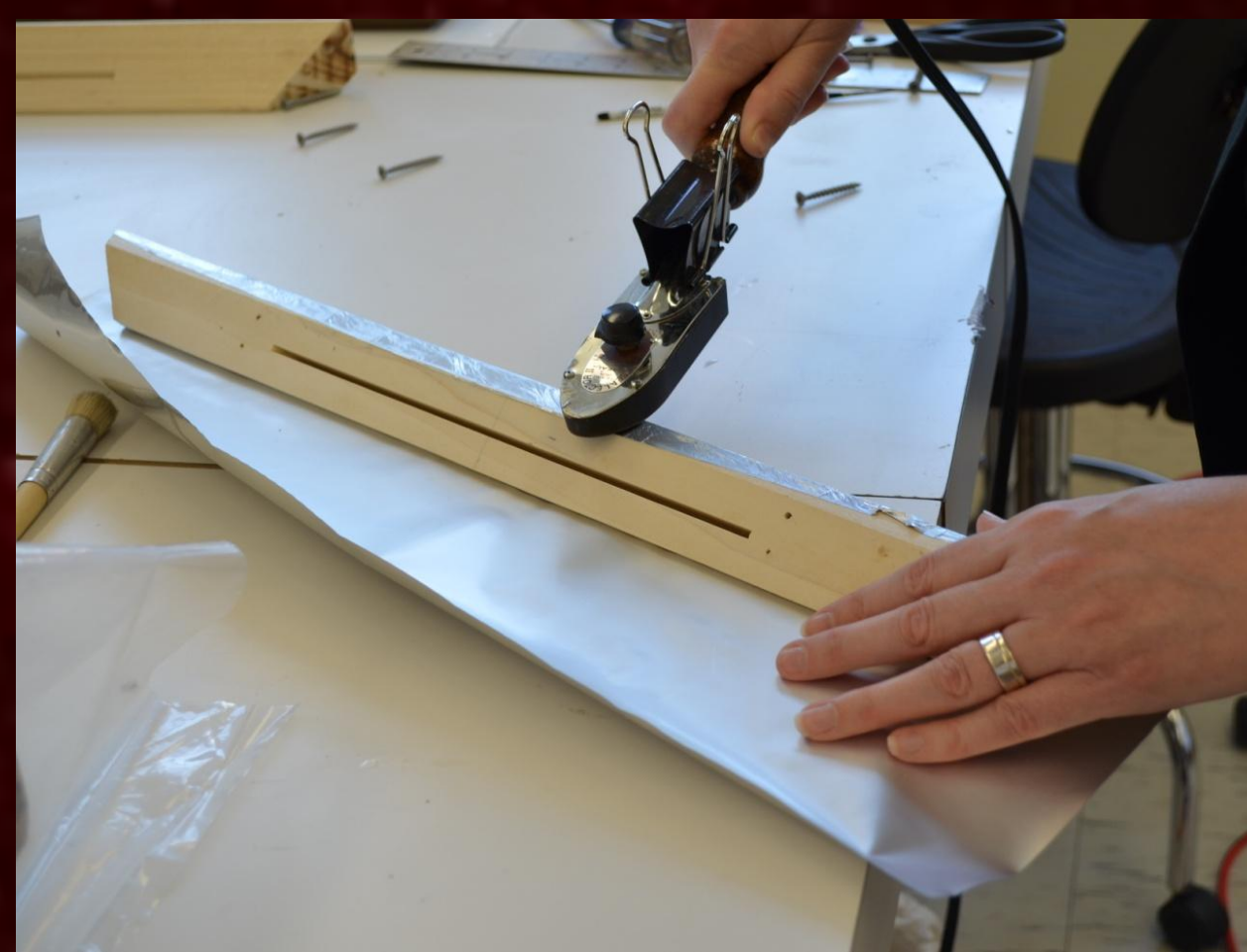


Fig. 11 Attaching MarvelSeal<sup>®</sup> to vented slants

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### Conclusion

The William Merritt Chase shadowbox project required us to apply practical conservation knowledge to a unique and esoteric framing design. We had to think carefully about meeting the proposed aesthetic requirements while maintaining preservation standards for the panel painting and its original frame. Although we found that absolute control over the materials was probably impossible, we were able to design a safe environment that would be a best-case scenario, and could be monitored for change and altered in the future if necessary.

### Acknowledgements

The authors would like to thank Baltimore Museum of Art staff: Dr. David Park Curry, Senior Curator of Decorative Arts and American Painting and Sculpture; the entire Conservation Department for their guidance and support; Anthony Boening, Senior Preparator; Vicki Kaak, Graphics Manager; Dawn Krause, Curatorial Assistant; Kristen Rickard, Manager of Rights and Reproductions; Mitro Hood, Senior Photographer. James Barter, James K. Barter Period Framing, Franklin, Maine. Steven Wilcox, Senior Conservator of Frames, National Gallery of Art, Washington, D.C.