Gatorfoam Backings as an Alternative to Lining Paintings

By Wendy Crawford
Master of Art Conservation
Queen's University 2013

Introduction

Treating structural problems in painted canvases by lining can produce an effectively supported image, but may alter the aesthetic appearance of a painting and results in impregnation of the deteriorated or damaged canvas, the ground and paint layers. This changes the fundamental structure of the painting. Likewise, adhering a canvas painting to a solid support creates an object more similar to a panel painting than a picture on a flexible fabric support. In addition, both of these treatments present significant challenges for reversibility or retreatability.

Placing a Gatorfoam solid support, without the use of adhesive, behind a weakened canvas seeks to address some of these concerns. Specific structural weaknesses such as tears or delaminating paint are dealt with specifically and locally. Intervention is maintained at a necessary minimum and the lack of adhesive between the solid support and the canvas maintains easy reversibility.

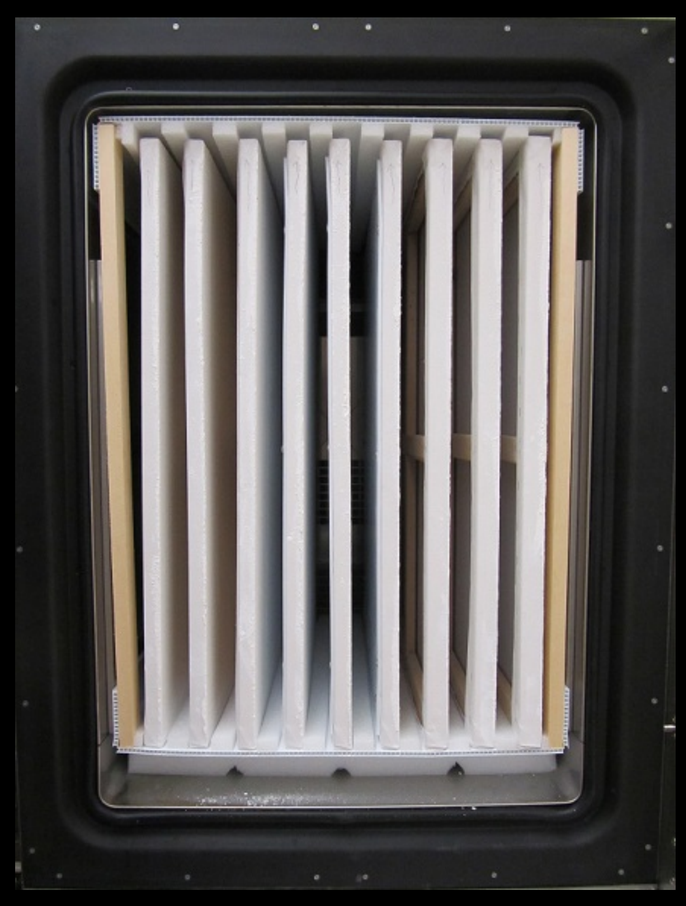

Fig. 1 Samples in the Espec ESL-3CA environmental chamber

Experimental

To evaluate the qualities of a Gatorfoam backing to support a cracked and brittle surface, Gatorfoam backing treatment was compared to Coroplast backing boards and to the absence of any backing.

Nine store-bought stretched canvases (62cm x 76cm) with commercially prepared gesso coatings were purchased. Each was coated with seven layers of brittle rabbit skin glue gesso made with fine calcium carbonate (7 nm particles). Natural crack patterns developed. Gatorfoam backing boards were applied to a group of three canvases. The canvas was removed from the stretcher, the Gatorfoam placed on the face of the stretcher and the canvas restretched over the whole. Coroplast backing boards were applied to a second group of three canvases and the third group remained untreated as a control.

The nine canvases were placed together in an Espec ESL-3CA environmental chamber with a consistent temperature of 20°C. The canvases were cycled through extremes of relative humidity, from 15% to 70%, alternating every four days. After three cycles, the canvases were individually removed and documented by reflectance transformation imaging (RTI). The canvases were returned to the chamber and exposed to another three cycles, after which they were removed and documented.

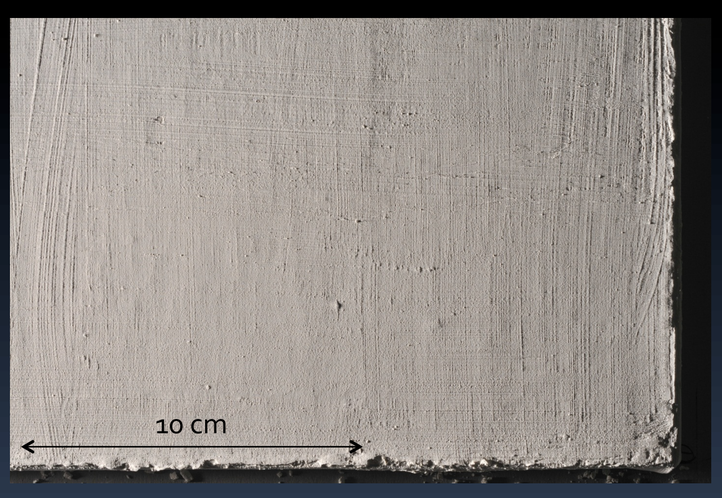

Fig. 2 Gatorfoam backing, crack propagation after three cycles of RH fluctuations

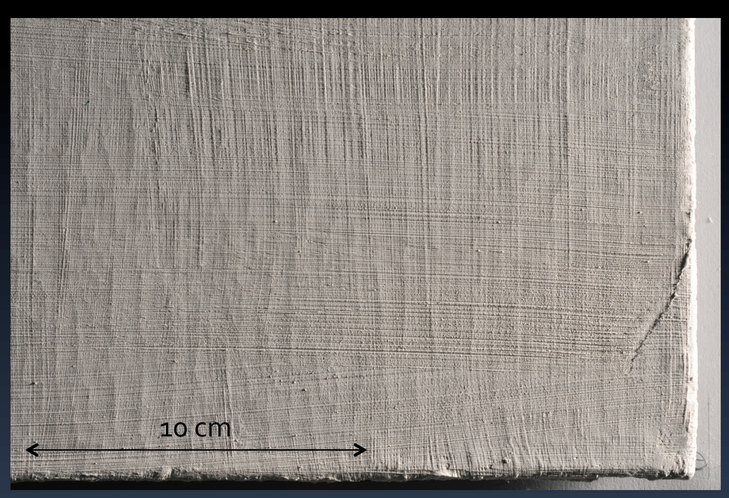

Fig. 3 Coroplast backing, crack propagation after three cycles of RH fluctuations

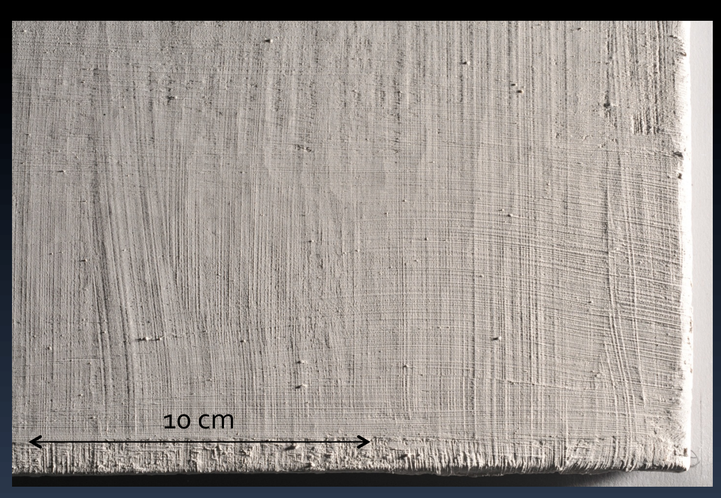

Fig. 4 No backing, crack propagation after three cycles of RH fluctuations

Results

The canvases backed with the Gatorfoam backing treatment placed directly behind the canvas demonstrated the least amount of crack propagation after exposure to extreme RH cycles. The canvases without any backing treatment demonstrated the most cracking. The canvases with Gatorfoam showed increased damage to the edges, likely as a result of the treatment, but this was only apparent after being in the environmental chamber. The canvases with Gatorfoam are easier to handle than those backed with Coroplast because the crossbars of the stretcher are still exposed. Ease of handling will reduce potential damage in the long term.

Special thanks to Paul Marcon, Wendy Baker, Eric Hagan, Paul Begin, Alison Murray and George Bevan