Artcare™ BRAND
Age-Defying Protection

Library of Congress study proves effectiveness of Artcare Technology

Plain boards were defined as unbuffered rag; buffered boards were defined as buffered rag. **The zeolite in Artcare *absorbs pollutants* more effectively than rag board without zeolites. Artcare boards outperform traditional museum board.** →

Artcare boards *trap and hold* pollutants better than any other archival board →

Library of Congress tests prove that Artcare works in *real-world* air pollution concentrations →

Dr. Peter Sparks
Preservation Consultant
Former Director for Preservation
Library of Congress

"It is Important that you know other acid-free boards claiming to be "archival" and "good enough" don't protect against the harmful effects of outgassing. Artcare™ Archival board is the only board I would recommend for conservation framing."

Performance Evaluation of 4-Ply Boards Containing Calcium Carbonate and Zeolites
Cindy Connelly Ryan
Library of Congress, Preservation Research and Testing Division

4/15/2011

4. CONCLUSIONS

4.1 Effectiveness of pollutant absorption by sorbent-loaded boards under mild conditions

In real-world applications, sorbents experience a constantly replenishing supply of pollutant vapors, which may fluxuate and potentially increase over time. Replicating such conditions exceeds the scope of this pilot study. These single-dose experiments do, however, support some conclusion that will have relevance to a constant-supply situation.

Rag board fibers have demonstrated some ability to adsorb pollutant vapors, even when no additives are present. The buffered boards demonstrated modestly improved acetic acid vapor uptake and retention over the plain board.

At the moderate concentrations examined (2-20 ppm acetic acid), the zeolite-loaded boards adsorbed acetic acid vapor faster than the plain or buffered boards.

Although all the boards tested will subsequently release acetic acid vapors if they are moved to a less polluted environment, the released fraction was lower for the zeolite-loaded boards than the others. ***The zeolite powder, examined in isolation, absorbs significantly more acetic acid vapor than equivalent weights of rag fiber or calcium carbonate, and releases a lower percentage of its total uptake. The zeolite loaded board similarly released a lower quantity of acetic acid vapor than plain and buffered board, when dosed with comparable initial amounts.***

Zeolites and zeolite-loaded housing materials can be effective pollution sorbents in library and archival environments, provided that their application is made with an understanding of their limitations. ***This study has demonstrated that this effectiveness is demonstrated at real-world, low concentrations of pollutants as well as in the extreme tests previously published.***

For more information visit:
http://www.loc.gov/preserv/rt/projects/zeolites.html

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