

## **CONTRIBUTION TO EVALUATION OF NEW TYPE OF LEATHER TO BE USED IN THE RESTORATION OF HISTORICAL OBJECTS**

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Leather objects, whether on display or held in store are likely to be exposed to fluctuating climatic conditions of temperature and relative humidity in the immediate environment of the object. Like other organic materials, leather will respond readily to changes in the relative humidity, taking up or losing moisture to the atmosphere. This deterioration, as distinct from that brought about by acidic atmospheric pollutants, takes the form of a progressive hardening of the leather, loss of flexibility, dimensional changes and a darkening of the surface color.

The aim of this paper is to evaluate a new type of leather obtained by organic tannage in combination with vegetable tannins. The experimental plan involves two differently tanned bovine leathers: Leather 1 - Dialdehyde / Polymer/Mimosa tanned and Leather 2 - Combination of organic and Aluminum / Mimosa tanned. The samples were artificially aged and exposed to SO<sub>2</sub> and NH<sub>3</sub> during different periods of time. The leathers were characterized by physical and chemical analysis before and after aging and DSC. Absorption of water vaporous vs. exposure time was studied in order to evaluate the leather's the behavior in atmosphere rich in sulphur dioxide and ammonia.

Conclusion - the Leather 2 - organic/Aluminum / Mimosa tanned is suitable to be used in the restoration of historical objects and have been used for restoration of 3 old books from XVII century.