ABSTRACT OF THE POSTER

Title:

The influence of the Bookkeeper preparation onto oil painting layers deposited on a paper support – selected results of research.

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Text of the abstract:

In contemporary painting, cardboard or paper often serves as a support for works performed in oil painting technique. Oversaturation of the cellulose-based material with oil, that also contains free fatty acids, causes a drop of pH, and thus an accelerated degradation of cellulose chains. This leads to the weakening of the support that becomes more susceptible to breaking and tearing. The above phenomenon constitutes an additional indication for the application of a deacidifying preparation.

However, before the deacidification of objects of this type can be started on a large scale, the question must be answered, whether the alkaline preparation introduced into the object does not pose a threat to the linoxide layer. Both fresh oils, as well as oxidised films formed of these oils, are subjected to hydrolysis when contacting bases, which is referred to as saponification. Assuming, that the application of the deacidifying agent is performed on the back of the painting only, the question of the depth of penetration shall be also answered, because this influences the impact of the agent onto the painting layer as well. It is obviously presumed, that the penetration of paper oversaturated with oil will be weaker than the penetration of "clean" paper. A separate and equally important issue is the potential threat to pigments sensitive to basic substances.

Providing an answer to the above questions became the goal of a part of the research project performed at the Faculty of Conservation and Restoration of Works of Art at the Academy of Fine Arts in Warsaw and financed from the resources of the National Science Centre, awarded on ground of decision number DEC-2011/01/N/HS2/02308.

The Bookkeeper method was selected for the examination. This method employs an agent considered to be the safest, i.e. an anhydrous preparation containing magnesium oxide suspended in perfluoroheptan - a quick-evaporating and low-reactive organic solvent.

Tests were conducted on model samples performed on Whatman blotting paper, using handmade oil paints. Samples were subjected to ageing using UV radiation, as well as in an environmental test chamber. The changes were assessed by using, among others:
- examination of colour changes with a spectrophotometer;
- SEM imaging and SEM-EDS analysis.