3. METHODS AND TESTING

In order to remove the mould stains, foxing and the surface dirt, various possibilities of dry and wet cleaning were considered, tested and evaluated. Firstly, four different mockups for the cleaning tests were prepared as follows:

1. A - titanium white
2. B - cadmium red middle
3. C - ground
4. D - azo yellow lemon

Three of four textile supports, already pre-printed with acrylic-based white color, were colored with Royal Talens Rembrandt acrylic colors. All the mock-ups were then exposed to the conditions of the MAK Tower for four weeks to simulate the soiling of the painting. Before and after the cleaning the tests the surfaces of the mock-ups were examined in order to reveal changes in the surface morphology and provide information regarding the cleaning efficiency and eventually remaining residues. Besides optical as well as scanning electron microscopy, gloss- and color measurements were carried out.

4a. RESULTS OF THE DRY CLEANING TEST

The least harmful of dry cleaning was achieved by using soft brushes and a vacuum cleaner, polyurethane-sponges and Grom Sticks. Poor cleaning results, high changes in gloss or color, mechanical damages or remaining residues were observed after using wall master sponges, cotton swabs soaked with Lascaux 498-20x, microfibre cloth, both akapad products and the rubber powder.

4b. RESULTS OF THE WET CLEANING TEST

The highest cleaning efficiency with the least harmful side effects was achieved with deionised water adjusted to pH 6 and fmn/km, as well as 0.3% solution of Marlipal® 1618/25, although the last solution needs to be rinsed with deionised water. The Cyclomethicone DS caused no harm to the acrylic surfaces and the cleaning process was much more easier and safer with no risk of producing new stains.

5. CONSERVATION TREATMENTS

Based on the evaluation of the cleaning tests, the surface of the painting was first dry cleaned with soft brushes and polyurethane-sponges. The whole painting surface was then wet cleaned using deionised water adjusted to pH 6 with an previous surface water repellency. Heavily soiled parts were additionally cleaned with adjusted 0.3% Marlipal® 1618/25 solution. Mould stains, foxing as well as the soiling was reduced by the wet cleaning treatment as effectively as possible.

CHALLENGES OF CLEANING ACRYLIC EMULSION PAINTINGS: Surface Treatment of the Water Damaged Painting „The Cyclist“ by Ilya & Emilia Kabakov

Katharina Pöll, Gabriela Krist, Caroline Ocks, Veronika Loiskandl, Tatjana Bayerova

Institute of Conservation, University of Applied Arts Vienna

1. INTRODUCTION

The diploma thesis focused on dry and wet surface cleaning of acrylic emulsion paintings of the installation „Not everyone will be taken into the Future“ by Emilia & Ilya Kabakov.

The installation was first shown at the 49th Biennale in Venice with the title „Plateau of Humanity“ in 2001. After the exhibition, the Austrian Museum of Applied Arts / Contemporary Art (MAK) acquired the installation as a permanent loan in 2002. Currently, the artwork is presented at the 8th floor of the MAK Tower in Vienna. The large-scale installation shows a train station with railway platforms.

2. CONDITION SURVEY

Extreme atmospheric conditions during the summer in 2013 caused high fluctuations of relative humidity at the 8th floor of the MAK Tower and led to water condensation on the cold walls. The water dripped directly onto the paintings and facilitated the growth of mould. Further damage can be characterized as foxing as well as water stains and adhering dust and dirt. First emergency measures such as the removal of the mould spores were taken.

One of the most damaged paintings – „The Cyclist“ – was chosen for a detailed scientific examination and an exemplary conservation treatment.

3. METHODS AND TESTING

In order to remove the mould stains, foxing and the surface dirt, various possibilities of dry and wet cleaning were considered, tested and evaluated. Firstly, four different mockups for the cleaning tests were prepared as follows:

1. A -钛白
2. B -镉红
3. C -地色
4. D -酸酞黄

Three of four textile supports, already pre-printed with acrylic-based white color, were colored with Royal Talens Rembrandt acrylic colors. All the mock-ups were then exposed to the conditions of the MAK Tower for four weeks to simulate the soiling of the painting. Before and after the cleaning the tests the surfaces of the mock-ups were examined in order to reveal changes in the surface morphology and provide information regarding the cleaning efficiency and eventually remaining residues. Besides optical as well as scanning electron microscopy, gloss- and color measurements were carried out.

4a. RESULTS OF THE DRY CLEANING TEST

The least harmful of dry cleaning was achieved by using soft brushes and a vacuum cleaner, polyurethane-sponges and Grom Sticks. Poor cleaning results, high changes in gloss or color, mechanical damages or remaining residues were observed after using wall master sponges, cotton swabs soaked with Lascaux 498-20x, microfibre cloth, both akapad products and the rubber powder.

4b. RESULTS OF THE WET CLEANING TEST

The highest cleaning efficiency with the least harmful side effects was achieved with deionised water adjusted to pH 6 and fmn/km, as well as 0.3% solution of Marlipal® 1618/25, although the last solution needs to be rinsed with deionised water. The Cyclomethicone DS caused no harm to the acrylic surfaces and the cleaning process was much more easier and safer with no risk of producing new stains.

5. CONSERVATION TREATMENTS

Based on the evaluation of the cleaning tests, the surface of the painting was first dry cleaned with soft brushes and polyurethane-sponges. The whole painting surface was then wet cleaned using deionised water adjusted to pH 6 with an previous surface water repellency. Heavily soiled parts were additionally cleaned with adjusted 0.3% Marlipal® 1618/25 solution. Mould stains, foxing as well as the soiling was reduced by the wet cleaning treatment as effectively as possible.

Acknowledgment

University of Applied Arts Vienna, Institute of Conservation: D.I. Rudi Erlach; University: poellkatharina@gmx.at

Copyright:  © Katharina Pöll, 2014

References


[3] University of Applied Arts Vienna, Austria, Institute of Conservation, Stefan Olah and Katharina Pöll

Supervisors

AProf. DI Rudolf Erlach, University of Applied Arts Vienna, Austria, Institute of Conservation: o.Univ.-Prof. Mag. Dr. Gabriela Krist, UNIV.-Prof. Mag. Dr. Tatjana Bayerova, VL Dipl.-Ing. Dr.rer.nat. Tatjana Bayerová, Supervisor

Exemplary conservation treatment of the installation „Not everyone will be taken into the Future“ by Emilia & Ilya Kabakov.