Cleaning of Acrylic Painted Surfaces

Washington DC, April 30 – May 3, 2013

SESSION TITLE

Recent Research into Cleaning: Wet Cleaning of Acrylic Paints and New Cleaning Options

INSTRUCTOR

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SESSION OUTLINE

ABSTRACT

Since the early 2000s, a significant body of largely scientific-based research has been carried out into the properties of acrylic paints, including exploring the effects of surface cleaning treatments. This session summarizes research findings with respect to changes in bulk film and paint surface properties such as gloss, color, flexibility, surface chemistry, swelling and topography after surface cleaning treatment. The effects of different solvent systems (e.g. aqueous vs. mineral spirit) are compared. Participants will explore simple paint properties in the practical session and newly developed and/or alternative cleaning system options developed through collaboration between the Dow Chemical Company, Tate and the GCI will be introduced for soiling removal and comparison to established (and other CAPS) systems.

OBJECTIVES

- To provide participants with up-to-date understanding of recent research exploring the effects of wet (and some dry) surface cleaning treatments on acrylic paint films and works of art.
- To explore and understand how the properties of acrylic paints vary with paint brand, age, pigment type, cleaning system type, cleaning system application and exposure time.
- To be introduced to and become familiar with new wet cleaning systems produced through the Dow-Tate-GCI collaboration; including ECOSURF surfactants and a range of oil-in-water microemulsions based on mineral spirits.
- To critically evaluate these new systems - alongside others provided during the workshop - by comparing them to established/accepted cleaning materials.

CONTENT OUTLINE

A recent history of the research into paint properties and the effects of wet cleaning treatments, as well as an introduction to the Dow-Tate-GCI materials will be delivered as a PowerPoint presentation. The practical session will involve exploring a number of paint samples and cleaning systems based on established systems, some of the systems developed during Tuesday's session and the new systems.

METHODOLOGY

The practical session will involve comparing the surfaces of a range of paint films provided for gloss, texture, surface chemistry, surface conductivity and swelling capacity. This will be done by eye and by using microscopes and conductivity meters. Surface cleaning tests will be carried out using a range of cleaning systems on soiled samples provided for CAPS and results/observation tables will be provided for each sample as a record of cleaning response and associated observations.

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📖 = Essential reading material
💻 = Available online