New applications of Pickering-type emulsions for the cleaning of modern water-dispersed oil paints

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Cleaning emulsions

Shin-Etsu KSG-350z

Cyclopentasiloxane (and) PEG-15/Lauryl polydimethylsiloxylethyl dimethicone crosspolymer

Momentive Velvesil Plus

Cyclopentasiloxane (and) C30-45 alkyl cetearyl dimethicone crosspolymer (and) PEG/PPG-20/23 dimethicone
Winsor & Newton Artisan Water Mixable Oil Colour
Soiled samples on glass slides

Gesso ground

No ground

Soil (lamp black + iron oxide)
Emulsion recipes

- Shin-Etsu KSG-350z with 40% aqueous solution (0.5% citric acid adjusted to pH 8 with TEA)
- Velvesil Plus with 15% aqueous solution (0.5% citric acid adjusted to pH 8 with TEA)
Cleaning protocol

- Masking with D4
- Brush application and agitation of emulsion
- Emulsion removed
- Rinsed 2-3 times with hexamethyldisiloxane
Before and after cleaning with emulsions Velvesil and KSG control.

Gesso ground:
- Before
- After

No ground:
Scanning Electron Microscopy of Velvetsil and KSG-350z, 615x
Scanning Electron Microscopy of the white paint-out after cleaning, 103x and 111x
Thank you!

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