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Cleaning water gilding using hydrogels

Problem

- Conservation of gilded objects is not often studied.
- Cleaning water-gilding is normally done with solvents, this is not suistainable, and it is harmful for the conservator.
- Water works as a solvent for water-gilded surfaces.

Aim

Finding a suitable solution for cleaning water-gilded surfaces

Research questions

- Is it posible to use water to clean water gilding?
- How does the water diffusion affect the water-gilding?
- How can we control the diffusion of the gel?
- How is the cleaning affected when using different gel folmulas?

SOLUTION

- Use hydrogels: Agar and PVABorax
- Control the diffusion of the water in the gels
- Try different recipes to find the ideal solution

Experiment

- Test Agar, from 2% to 10%
- Test Borax and find the perfect recipe
- Different proportions of chelating agents
- Test residue with SEM
- Test the surface after the gels

Conclusions

- Borax does NOT leave any residue
- Agar leaves microparticles
- Each frame has its own preferences
- The diffusion of the gel is controlled by the type of gel and the percentage

Further research

- Different techniques for the cleaning of water-gilding surfaces
- Trying to clean different gilding techniques i.e brass

Main bibliography

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