

ICM humidity regulated warm air treatments

- Technical basics of the method
- What can be treated
- Case study: 16 Emilie Brezninski sculpture

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MuseumPests.net
A Product of the Integrated Pest Management Working Group



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Corner facts

- Insects will die if they are exposed to temperatures between 43 and 55°C. Mortality also depends on the exposure time and on the species.
- The warming up and cooling down happens slowly. The entire process takes between 16 – 24 hours.
- Simultaneously the relative humidity (RH) needs to be controlled based on the Keylwerth diagram.
- Provided the RH is controlled there will be no dimensional changes and no alterations in the object.
- The method can be applied to the majority of materials and art works, exceptions are few.

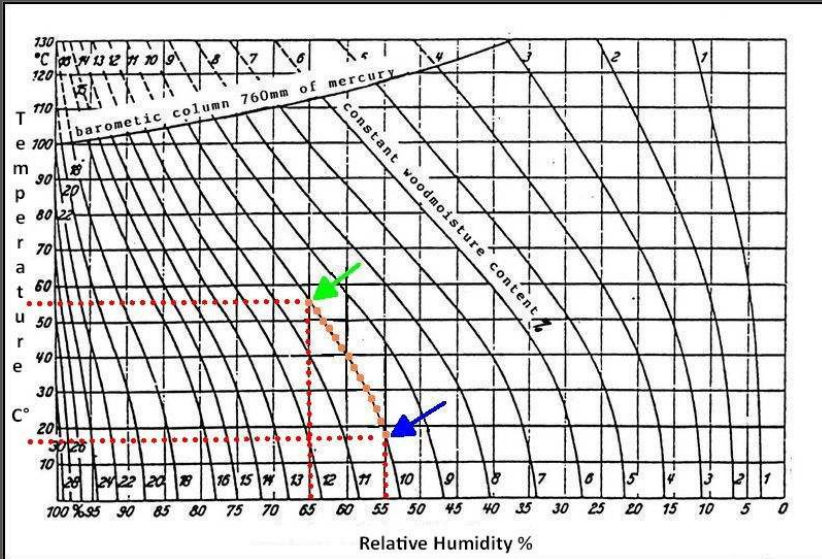


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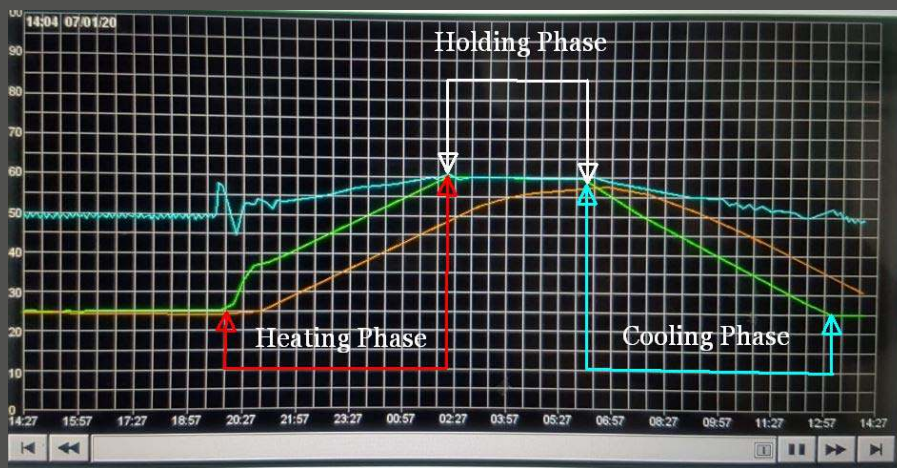
Keylwerth Diagramm



It's all about relative humidity and the **EMC** Equilibrium Moisture Content in the object

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Slow warming and cooling phases



The temperature rises and later drops very slowly

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What can ICM treat?

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Polychrome Objects

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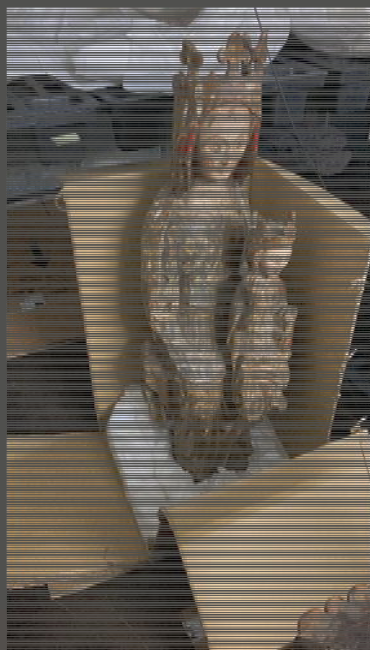
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Polychrome Objects



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Polychrome Objects



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Canvas and Panel Paintings



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Van Dyck Painting at ICM Brussels



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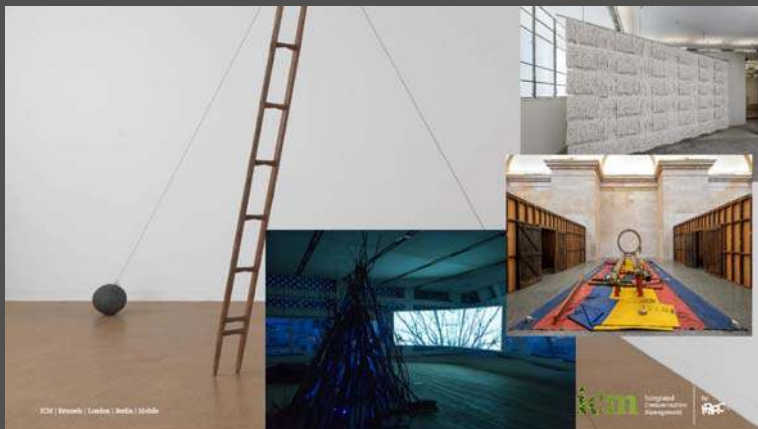
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Contemporary Art / Installations



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Textiles



Photo: Julia Boston Antiques



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Leather



Photo: The Lightfoot Tribal Art Collection

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Ethnological Collections



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Taxidermy / Natural History



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Books



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Furniture and musical Instruments



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Composite Surfaces, mixed Materials



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Reduction of Biocide Residues



Arsenic – Mercury –
Naphthalene – PCP – PCB –
DDT - Lindane



ICM has started a systematic investigation into the reduction of biocides, using an adapted ICM treatment method together with Dr. Boaz Paz, Germany.

First results are promising.

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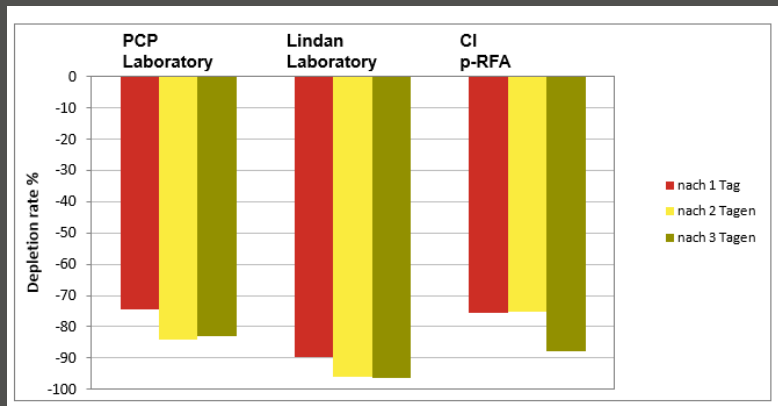
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Research Study



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Reduction Rates PCP and Lindan (impra HgF)



Reduction rates of Pentachlorophenol and Lindane after 24, 48, 72 hours ICM treatment.

- douglas fir wood
- 55°C
- 55% relative humidity

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