

Oddy Testing at the John Rylands Research Institute and Library

What is Oddy Testing?

A procedure to foresee how materials behave over time, sometimes referred to as 'artificial aging'. Created in 1973 at the British Museum by Conservation Scientist William Andrew Oddy and further simplified by Bamberger et al.

Aims

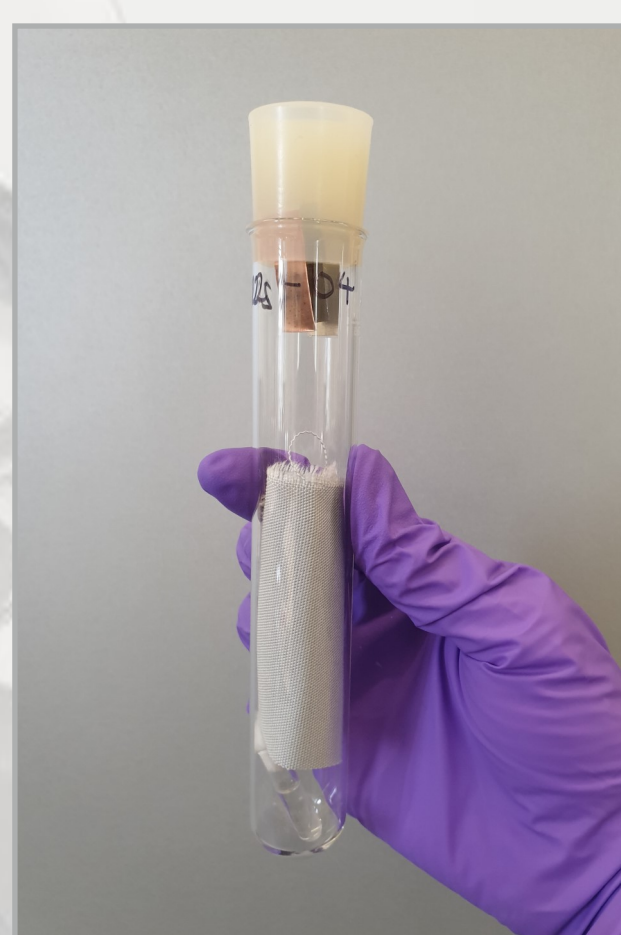
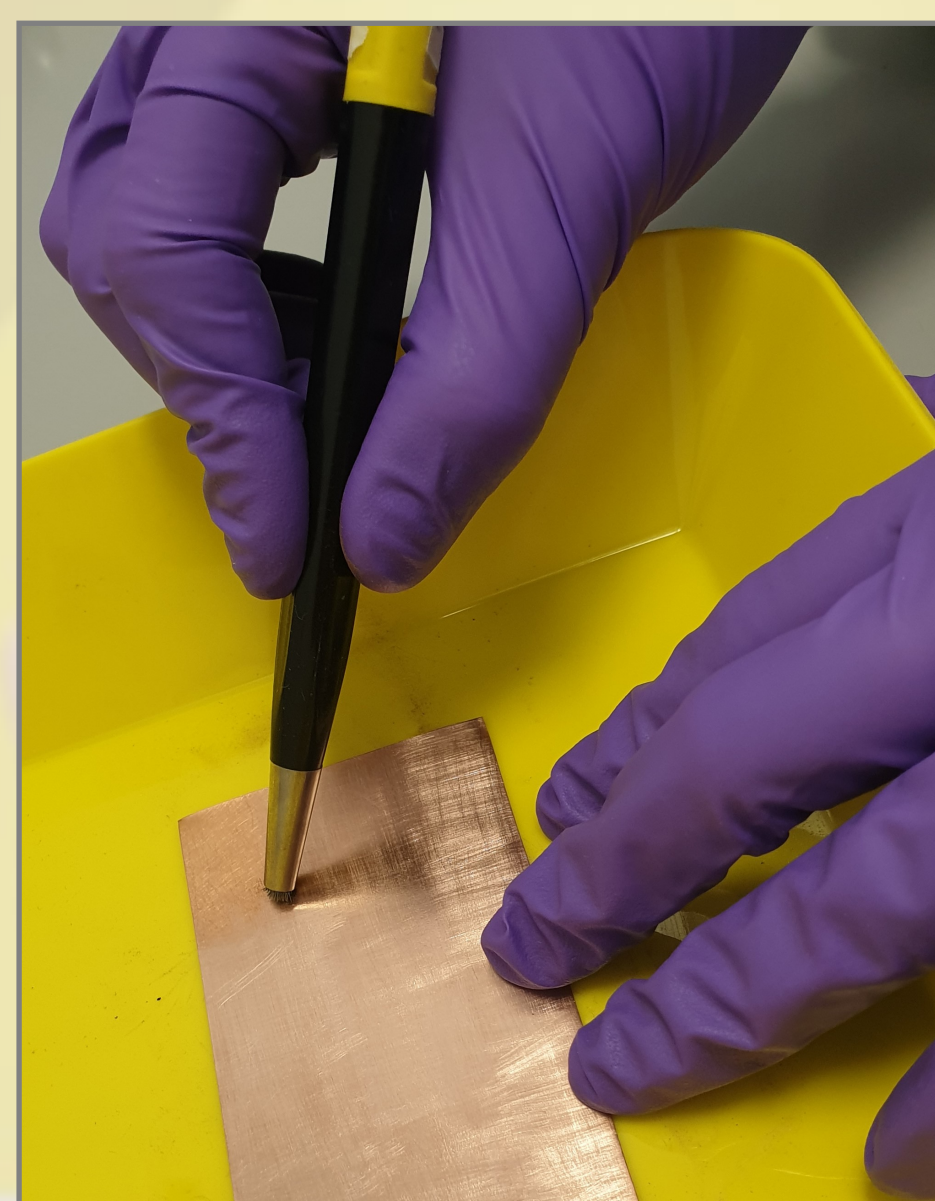
The test checks whether Volatile Organic Compounds (VOCs) or gaseous pollutants are produced by materials over time. VOCs are detrimental because they can corrode metal and degrade stone and organic objects. All materials used in storage and display of museum objects should be Oddy tested.

Methodology

- 3 metal tokens: copper, silver and lead are abraded to remove their oxide protective layer and immersed into solvents for 10 minutes.



- The tokens are then placed in a sealed test tube with a test sample of material and a small, open vial of water.



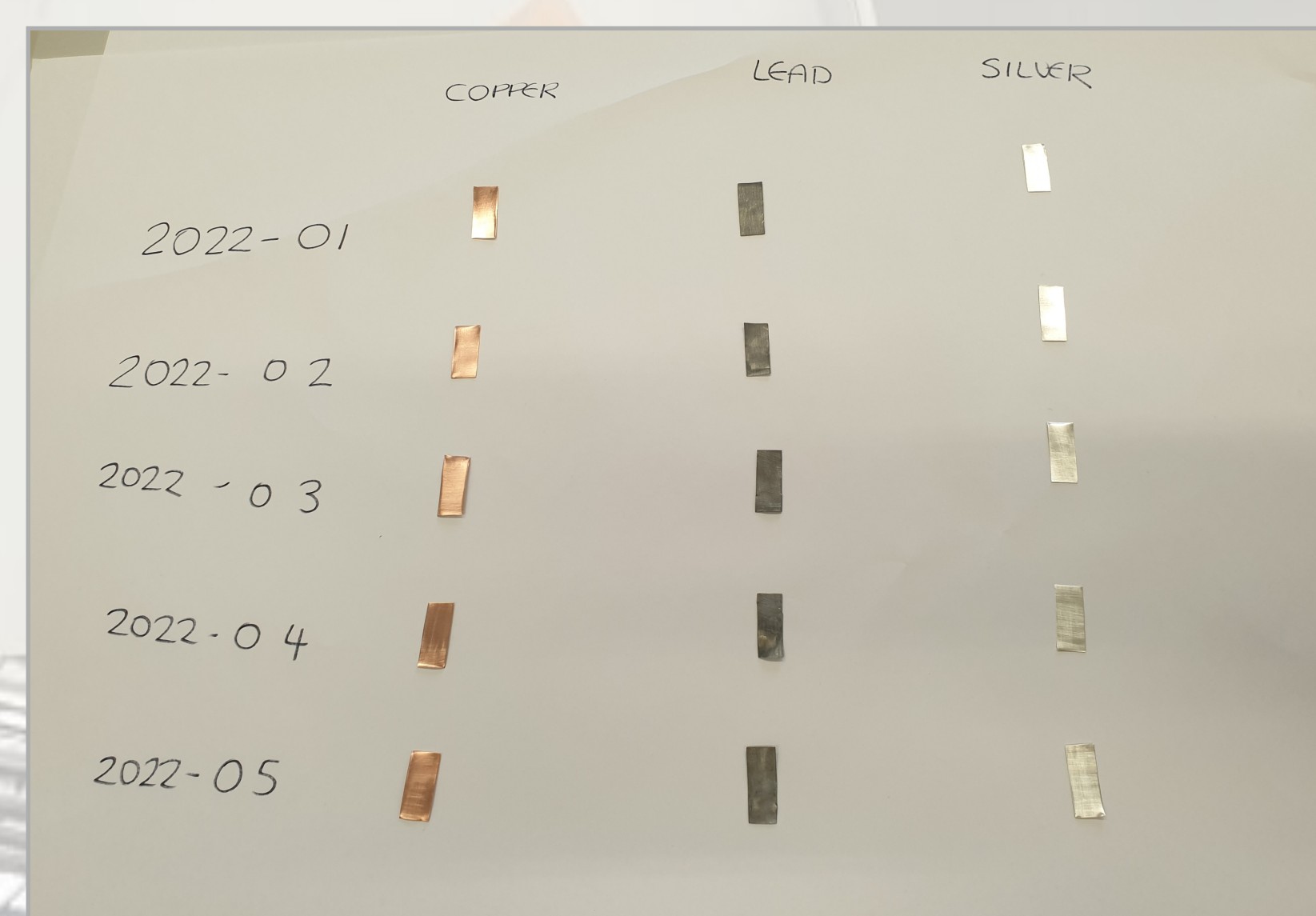
- The filled test tubes are placed in an oven that maintains 100% relative humidity at 60°C for 28 days. This simulates a 'natural' ageing process of approx. 5-6 years.



- The 3 metal tokens in the test sample form the baseline for the results comparison as they will react with a broad range of gases and compounds associated with their deterioration.

Results Analysis

- After 28 days the metal coupons must have the same degree of corrosion as the control for the material sample to be suitable for use in long term storage.
- If there is slightly more corrosion than the control then the sample can be used temporarily (up to 6 months).
- If there is far more corrosion present than on the controls the material is deemed unsuitable for use.



For more information please contact
Isabelle Hetherington (isabelle.hetherington@manchester.ac.uk)
or Solange Masher (solange.masher@manchester.ac.uk) in Collection Care