

Database of Materials Test Results

The British Museum's published *Database of Materials Test Results* contains the results of the Oddy tests and pH tests carried out on materials in the British Museum in the previous 5 years.

Some materials release volatile components (solvents, organic acids etc.) which, in an enclosed space, may reach levels of concentration capable of damaging objects e.g. corroding metals or harming organic matter. Materials testing is carried out to help determine if materials are safe to use with objects inside showcases, packing crates or stores.

The *Database of Materials Test Results* is in an MS *Excel* spreadsheet format, already sorted by material 'category', but it can be searched by name, manufacturer, colour, etc. It should be noted that the spreadsheet only allows one designation of 'category' per material entered. Therefore, where certain materials could fall into more than one possible category (e.g. 'adhesive' and 'sealant'), users seeking test results for a particular material are advised to search against the various categories that might apply to the material in which they are interested.

What is an Oddy test?

An Oddy test is an accelerated corrosion test which can help to predict whether particular materials are safe to use with objects inside enclosed spaces such as showcases or stores. The accelerated corrosion test evaluates the potential for a material to cause corrosion of the metals silver (Ag), copper (Cu) and lead (Pb) and alloys containing these metals. These three metals are used in the test because they react to a variety of gaseous pollutants; however, the test results are applied to all material types.

Oddy tests are performed using the '3-in-1' version of the test as described in the publication *Selection of materials for the Storage or Display of Museum Objects* available at:

http://www.britishmuseum.org/research/publications/research_publications_series/research_publications_online/selection_of_materials.aspx

For dry or bulk samples such as paper, fabric, boards etc., a 2 g sample is used wherever possible. Unless otherwise specified, paints are spread onto a piece of Melinex (polyester film) and allowed to air dry for four weeks, with a 12 cm x 6 cm sample size used for each test. The preparation of other sample types such as adhesives is currently under review.

What is a pH test?

pH tests are carried out for **fabrics** and **papers**. A pH test is carried out to help predict whether the material tested can safely be placed in direct contact with an organic object. The pH should be between 5.5 and 9 if the tested material is to be in direct contact with organic materials. When the pH test is performed, it is also possible to assess whether the tested material is colourfast. If the material is not colourfast, it is advised that it is not used.

Interpreting results in the *Database of Materials Test Results*

Oddy test results: Test results are recorded for each individual metal used in the test. However, an **overall rating** is assigned to indicate a material's general suitability.

pH test results: A material with a fugitive (non-colourfast) dye or a pH value outside 5.5-9 will be classified as an unsuitable material.

The **overall rating for the material** is shown in the first column and is determined by the worst test result obtained.

P	Pass- Suitable for permanent use
T	Temporary- Suitable for temporary use (less than six months)
F	Fail- Unsuitable, do not use

Important Notice and Disclaimer

The data published in the *Database of Materials Test Results* ('the database') is regularly updated and revised. It contains the results of research work carried out by the British Museum within five years of the most recent update.

The British Museum does not use or rely on any version of the database, or any data contained within it, which is more than five years old. In making any predicative assessment of the suitability of materials based on the Oddy test or the pH test, the most up to date version of the database published on the British Museum website is the only current and authoritative statement of British Museum opinion at any given time.

The British Museum undertakes Oddy tests and pH tests for its own internal purposes only and reserves the right, at its absolute discretion, to cease from carrying out and publishing the results of Oddy tests and pH tests at any time. The test results contained in the database reflect the preparation and testing methods used by the British Museum having regard to its own particular needs and circumstances. The data in the database is published for illustrative and informative purposes only. The British Museum neither endorses nor disapproves any company or product mentioned in the database. Nor does it offer any warranty about the effectiveness or safety of any of the products tested. **Nothing contained in the database is published on the basis that it has any express or implicit general application to circumstances or**

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It is the responsibility of any person inspecting the data published in the database to make their own assessment of its reliability, applicability and usefulness to their own particular circumstances and research. **The British Museum recommends that anyone inspecting the database arranges or carries out their own tests and makes or obtains their own independent professional assessment on the suitability of materials for their particular purposes. The British Museum accepts no liability for the failure of any person inspecting the database to carry out their own tests or make their own independent assessment of any materials.**

The British Museum does not undertake Oddy or pH testing as a commercial service and will not accept any unsolicited materials for testing.

The attention of users of the *Database of Materials Test Results* is also directed to the Terms of use of the British Museum website, to which access to the database is subject:

http://www.britishmuseum.org/about_this_site/terms_of_use.aspx