

// REACTOR WITH INSERT SUITABLE WITH THE ODDY TEST

Ref-No: TA-16744

BACKGROUND

Using a test tube as reactor and metal indicators made of strips of silver, lead and copper, samples of the material to be examined are placed in a heating cabinet at 60 °C for a period of 28 days with the addition of water in the test tube. Chemical reactions of the ingredients of a material sample with the indicator metals allow conclusions to be drawn about the damage potential of a material for certain other materials.

PROBLEM

A disadvantage is an insufficient sealing of the test tube with a silicone plug, which can result in the escape of water and emittents. Other disadvantages of this prior art are that

- the test equipment and the test procedure are inconsistent,
- the test results are difficult to reproduce and hardly comparable,
- the evaluation of the test indicators is subjective and
- the handling of the indicator materials is not sustainable and therefore outdated.

SOLUTION

The test kit according to the invention comprises a reactor, prefabricated indicator plates made of metal foils or platelets of glass or ceramic coated with indicator metal, an image acquisition station and software for evaluating the results. The glass container is characterized on the one hand by technical design features such as the two-part construction of a glass sleeve and an inner insert with a highly efficient seal and the use of inert materials and on the other by the design (see Fig.1).



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DEVELOPMENT STATUS

Prototype

CATEGORIES

//Chemistry //Analytical
chemistry //Sensor systems
technology and measuring
instruments

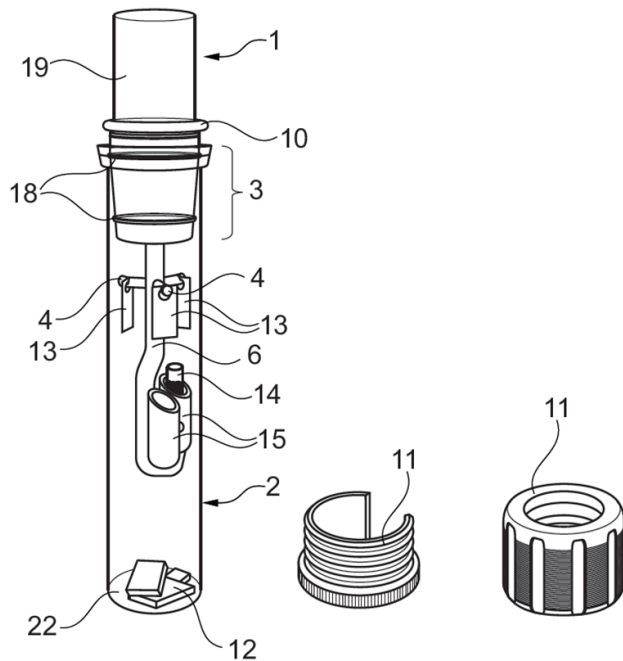


Fig. 1: Device according to the invention: Reactor (2) with insert (1), indicator material (13), fabric sample (12) and the screw cap (11) used with sealing section (3), holder for indicator material (4), Connecting bar (6), Pufferring (10), activated carbon ad-sorber (14), glass nozzle (15), O-rings (18), handle portion (19), bottom (22).

ADVANTAGES

- Standardization of the Oddy Test with a uniform reactor
- Use industrially prefabricated indicator platelets
- Reproducibility and comparability of results
- Objective evaluation by image analysis software

SCOPE OF APPLICATION

The invention may find application in the preventive conservation of artistic and cultural property, e.g. when reviewing materials, etc. for the construction of showcases, cabinets etc. or also packaging materials for museum objects by means of an indicate test.

SERVICE

License for commercial exploitation / Research & Development cooperation

