

**PAINT COATINGS AND SIMILAR PRODUCTS
RESISTANCE TO DILUTED SULPHURIC ACID**

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NO USE RESTRICTION

*This is a translation, the French original shall be used in all cases of litigation**Date of translation : 01/08/2002***1. OBJECT AND FIELD OF APPLICATION**

The object of this méthode is to determine paint resistance to diluted sulphuric acid.

2. PRINCIPLE

To determine the sensitivity of a paint film to the action of an acid solution, of defined concentration, at the temperature of $25^{\circ}\text{C} \pm 0,5^{\circ}\text{C}$ for a duration of 16 hours.

3. EQUIPMENT AND REAGENT**3.1. GLASS TEST TUBES**

Ø 35 mm.

3.2. THERMOSTATICALLY CONTROLLED BATH

at $25^{\circ}\text{C} \pm 0,5^{\circ}\text{C}$ with agitation.

3.3. TEST SPECIMEN IN SHEET METAL XES

of minimum dimensions 100 x 25 x 0,7 mm, coated with primers generally associated with the product to be tested.

3.4. SULPHURIC ACID SOLUTION AT 30%

- Sulphuric acid ($d = 1,83$) = 30 grams.
- Distilled water = 70 grams.

Density of the solution : $1,198 \pm 0,03$ at 25°C .

4. METHOD OF OPERATION

- The test specimen (3.3.) is coated with the test product and stoved (application, thickness and stoving according to the corresponding documents). During the test the edges are protected, either by the paint coating itself, or by a waterproof adhesive tape (in particular in the case of test specimens cut from a panel).
- Keep at ambient temperature and humidity for a minimum of 24 hours for thermosetting products and 8 days after application for products drying in the atmosphere.
- Fill the test tube (3.1.) with the solution (3.4) to such a level that the test specimen (3.3.) remains half immersed.
- Immerse the test specimen in the acid solution.
- Place the tube in the thermostatically controlled bath at 25°C for 16 hours, covering the extremity with a watch glass of suitable diameter.
The water level of the thermostatically controlled bath is at least corresponding to the acid level in the tube.
- At the end of the test, take out the test specimen, carry out a first rinse with running water, then a second rinse with deionised water.
- Blow with compressed air and leave the test specimen to dry for one hour at ambient temperature.

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5. EXPRESSION OF RESULTS

Compare visually the section of the test specimen immersed with that of the section not immersed and grade according to the following scale :

- 0 - No change.
- 1 - Slight change, reversible by rubbing slightly with cotton wool.
- 2 - Slight loss of brilliance, reversible after polishing according to méthode d'essai D29 5162; no change of colour after polishing.
- 3 - Change of colour or loss of brilliance non-reversible through polishing.
- 4 - More pronounced change (blistering, loss of adhesion, etc.).

6. REMARKS

In the case where the solution of sulphuric acid is re-used successively, it is imperative that it is renewed :

- as soon as slight colouring appears,
- when the density measured at 25°C exceeds the value $d = 1,215$.

7. TEST REPORT

As well as the results obtained, the test report must indicate :

- the reference to this méthode,
- the operating details not specified in the method as well as any possible incidents likely to have affected the results.

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8. RECORDS AND REFERENCE DOCUMENTS

8.1. RECORDS

8.1.1. CREATION

- OR : 01/10/1985 – CREATION OF THE NORME.

8.1.2. SUBJECT OF THE MODIFICATION

- A : 13/06/1997 - INTRODUCED INTO IDEM (*French only*).

8.2. REFERENCE DOCUMENTS

8.2.1.PSA DOCUMENTS

8.2.1.1 Normes
D29 5162.

8.2.1.2. Others

8.2.2. EXTERNAL DOCUMENTS

8.3. EQUIVALENT TO :

8.4. CONFORMS TO :

8.5. KEY-WORDS