

**PAINTS, ADHESIVES, MASTICS, COATINGS AND  
SIMILAR PREPARATIONS  
FINENESS OF GRINDING**

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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 : 27/10/2003***FOREWORD**

*This document is in technical conformity with RNUR test method No. 1310.  
It must not be modified without prior consultation with RNUR.*

**1. OBJECT AND FIELD OF APPLICATION**

The object of this test method is to determine the fineness of grinding of paints, adhesives, mastics, coatings and similar preparations using a powder gauge.  
When pigment particle dimensions are very small, approximately 10  $\mu\text{m}$  or less, there are grounds for interpreting the results with circumspection.

**2. PRINCIPLE**

The fineness of grinding of a paint, adhesive, mastic, coating or similar preparation is the reading given by the powder gauge under the experimental conditions described in this test method.

**3. PRINCIPLE**

Using a scraper, spread a sample of the product under study in a groove of decreasing depth and determine the first point at which the scraper is hindered by the grain of the product.

**4. EQUIPMENT****4.1. GAUGE**

made from a hard polished material. The upper surface of the gauge must be flat and comprise one or two grooves approximately 140 mm long and 12,5 mm wide.  
The depth of each groove is to evenly decrease from a determined value (for example 25 – 50 – 100 or 200  $\mu\text{m}$ ) at one end to 0 at the other. Each groove is graduated with equally spaced divisions as a function of the depth (see table below).

**TABLE : GRADUATIONS OF TYPICAL GAUGES**

<b>DEPTH in <math>\mu\text{m}</math></b>	<b>GRADUATION INTERVALS in <math>\mu\text{m}</math></b>
200 to 0	10
100 to 0	10
50 to 0	5

**4.2. SCRAPER**

consisting of a steel blade with two edges, approximately 6 mm thick. The edges are to be radiused to approximately 0,25 mm. Figure 2 in the appendix shows a typical scraper.

## 5. METHOD OF OPERATION

- Place the selected gauge which has been carefully cleaned and dried on a flat horizontal anti-slip surface.
- At the deepest end of the groove, pour a sufficient quantity of the product sample so that it overflows slightly from the groove.
- Take the scraper in both hands between the thumbs and the other fingers and place it vertically to the gauge surface, the scraper edge is to be perpendicular to the groove axis. This edge is placed between the upper end of the gauge and the first graduation (in the travel direction of the scraper).
- Whilst holding the scraper in this position, pull it at a constant speed over the whole surface of the gauge to the 0 end of the groove, in a time not exceeding 3 seconds. It is necessary to exert on the scraper a sufficient pressure to hold it permanently in contact with the upper face of the gauge so that there is no product left on the reference surface.
- The grinding fineness of the product can be determined as follows, in a period of time not exceeding 5 seconds from the start of spreading the product, by observing the gauge from the side in such a way that the line of vision is perpendicular to the groove length and that it does not make an angle more than 30° and less than 20° with the gauge surface and under a lighting such that the product in the groove is easy to see : observe along the groove the first point where the product shows a prominently spotty appearance and, in particular, the graduation at which the number of particles in the 3 mm strip of the groove is between 5 and 10 (see figure 3 in the appendix).
- The grinding fineness is the highest value of the graduation in this 3 mm interval. Ignore the small, scattered points which may appear before the point where the prominently spotty appearance starts.
- Reading cannot be carried out after a duration greater than 5 seconds; for this reason, it is recommended to carry out a preliminary determination in order to establish the approximate position of the first appearance of a prominently spotty surface. A more accurate second reading can then be carried out very quickly.
- Carefully clean the gauge and the scraper immediately after each reading using an appropriate solvent. Take three measurements and calculate the mean value from these three readings.

## 6. TEST REPORT

The test report must refer to the number of this test method and indicate as well as the results obtained :

- the product family and designation,
- the identification of the gauge used (maximum depth in micrometres and graduation intervals), all operating details not specified in the method as well as any possible incidents which may have affected the results.

### CORRESPONDENCE BETWEEN THE NORTH GAUGE GRADUATIONS AND THE DEPTHS GIVEN IN MICROMETRES

Depth in µm	101,60	91,44	81,28	71,12	60,96	50,80	40,64	30,48	20,32	10,16	0
NORTH gauge graduations	0	1	2	3	4	5	6	7	8	9	10

## Appendix

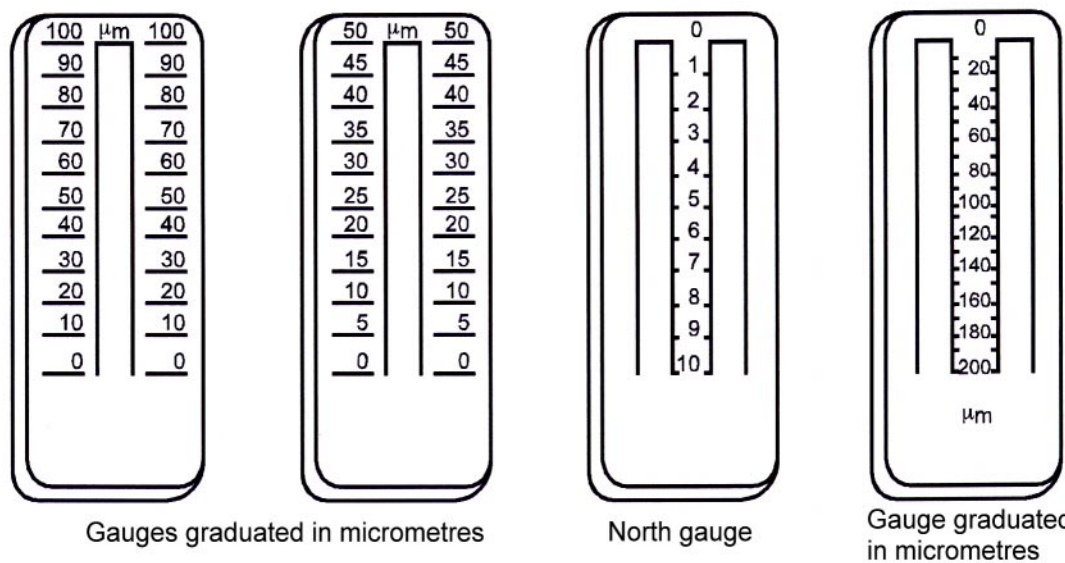


FIGURE 1

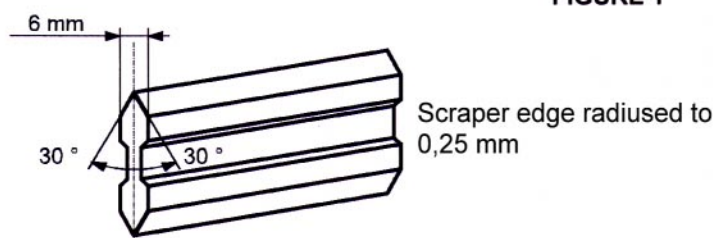
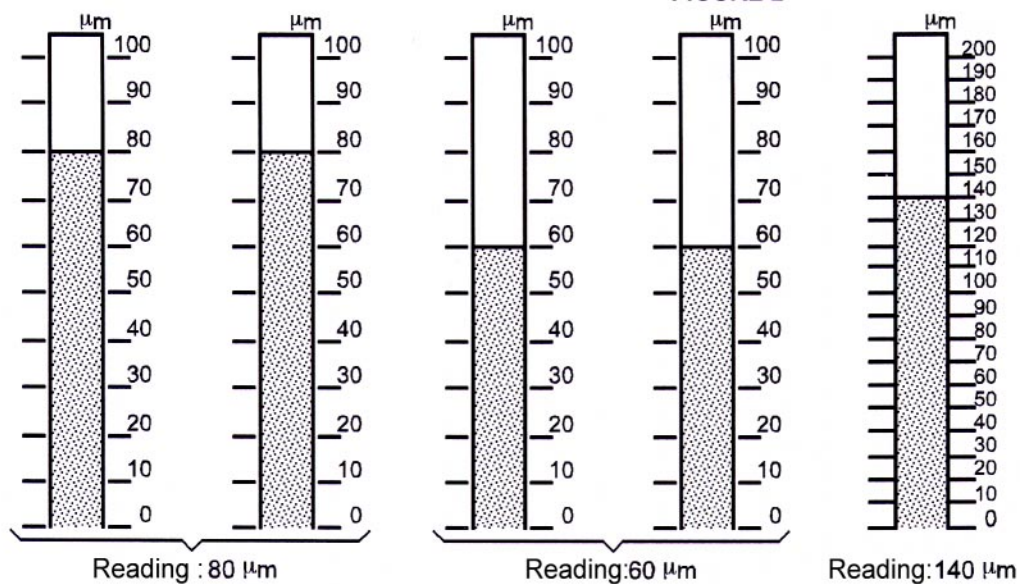


FIGURE 2



Gauges graduated in micrometres

FIGURE 3

## 7. RECORDS AND REFERENCE DOCUMENTS

### 7.1. RECORDS

#### 7.1.1. CREATION

- OR : 01/02/1980 – CREATION OF THE NORME.

#### 7.1.2. SUBJECT OF THE MODIFICATION

- A : 01/01/1982 – COMPLETE REWRITE OF THE NORME.
- B : 22/11/1996 - INTRODUCED INTO IDEM (*French only*).

### 7.2. REFERENCE DOCUMENTS

#### 7.2.1. PSA DOCUMENTS

##### 7.2.1.1 Normes

##### 7.2.1.2. Others

#### 7.2.2. EXTERNAL DOCUMENTS

### 7.3. EQUIVALENT TO : REN1310

### 7.4. CONFORMS TO :

### 7.5. KEY-WORDS