

**ADHESIVES AND MASTICS  
CHARACTERISATION OF THE TENDENCY  
TO STATIC FLOW**

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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 : 20/10/2003***FOREWORD**

*This document is in technical conformity with RENAULT test method No. 1107.*

*It must not be modified without prior consultation with RENAULT.*

*It is in conformity with the agreement reached between the Normalisation Services of PEUGEOT S.A. and RENAULT in JUNE 1984.*

**1. OBJECT AND FIELD OF APPLICATION**

The object of this method is to characterise the tendency to static flow of adhesives and mastics when applied (30 minutes test at ambient temperature) and when remaining in baking ovens (duration and temperature indicated in the documents).

It applies to :

- curable adhesives,
- curable adhesives-mastics,
- sealing products,
- sound deadening products.

**2. PRINCIPLE**

The tendency of adhesives and mastics to flow is characterised by the displacement of a block from the sample placed on a gradient plane.

**3. EQUIPMENT****3.1. STABILISED CONDITIONED ENCLOSURE**

at 23°C ± 2°C and 50% ± 5% relative humidity.

**3.2. VENTILATED OVEN**

(temperature adjustable up to 250°C to within 2°C).

**3.3. FIXTURE**

providing a gradient of 60° in relation to the horizontal plane. Another gradient may be used if there are particular specifications mentioned in the documents.

**3.4. WASHERS FROM GLYCOL POLYTEREPHTHALATE film**

(type "MYLAR") 22 millimetre diameter, thickness in the region of 0,1 millimetre.

**3.5. EQUIPMENT FOR DEPOSITING BLOCKS OF SAMPLE**

(see appendix 1).

**3.6. RULE****3.7. SPATULA.**

### 3.8. SUPPORTS

150 mm long and approximately 50 mm wide defined in the documents.

For steel sheet supports, when there is no indication, use either a ZES de-greased and re-greased steel sheet according to test method D59 1160 DA/RA or a ZES steel sheet coated with electro-deposited paint by cationic method (for example : CORONA ED 3002 type), stoving 17 minutes at 200°C in accordance with test method D55 1171 (applications on intermediate paints).

## 4. PREPARATION OF TEST SPECIMENS

Condition the product in the enclosure (3.1.) for 16 hours.

### 4.1. PROCESS A

- Homogenise the product using the spatula (3.7.) immediately before the test sampling.

### 4.2. PROCESS B

- Take the product directly from the outlet of the flowmeter defined in test method D55 1089.

**Note :** *For products requiring mixing of several components, this is carried out with a spatula for one minute and the test shall begin 5 minutes after starting the mixing.*

## 5. METHOD OF OPERATION

- The test is carried out in the conditioned enclosure (3.1.).
- Set the graduation of the pelletising device (3.5.) to obtain the desired thickness of the block to be deposited, i.e. 4 mm for adhesives and 12 mm for mastics.
- Turn the equipment over and place a washer (3.4.) at the bottom of the cavity formed by the withdrawal of the piston.
- Fill with the product to be tested and level it, taking care to keep the body of the syringe butting against the lower platen.
- In a period of time less than or equal to 15 minutes, place the equipment at one end of the support (3.8.) located on a horizontal plane.
- Lift the syringe until there is contact with the flange of the piston; apply more pressure in order to slightly raise it so that the block is completely clear from the equipment.
- Remove the equipment (3.5.).
- Locate the position at the edge of the block as shown in appendix 2.
- 30 s  $\pm$  2 s after depositing the block, place the test specimen on the fixture (3.3.) in the thermostatically controlled enclosure at 23°C so that the block is at the top of the gradient plane. The fixture must be raised to the enclosure temperature.
- The test specimen is left in this position for 30 minutes.
- Mark the new position of the edge of the block as shown in appendix 2.
- Place the fixture and the test specimen in the oven (3.2.) at the temperature and duration specified in the documents.
- Remove the test specimen from the oven and mark the position of the edge of the block as shown in appendix 2.
- Measure with the rule (3.6.) lengths L and L' (see appendix 2).

## 6. CALCULATION AND EXPRESSION OF RESULTS

The flow and/or sliding (displacement of the block without noticeable deformation) are characterised.

- at ambient temperature by length L in millimetres,
- after stoving by length L' in millimetres.

**Note :** *Regardless of the shape assumed by the block at the end of the different phases of the test, the length recorded at a perpendicular to the top of the block shall be taken as a reference (see appendix 2).*

For fluid products with a flow exceeding 120 mm in 30 minutes, the time required for exceeding this limit shall be indicated.

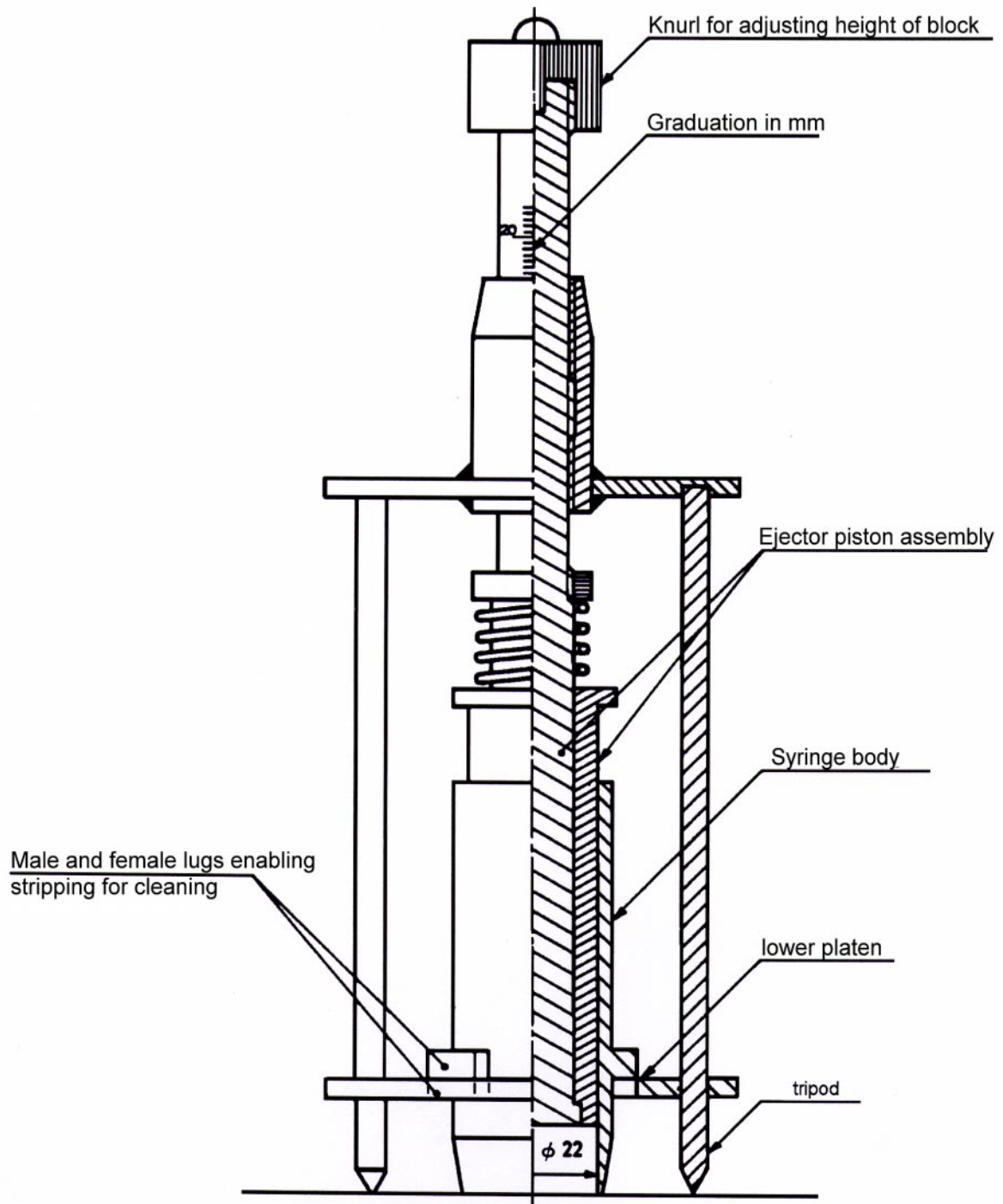
## 7. TEST REPORT

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

- the reference to this méthode,
- the method of sampling the product (processes A or B),
- the thickness used for the block (4 or 12 mm),
- the support used,
- the gradient if it differs from 60° in relation to the horizontal plane,
- the stoving temperature and time,
- the number of tests carried out,
- the average displacements obtained and their type : flowing, sliding, mixed,
- the operating details not specified in the method as well as any incidents which may have affected the results such as, for example, decantation of the fill, etc.

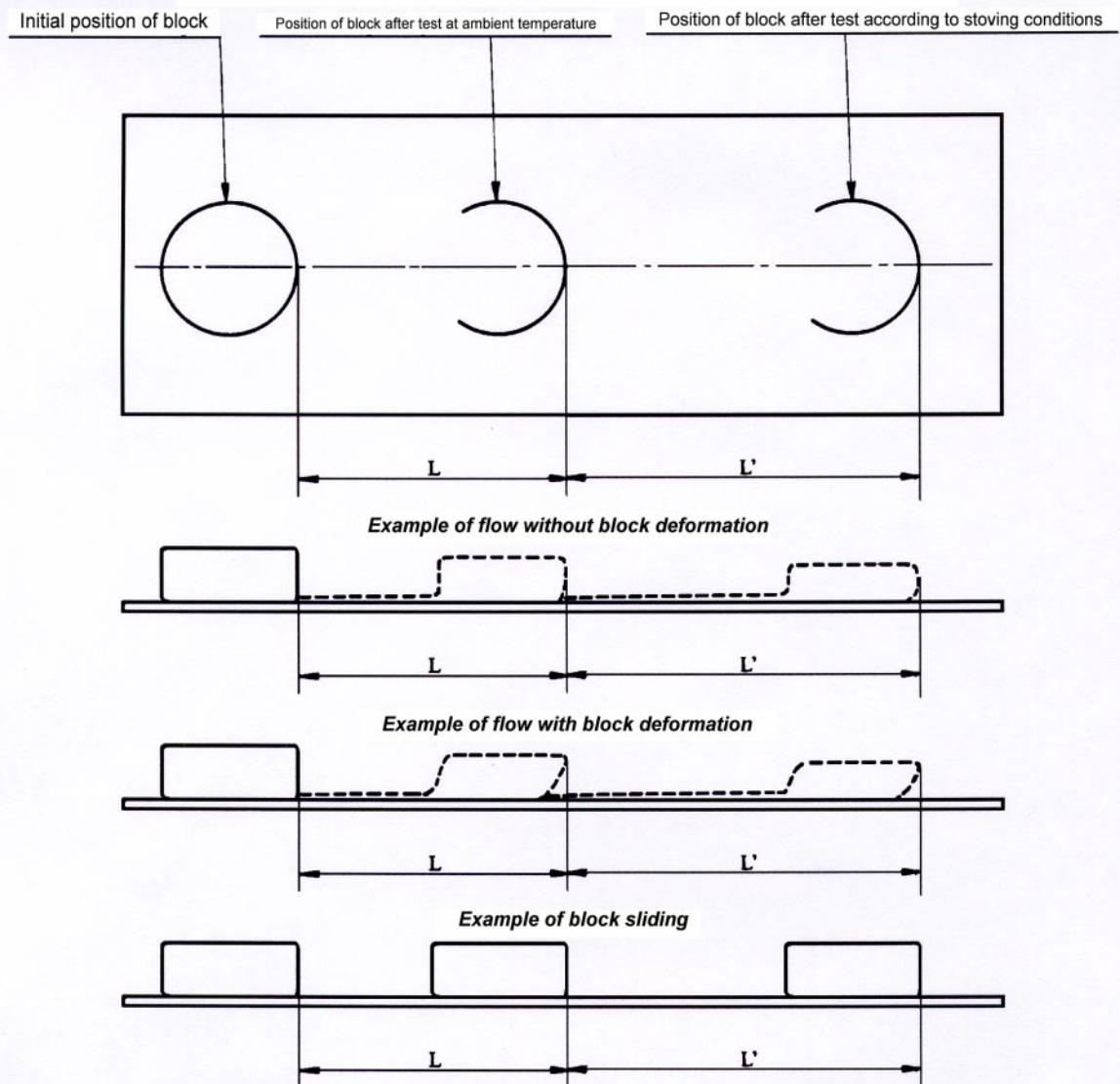
## Appendix 1

## EQUIPMENT FOR PRODUCING TEST BLOCKS (full size)



## Appendix 2

## MARKING OF THE BLOCK DISPLACEMENTS ON THE TEST PLATE



**Note :** The marks must be made outside the block trajectory

## 8. RECORDS AND REFERENCE DOCUMENTS

### 8.1. RECORDS

#### 8.1.1. CREATION

OR : 01/01/1982 – CREATION OF THE NORME

#### 8.1.2. SUBJECT OF THE MODIFICATION

- A : 01/10/1984 – COMPLETE REWRITE OF THE NORME.
- B : 03/12/1996 – INTRODUCED INTO IDEM (*French only*).

### 8.2. REFERENCE DOCUMENTS

#### 8.2.1. PSA DOCUMENTS

D55 1089, D55 1171, D59 1160.

##### 8.2.1.1 Normes

##### 8.2.1.2. Others

#### 8.2.2. EXTERNAL DOCUMENTS

### 8.3. EQUIVALENT TO :

REN1107

### 8.4. CONFORMS TO :

### 8.5. KEY-WORDS