

**VISCOSITY OF ADHESIVES AND SEALERS  
(MOBILOMETER METHOD)****Application**

This procedure describes the method used to measure the viscosity of adhesives and sealers of the medium consistency type, i.e. in the range 50,000 - 200,000 MPa's. This method is applicable to both the solvent release and solvent free materials, in either the as received or aged condition.

**Apparatus Required**

1. **Mobilometer** - See Figures 1 and 2

Sources:           Gardner Laboratory, Inc.           Elconometer Instr. Ltd.  
                      Bethesda 14, MD USA           Farfield Road  
                                                                                  Droylsden  
                                                                                  Manchester, England

Firma Erichsen  
5870 Hemer Sundwig  
Westfalen, Germany

The Mobilometer consists of a cylinder (A) which holds the material under test and a hole disc (B) with guide-rod (C) and weight platform (D).

The hole disc is interchangeable, and contains either 4 holes or 51 holes.

The total weight of the disc (B), guide-rod (C), and weight platform (D) is 100 g.

If the viscosity of the material under test or the relevant Engineering Material Specification requires it, additional weights may be added to the weight platform.

2. **Stopwatch**

3. **Level**

4. **Weights**

50 g, 100 g, 200 g

5. **Laboratory Forced Air Circulation Oven**

Capable of maintaining temperatures up to 60 +/- 2 °C.

| Date       | Action  | Revisions                                  |
|------------|---------|--------------------------------------------|
| 2000 11 13 | Revised | Editorial – no technical change A. Cockman |
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**Preparation of Test Material**

1. **Viscosity as Received**

Condition the sample for 24 hours at 23 +/- 2 °C, to determine the viscosity at this temperature, as prescribed under Procedure below.

2. **Viscosity after Ageing**

Fill a container (a 1 liter can with press lid) three quarters full with the material under test, ensuring that the lid is tightly closed.

Condition the material for 336 hours at the following ageing temperatures, and an additional 24 hours at 23 +/- 2 °C. Viscosity is then determined at 23 +/- 2 °C.

**Ageing Temperatures**

Solvent Release Material 50 +/- 2 °C

Solvent Free Material 30 +/- 2 °C

**Procedure**

1. Fill cylinder (A) to a depth of approximately 200 mm with the material under test (instrument must be level).
2. Assemble the disc (B), guide-rod (C) and weight platform (D) and introduce the disc into the cylinder just below the uppermost level of the sample. Selection of the correct disc and additional weights must be as required by the relevant Engineering Materials Specification. The guide rod must be free of any adhering test material which would hinder it in its travel through the guide support (E).
3. Start the guide rod by releasing the support screw, start the stopwatch and observe the time taken by the rod (with disc and weight platform) to fall through 100 mm.

**Evaluation**

The test report should include:

1. Viscosity in seconds as received or after ageing (i.e. time taken by the guide-rod to fall through 100 mm).
2. Disc used (number of holes).
3. Additional weights used.

Chemicals, materials, parts, and equipment referenced in this document must be used and handled properly. Each party is responsible for determining proper use and handling in its facilities.