

Standard Methods of Test for

VISCOSITY AND TOTAL SOLIDS CONTENT OF RUBBER CEMENTS¹



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This Standard of the American Society for Testing Materials is issued under the fixed designation D 553; the final number indicates the year of original adoption as standard or, in the case of revision, the year of last revision.

Scope

1. These methods of test cover procedures for determining the viscosity and total solids content of rubber cements containing organic solvents as differentiated from latex cements or dispersions of rubber in water.

TOTAL SOLIDS

Procedure

2. Approximately 10 g. of the sample shall be poured into a low-form weighing bottle, covered, and weighed. After removing the cover, heat shall be applied at 70 C. until the sample reaches constant weight. The sample shall then be cooled in a desiccator and weighed.

Calculations

3. The percentage of total solids shall be calculated as follows:

$$\text{Total solids, per cent} = \frac{\text{wt. of residue}}{\text{wt. of sample}} \times 100$$

¹ Under the standardization procedure of the Society, these methods are under the jurisdiction of the A.S.T.M. Committee D-11 on Rubber and Rubber-Like Materials.

² Prior to adoption as standard, these methods were published as tentative from 1939 to 1942.

VISCOSITY

Viscosity Tests

4. The following alternate procedures for determining viscosity are included:

Funnel Method.—This method gives closely duplicable results but is limited in use to those cements having viscosities which permit sufficiently rapid flow through the funnel to avoid excessive loss of solvent.

Falling Cylinder Method.—This method is adapted to rubber cements having a wider range of viscosities and offers some advantages in control testing due to ease of manipulation.

Funnel Method

Apparatus

5. The funnel type viscosimeter shall be constructed as shown in Fig. 1.

Procedure

6. The tests shall be made at 77 ± 3.6 F. (25 ± 2 C.). Both the sample of cement to be tested and the apparatus