

AMERICAN SOCIETY FOR TESTING AND MATERIALS

1916 Race St., Philadelphia, Pa. 19103

Standard Method of Test for FLOW PROPERTIES OF ADHESIVES¹



ASTM Designation: D 2183 - 69

This Standard of the American Society for Testing and Materials is issued under the fixed designation D 2183; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval.

Scope

1. This method covers the determination of the flow properties of adhesives under prescribed heating or curing conditions. The method is intended for adhesives that are used in the form of a film and adhesives that are applied as a liquid, but are dried to a relatively tack-free state prior to assembly of the adherends and curing or setting of the adhesive. In this method flow is calculated from a determination of the weight of adhesive flowing from a given area of the adhesive film during curing or setting.

Significance

2. (a) The flow test provides reasonably accurate information with regard to the flow of an adhesive during cure or setting under pressure. This information is useful for determining pressure requirements for optimum bond thickness. It can also be used to determine

advancement of cure during shelf aging of an adhesive.

(b) Flow test data may be suitable for manufacturing control, specification acceptance, research, and development.

Apparatus

3. (a) *Analytical Balance* with accuracy to ± 0.001 g.

(b) *Desiccator*, with drying agent and tray.

(c) *Oven, Constant-Temperature*, with mechanical air circulation capable of maintaining a temperature range from 25 to 250 C (77 to 482 F) with an accuracy of ± 2 C (± 3.6 F).

(d) *Thermocouple, Iron-Constantan* with potentiometer or other suitable temperature-indicating instrument.

(e) *Cutting Dies Circular*.—Three dies are required, two with diameters of 34.9 ± 0.25 mm (1.375 ± 0.010 in.) and 40.53 ± 0.05 mm (1.596 ± 0.002 in.), respectively, for cutting flow test specimens, and one with a diameter of 50.8 ± 0.25 mm (2.000 ± 0.010 in.) for cutting cellophane or other suitable parting film.

(f) *Flow Test Fixture*.—Apparatus

¹ Under the standardization procedure of the Society, this method is under the jurisdiction of the ASTM Committee D-14 on Adhesives. A list of members may be found in the ASTM Year Book.

Current edition effective May 8, 1969. Originally issued 1963. Replaces D 2183 - 63 T.