

JIS

JAPANESE INDUSTRIAL STANDARD

Testing Methods for Melt
Viscosity of Hot-melt
Adhesives

JIS K 6862—1984

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JAPANESE INDUSTRIAL STANDARD

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Testing Methods for Melt Viscosity of
Hot-melt Adhesives

K 6862-1984

1. Scope

This Japanese Industrial standard specifies the testing method for melt viscosity of the hot-melt adhesives, hereinafter referred to as the "adhesive".

Remarks 1. This standard specifies the measuring method of melt viscosity of adhesives at the test temperature of 180°C (This method determines the apparent viscosity, hereinafter referred to as the "viscosity") by means of Brookfield type single cylinder rotational viscometers and double cylinder rotational viscometers, hereinafter referred to as the "viscometer". In this case, the test temperature other than the above may be used according to the agreement between the parties concerned.

Further, the viscosity measurable by this method shall be restrained up to 200 Pa.s {200 000 cP}.

2. This standard specifies the following two methods according to the sample quantity required.

Method A: The quantity required for one time of test is about 200 ml or 500 ml and the single cylinder rotational viscometer is used.

Method B: The quantity required for one time of test is about 10 ml and the double cylinder rotational viscometer is used.

3. The units and numerical values given in { } in this standard are in accordance with the conventional units and are appended for reference.

2. Definitions

For the purpose of this standard, the following definition applies. Other definitions are given in JIS K 6900.

hot melt adhesives

Thermoplastic adhesives which are applied in melt condition to the surface of object to be adhered and solidified by cooling and thus the joint in solid state is completed.

Applicable Standards, Corresponding International Standard and Reference Standards: See page 11.

3. Conditioning of Samples and Temperature and Humidity of Laboratory

The conditioning of samples and the temperature and humidity of laboratories shall be as follows:

- (1) The samples shall, in general, be conditioned prior to the test for 12 h or more under the standard temperature condition Grade 3 and standard humidity condition Grade 3 (temperature $23 \pm 5^{\circ}\text{C}$ and relative humidity $50 \pm 20 - 10$ %) specified in JIS K 7100.

Remark: When it is known that the duration of sample conditioning does not affect the test results, the period of time other than the above may be used according to the agreement between the parties concerned. In this case, the period of time shall be reported.

- (2) The test shall, in general, be conducted in a room with the same temperature and humidity (temperature $23 \pm 5^{\circ}\text{C}$ and relative humidity $50 \pm 20 - 10$ %), as in (1).

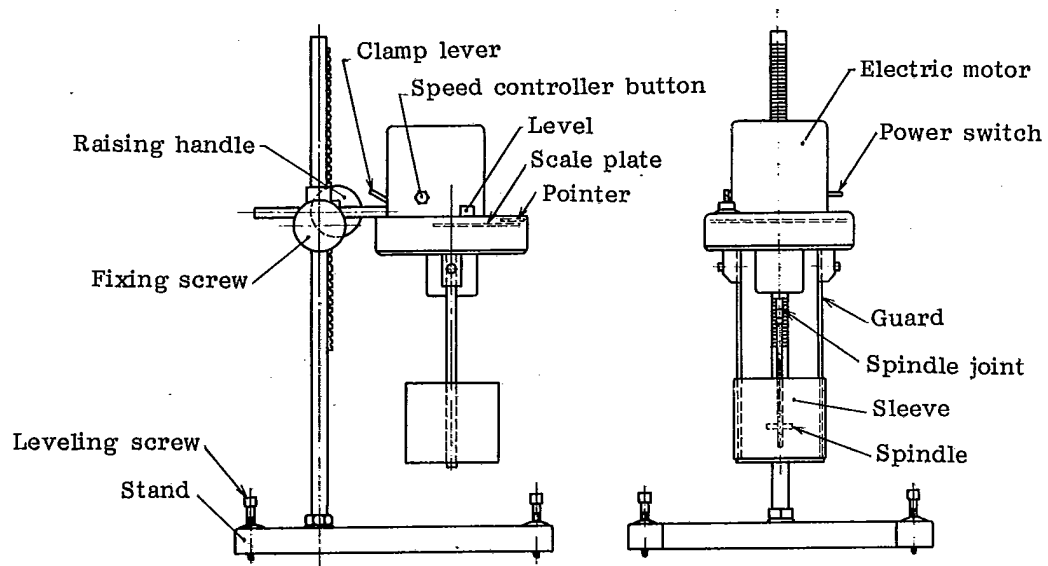
4. Test Apparatus and Devices

The test apparatus and devices shall be as follows:

- (1) Viscometers The viscometer shall be so constructed that the spindle is rotated in melt sample by an electric motor and the torque caused by viscosity is measured by a spring balance. An example of viscometer is shown in Fig. 1 and the shapes and dimensions of spindles are shown in Figs. 2 to 6 and the relations of speed of rotation, spindle number and upper limit of viscosity in Table 1.

Fig. 1. An Example of Viscometer

(a) Method A



(b) Method B

