

MT 172.1 Flowability of Granular Preparations after Accelerated Storage under Pressure

SCOPE

The method is suitable for assessing the flowability of granular preparations after accelerated storage under pressure.

OUTLINE OF METHOD

After the accelerated storage test according to MT 46, the amount of granules remaining on a sieve is determined without any mechanical disturbance, and afterwards with a standardized tapping.

APPARATUS

Beaker 250 ml, 6 to 6.5 cm internal diameter

Metal disc plastic coated; loosely fitting in the beaker, and of such dimensions that an even pressure of 25 g/cm² can be produced on the surface of the sample in the beaker

Oven flameproof and thermostatically maintained at the required temperature (± 2 °C)

Balance sensitive to 0.1 g with a precision of ± 0.05 g

Desiccator without desiccant

Sieve apparatus assembled from the following as shown in Fig. 52, MT 170

Test sieve – a standard sieve of 20 cm diameter and of 5 mm mesh size (ISO 565, DIN 4188, BS 410) or 4.75 mm mesh size (ASTM E 11)

Receiver pan with lid

Three retort stands

Three socket fittings

Three metal rods with diameter of about 1 cm and length of about 10 cm

Hand-rubber sheet, size min. 20 x 20 cm (Note 1)

PROCEDURE

Put the sample (about 50 g) in the beaker and spread it, without applying pressure, in a smooth even layer of constant thickness. Place the metal disc on the surface of the sample in the beaker and put the beaker in an oven at the specified temperature and for the defined period of time. After storage, remove the beaker from the oven, take out the disc, put the beaker in a desiccator without any desiccant and allow it to cool to room temperature.

Put the sieve (5 mm mesh size) above the receiver pan into the sieve assembly according to Fig. 52, MT 170.

MISCELLANEOUS TECHNIQUES AND IMPURITIES

Transfer the sample carefully on to the sieve and then fit the lid. Lift the assembly of sieve, lid and pan by hand until the lid touches the lower surface of the metal rods. Allow the sieve assembly to fall freely for 1 cm on to the hard-rubber sheet.

REPORTING

Report whether the sample drops through the sieve spontaneously, if not, report the quantity of the sample which remains on the sieve after 5 and 20 liftings.

Note 1: The rubber sheet shall have a BS hardness of 35 to 40. See ISO 48 Rubber Test Standard: Rubber, vulcanized or thermoplastic - Determination of hardness (hardness between 10 IRHD and 100 IRHD), see also BS 903 - A26: 1995