

DETERMINATION OF VISCOSITY OF PAINT

Application

This procedure is used to determine the viscosity of paint by means of a Ford Viscosity Cup No. 2, 3, or 4. The appropriate cup is used so that the resulting viscosity falls between 20 - 80 seconds.

Apparatus Required

Ford Viscosity Cup

A Ford Viscosity Cup according to ASTM D 1200 with a number 2, 3, or 4 orifice is required for the test as indicated in the relevant Engineering Materials Specification. The Ford Viscosity Cup must be ordered calibrated at a fixed calibration temperature.

Paint Mixer

A Red Devil No. 3 paint mixer, or equivalent, is required to adequately mix the paint sample prior to the test.

Water Bath - temperature controlled

Plastic Cups - 200 ml capacity

Spatula- straight edged

Stop Watch - graduated for 0.2 sec maximum

Thermometer

Type ASTM 17C, range 19 - 27 °C, graduated in 0.1 °C.

Procedure

1. Agitate a representative sample of the paint in the paint mixer for a minimum of 10 minutes and pour approximately 150 ml into the paper cup.
2. Place the paper cup in the water bath until the paint sample reaches the test temperature. The test temperature must be 25 +/- 0.2 °C unless otherwise specified.

Date	Action	Revisions
2001 03 14	Revised	Editorial – no technical change A. Cockman
1989 08 11		

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3. Place a finger under the orifice of the Ford Cup (cup should be at temperature of 25 °C) and pour in paint sample until it overflows into the annular ring.
4. Allow any air bubbles to rise to the surface, then level off paint sample with the spatula until paint is even with the top of the cup.
5. Simultaneously remove the finger from the orifice and start the timer.
6. Place the thermometer in the efflux stream. Temperature must be 25 +/-0.2 °C, unless otherwise specified.
7. At the first evidence of a break in the stream of paint leaving the orifice, stop the timer.

Evaluation

Report the viscosity to the nearest 0.2 second, Ford Viscosity Cup No. 2, 3, or 4.

Note: All viscosity determinations should be made in a room free from drafts and rapid temperature changes.

Following each test, clean the orifice and cup by means of a suitable solvent and a soft brush. Do not use metal tools. Avoid any film deposits or nicks on inside wall of cup.

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.