

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 307

PLASTICS

DETERMINATION OF THE VISCOSITY NUMBER OF POLYAMIDES IN DILUTE SOLUTION

1st EDITION

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BRIEF HISTORY

The ISO Recommendation R 307, *Determination of the Viscosity Number of Polyamides in Dilute Solution*, was drawn up by Technical Committee ISO/TC 61, *Plastics*, the Secretariat of which is held by the American Standards Association, Inc. (ASA).

Work on this question by the Technical Committee began in 1956 and led, in 1959, to the adoption of a Draft ISO Recommendation.

In October 1960, this Draft ISO Recommendation (No. 381) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies:

Australia	India	Romania
Austria	Israel	Spain
Belgium	Italy	Sweden
Chile	Japan	Switzerland
Czechoslovakia	Netherlands	Turkey
Germany	New Zealand	United Kingdom
Hungary	Poland	U.S.A.
		U.S.S.R.

One Member Body opposed the approval of the Draft:

France.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in May 1963, to accept it as an ISO RECOMMENDATION.

PLASTICS

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1. SCOPE

- 1.1 This method of test is designed to determine the viscosity number (see Appendix A, page 8) of a solution in formic acid or metacresol of polyamides. The method applies only to those resins that give stable solutions and reproducible results under the conditions of test described below. The times of flow of the solvent and of a solution containing 0.005 g/ml of polyamide are measured at 25 °C by conventional methods, and the viscosity number is calculated from these measurements and from the known concentration of the solution. Density and kinetic energy corrections are small in this method and are not applied.
- 1.2 If monomer * is known to be present in the sample, the amount should be determined by the relevant ISO method ** and reported. The presence of monomer affects considerably the determination of viscosity number of certain types of polyamides. If the sample contains an additive or a filler, which would affect the viscosity measurement, it should be removed by a procedure agreed between the contracting parties.
- 1.3 This method is meant to give an insight into the molecular structure of polyamides and for the purpose of comparing different types. For control purposes in the manufacture of polyamides or for specifications, viscosity is normally determined in concentrated solution in accordance with the relevant ISO Recommendation.***

* In this text, monomer is understood as "monomer and low molecular mass polymer" of the relevant ISO Recommendation (see below **).

** ISO Recommendation under preparation, *Plastics—Determination of the Percentage of Monomer and Low Molecular Weight Polymer in Polyamide Resins*, at present Draft ISO Recommendation No. 512.

*** ISO Recommendation under preparation, *Plastics—Determination of the "Relative Viscosity" of Polyamide Resins in Concentrated Solution*, at present Draft ISO Recommendation No. 513.