



ISO 1628-1

**Plastics — Determination of
the viscosity of polymers in
dilute solution using capillary
viscometers —**

**Part 1:
General principles**

*Plastiques — Détermination de la viscosité des polymères en
solution diluée à l'aide de viscosimètres à capillaires —*

Partie 1: Principes généraux

**Fifth edition
2024-12**



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This fifth edition cancels and replaces the fourth edition (ISO 1628-1:2021), which has been technically revised.

The main changes are as follows:

- an introduction section has been added in relation to the new procedure;
- the calculation of K-value was moved to [9.2](#);
- an alternative procedure has been incorporated, the differential pressure method (see [4.3](#)), based on comparing the differential pressure in capillary tubing due to the flow of polymer solution and neat solvent simultaneously.

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Two methods are described in this document to determine the viscosity of polymer solutions, the efflux time method and the differential pressure method. The results of both methods are equivalent. Differences may be found due to different conditions for the determination, such as concentration, solvent or shear rate.

The differential pressure method which has been incorporated in this document has the important advantage for industry that it is more easily adapted to automation, leading to improved efficiency, higher throughput, and enhanced safety for the operator. The new added method can help in the reduction of solvents use due to the lower requirement for washing of the capillaries.

Another advantage of the new alternative differential pressure method is that it can be integrated within existing polymer characterization workflows, as part of existing or new polymer analysis instrumental setups.