
**Petroleum products — Determination of
dropping point of lubricating greases (wide
temperature range)**

*Produits pétroliers — Détermination du point de goutte des graisses
lubrifiantes (domaine de température étendu)*



Foreword

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International Standard ISO 6299 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*.

Annex A forms and integral part of this International Standard. Annex B is for information only.

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Petroleum products — Determination of dropping point of lubricating greases (wide temperature range)

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1 Scope

This International Standard specifies a method for the determination of the dropping point of lubricating grease over a wide temperature range.

NOTES

- 1 The dropping point is useful as an aid to identification of lubricating grease as to type, and as a bench mark for quality control. The results should be considered to have only limited significance with respect to service performance because dropping point is a static test.
- 2 Cooperative testing indicates that, in general, dropping points determined according to this International Standard and to ISO 2176 are in agreement up to 260 °C. In cases where results differ, there is no known significance. However, agreement between the manufacturer and purchaser as to the test method used is advisable.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 4259:1992, *Petroleum products — Determination and application of precision data in relation to methods of test*.

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 dropping point: Numerical value assigned to a grease composition representing the corrected temperature at which the first drop of material falls from the test cup and reaches the bottom of the test tube

3.2 lubricating grease: Semi-fluid to solid product of a dispersion of a thickener in a liquid lubricant

3.3 observed dropping point: Value noted on the thermometer monitoring the internal temperature of the test cup when the first drop of material falls from the test cup and reaches the bottom of the test tube

3.4 thickener: In lubricating grease, a substance composed of finely-divided particles dispersed in a liquid lubricant to form the structure of the product

4 Principle

A grease sample in a test cup is supported in a test tube placed in an aluminium block oven at a pre-set constant temperature. A sample thermometer is placed in the tube and positioned so that it measures the temperature in the test cup without coming into contact with the grease. The reading on the thermometer is recorded to the nearest 1 °C as the observed dropping point when the temperature is increased sufficiently for a drop of material to fall from the test cup to the bottom of the test tube. At the same time, the temperature of the aluminium block oven is also recorded to the nearest 1 °C. One-third of the difference between the two values is the correction factor which is added to the observed value and recorded as the dropping point of the grease.

5 Apparatus and accessories

5.1 Dropping point assembly, illustrated in figure 1 and consisting of the following parts:

5.1.1 Test cup, of chromium-plated brass, conforming to the dimensions given in A, of figure 1.

5.1.2 Test tube, of thin-walled soft glass with rim, having the dimensions given in B of figure 1.

5.1.3 Cup support, of glass tubing as shown in C of figure 1.

5.1.4 Thermometer, conforming to the specified requirements of annex A, and shown in D of figure 1.

5.2 Thermometer clamp, as shown in E-1 of figure 1.

5.3 Bushings, as shown in E-2 and E-3 of figure 1.

5.4 Bushing support ring, as shown in E-4 of figure 1.

5.5 Thermometer depth gauge, as shown in E-5 of figure 1.

5.6 Metal rod, as shown in E-6 of figure 1.

5.7 Test cup plug gauge, as shown in E-7 of figure 1.

5.8 Aluminium block oven, of 700 W output and of the design and dimensions shown in figure 2. The block shall be equipped with an integral cartridge-type heater. Control of the heater shall be used to obtain and maintain the desired oven temperature.

5.9 Thermometer for aluminium block oven, as shown in F of figure 1.