



Standard Test Method for Determination of the Pour Point of Petroleum Oil Used in Fatliquors and Softening Compounds¹

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1. Scope

1.1 This test method covers the determination of the pour point of petroleum oils used in the softening and stuffing of leather, and in the manufacture of fatliquors and other softening and stuffing compounds. This test method was derived from Test Method D97 and ALCA Method H-18.

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

D97 Test Method for Pour Point of Petroleum Products

E1 Specification for ASTM Liquid-in-Glass Thermometers

2.2 Other Document:

ALCA Method H-18 Cloud and Pour Point³

3. Significance and Use

3.1 This test method is intended to determine the pour point of petroleum oils used in the softening and stuffing of leather, as well as those used in the manufacture of products for such purpose. The pour point of petroleum oils is measured for the purpose of quality assurance.

4. Apparatus (see Fig. 1)

4.1 *Test Jar*, clear cylindrical glass, flat bottom, 30 to 33.5-mm inside diameter, and 115 to 125-mm height. To

indicate sample height the jar should be marked with a line 54 ± 3 mm above the inside bottom.

4.2 *Thermometers*, having ranges shown below and conforming to the requirements prescribed in Specification E1 for thermometers:

Thermometer	Temperature Range	Thermometer Number	
		ASTM	IP
High cloud and pour	-38 to +50°C	5C	1C
Low cloud and pour	-80 to +20°C	6C	2C
Melting point	+32 to +127°C	61C	63C

4.2.1 Since separation of liquid column thermometers occasionally occurs and may escape detection, thermometers should be checked immediately prior to the test and used only if they prove accurate within $\pm 1^\circ\text{C}$ (for example ice point).

4.3 *Cork*, to fit the test jar, bored centrally for the test thermometer.

4.4 *Jacket*, metal or glass, watertight, cylindrical, flat bottom, 115 mm in depth, 42 to 50 mm inside diameter. It must be supported firmly in a vertical position in the cooling bath of 4.7 so that not more than 25 mm projects out of the cooling medium.

4.5 *Disk*, cork or felt, 6 mm thick to fit loosely inside the jacket.

4.6 *Gasket*, to fit snugly around the outside of the test jar and loosely inside the jacket. The gasket may be made of rubber, leather, or other material that is elastic enough to cling to the test jar and hard enough to hold its shape. Its purpose is to prevent the test jar from touching the jacket.

4.7 *Bath or Baths*, maintained at prescribed temperatures with a firm support to hold the jacket vertical. The required bath temperatures may be obtained by refrigeration if available, otherwise by suitable freezing mixtures. Freezing mixtures commonly used for temperatures down to those shown are as follows:

	For Temperatures Down
Ice and water	9°C
Crushed ice and sodium chloride crystals	-12°C
Crushed ice and calcium chloride crystals	-27°C
Acetone or petroleum naphtha (see Section 5) chilled in a covered metal beaker with an ice-salt mixture to -12°C then with enough solid carbon dioxide to give the desired temperature.	-57°C

¹ This test method is under the jurisdiction of ASTM Committee D31 on Leather and is the direct responsibility of Subcommittee D31.08 on Fats and Oils.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from American Leather Chemists Assn., Texas Tech University, P.O. Box 45300, Lubbock, TX 79409..