



Designation: D 216 – 77 (Reapproved 1982)

An American National Standard
British Standard 4717



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Standard Method for DISTILLATION OF NATURAL GASOLINE¹

This standard is issued under the fixed designation D 216; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. This is also a standard of the Institute of Petroleum issued under the fixed designation IP 191. The final number indicates the year of last revision.

This method was issued as a joint ASTM – IP standard in 1965.

This method has been adopted for use by government agencies to replace Method 1015 of Federal Test Method Standard No. 791b.

1. Scope

1.1 This method covers the distillation of natural gasoline.

NOTE 1—The values stated in inch-pound units are to be regarded as the standard.

2. Applicable Documents

2.1 *ASTM Standards:*

- E 1 Specification for ASTM Thermometer²
- E 133 Specification for Distillation Equipment²

3. Summary of Method

3.1 A sample of 100 ml is distilled at atmospheric pressure without fractionation, and readings are taken of the vapor temperatures corresponding to the amounts distilled.

4. Significance

4.1 Natural gasoline is so volatile that it must be handled, measured, condensed, and recovered at lower temperatures than most petroleum products. This method incorporates handling and other precautions for precision.

4.2 An indication of the volatility blending characteristics that a natural gasoline will exhibit when blended with refinery stocks to make a finished gasoline is obtained from the results of this type of distillation.

5. Apparatus

5.1 The apparatus listed in the following, 5.1.1 through 5.1.5, shall conform to Specifi-

cation E 133.

5.1.1 *Flask*—Standard 100-ml distillation flask.

5.1.2 *Condenser and Cooling Bath.*

5.1.3 *Shield*, Type 1 or 2.

5.1.4 *Flask Support*, Type 1 or 2 with board Type A.

5.1.5 *Graduated Cylinder*, 100-ml.

5.1.6 *Gas Burner*—A burner so constructed that heat can be obtained to distill the product at the rate specified. The flame shall never be so large that it spreads over a circle of diameter greater than 4½ in. (115 mm) on the under surface of the asbestos board. A sensitive regulating valve and gas pressure governor are desirable adjuncts, as they give complete control of heating.

5.1.7 *Electric Heater*—An electric heater may be used instead of the gas burner and shall be capable of bringing over the first drop within the time specified in 8.1 when started cold, and of continuing the distillation at a uniform rate. (A heater unit of low-heat capacity, adjustable from 0 to 750 W, has been found satisfactory). When an electric heater is employed, the portion of the shield above the

¹ This method is under the jurisdiction of ASTM Committee D-2 on Petroleum Products and Lubricants.

In the IP, this method is under the jurisdiction of the Standardization Committee.

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² *Annual Book of ASTM Standards*, Vols 05.03 and 14.01.

³ *Annual Book of ASTM Standards*, Vols 05.03 and 14.02.