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Standard Test Method for LIGHTABILITY OF BARBECUE BRIQUETS¹

This standard is issued under the fixed designation D 2677; 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. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

The committee responsible for this standard has voted its withdrawal. In the absence of substantial reasons that it should be continued, the Society will approve withdrawal from publication in September 1986.

[†] NOTE—Section 2 was added editorially and subsequent sections renumbered in June 1985.

1. Scope

1.1 This test method covers the determination of the lightability properties of pillow-shaped barbecue briquets. It is an empirical method that determines the length of time required to conduct heat from a glowing hot briquet placed on top of a stack of three similar briquets to the bottom of the stack.

2. Applicable Document

2.1 ASTM Standard:

D 3174 Test Method for Ash in the Analysis Sample of Coal and Coke from Coal²

3. Apparatus

3.1 *Furnace*—The test apparatus shall be constructed as shown in Fig. 1. It shall consist of a modified stack-type furnace, assembled from three cylindrical sections. The top and bottom sections shall be fabricated from light-gage metal,³ while the middle section shall be made from borosilicate glass.⁴

3.2 *Briquet Support*—The briquet support shall be constructed as detailed in Fig. 2.

3.3 *Thermocouple Assembly*—Use a 30 B & S gage iron-constantan thermocouple with self leads or compensating leads with a suitable recording or indicating pyrometer. The range of this instrument should register temperatures up to 500°C (932°F) ($\pm 1\%$). The readability shall be 5°C (9°F).

3.4 *Drying Oven*—A suitable drying oven that can be operated at $107 \pm 3^\circ\text{C}$ ($225 \pm 5^\circ\text{F}$). See Test Method D 3174.

3.5 *Muffle Furnace*—A furnace that can be operated at 950°C (1742°F). See Test Method D 3174.

4. Test Specimens

4.1 Select at least four whole briquets that appear typical of the average quality of the lot being tested. Dry the briquets for 2 h in the forced-circulation oven preheated to $107 \pm 3^\circ\text{C}$ ($225 \pm 5^\circ\text{F}$). When dry, place the briquets in a desiccator. Store for at least 18 h at room temperature.

4.2 Immediately before testing, bore a hole with a (2.4 mm) $\frac{3}{32}$ -in. drill vertically through the center of each briquet.

NOTE 1—When drilling the briquets, use a wood block to back up the break-through of the drill. A slow-speed drill used with the minimum of pressure and frequently removed to keep the fines from compressing will minimize tendency of the briquets to split.

5. Procedure

5.1 Place three of the briquets on the support spindle. Holes should be loose enough so that

¹ This test method is under the jurisdiction of ASTM Committee D-5 on Coal and Coke and is the direct responsibility of Subcommittee D05.25 on Chemical and Physical Testing of Fuel Agglomerates Derived from Coal or Charcoal.

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² Annual Book of ASTM Standards, Vol 05.05.

³ One-half gallon cans, Freund Can Co., Stock No. 1822, have been found satisfactory for this purpose. The bottom is cut smoothly off one can to make the top section; another whole can comprises the bottom section.

⁴ The No. 330 clear globe from a Coleman 220-F lantern has been found satisfactory for this purpose.