

Standard Method of Test for

PENETRATION OF HARD RUBBER BY TYPE D DUROMETER¹



ASTM Designation: D 1484 - 59

ADOPTED, 1959.²

This Standard of the American Society for Testing Materials is issued under the fixed designation D 1484; the final number indicates the year of original adoption as standard or, in the case of revision, the year of last revision.

Scope

1. This method covers a procedure for determining the penetration of hard rubber by means of a durometer. When used in purchase specifications, suitable tolerances must be specified. For the purpose of this method, a durometer shall be defined as any instrument which conforms to the requirements given in Section 2.³

Apparatus

2. The durometer shall consist of the following components:

(a) *Presser Foot*.—A presser foot, pierced by a hole not greater than $\frac{1}{8}$ in. in diameter, the center of which shall be not closer than $\frac{1}{4}$ in. to the edge of the presser foot in any direction.

¹ Under the standardization procedure of the Society, this method is under the jurisdiction of the ASTM Committee D-11 on Rubber and Rubber-Like Materials, and is the direct responsibility of Subcommittee XXIII on Hard Rubber.

² Prior to adoption as standard, this method was published as tentative from 1957 to 1959.

³ A Shore Durometer, Type D, manufactured by the Shore Instrument & Mfg. Co., Inc., 20-25 Van Wyck Expressway, Jamaica 35, New York, N. Y., is suitable for this purpose.

(b) *Indentor Point*.—An indentor point of hardened carbon steel drill rod conforming to the shape and size shown in Fig. 1, and operating through the hole in the presser foot.

(c) *Indicating Device*.—An indicating dial or scale on which the amount of extension of the indentor point beyond the face of the presser foot may be read in terms of graduations ranging from zero for full extension to 100 for zero extension. The durometer shall read 100 to 102 when the indentor and presser foot are pressed down firmly on a flat piece of plate glass; at zero reading the indentor shall extend 0.100 in. $\pm$ 0.000 or $-$ 0.003 in. beyond the presser foot.

(d) *Calibrated Spring*.—A spring, within the instrument, forcing the indentor point to extend from the face of the presser foot as far as permitted by the rubber compound being tested. The characteristics and adjustment of the spring shall be such that, when the instrument is supported in an upright position with the indentor point resting on the center of one pan of a balance and weights added to the other pan, the