



ANSI/ASTM D 3216 - 78

Standard Test Method for GRADING COTTON CARD WEBS FOR APPEARANCE¹

This Standard is issued under the fixed designation D 3216; 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 reappraisal.

1. Scope

1. This method covers the grading of cotton card web on the basis of the number of neps present.

1.2 This method does not apply to card webs composed of fibers other than cotton, or blends of other fibers with cotton.

NOTE 1—For the measurement of the number of neps in cotton samples refer to Method D 1446.

2. Applicable Documents

2.1 *ASTM Standards:*

D 123 Definitions of Terms Relating to Textiles²

D 1440 Test for Length and Length Distribution of Cotton Fibers (Array Method)³

D 1446 Test for Number of Neps in Cotton Samples⁴

3. Definitions

3.1 *nep, n.*—one or more fibers occurring in a tangled and unorganized mass.

3.1.1 Neps are distinct from certain other imperfections found in cotton, including fibers still attached to parts of seeds. One of these imperfections is the “mote,” which consists of a whole undeveloped seed of any size or age, covered with fuzz and short fibers, certain of which bear mature lint fibers. Seed coat and mote fragments with lint or fuzz fibers attached are not neps. Large masses of curled and more-or-less loosely matted fibers found in raw cotton and in cotton in the opening and picking processes are sometimes called “naps.” True naps disappear during carding and subsequent processing and are not neps.

3.2 *cotton card web appearance, n.*—the visual effect obtained by viewing a sample of web produced by a card operating at normal production speed, placed on a black board of

designated size.

3.3 For definitions of other textile terms used in this method, refer to Definitions D 123.

4. Summary of Method

4.1 Specimens of a web are placed on a dark background, taking particular care to preserve the original condition of the web as it would be immediately after leaving the web detaching device on the card. The web specimens are compared with photographs of web representing five levels of web quality. The grade is based on the appearance and nep content of the specimens in comparison to the photographs.

5. Uses and Significance

5.1 Generally the presence of neps is considered undesirable in cotton. The cotton fiber mass per unit area in a card web is sufficiently low to allow easy observation of neps. The level of neps in the card web is considered an indicator of the quality of the carding operation.

5.1.1 Changes in the level of neps in the card web is generally taken as an indication of changes in cotton characteristics or the condition of carding machinery, or both, and will usually result in changes in the neppiness or roughness of the yarn subsequently produced.

5.1.2 The appearance of the card web produced by a carding machine at successive time

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² *Annual Book of ASTM Standards*, Parts 32 and 33.

³ *Annual Book of ASTM Standards*, Part 33.

⁴ Discontinued, see 1977 *Annual Book of ASTM Standards*, Part 33.