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DEPARTMENT OF COMMERCE

BUREAU OF STANDARDS  
George K. Burgess, Director

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UNITED STATES GOVERNMENT MASTER SPECIFICATION FOR  
BROWN WIDE COTTON SHEETING

FEDERAL SPECIFICATIONS BOARD SPECIFICATION No. 302

This specification was officially promulgated by the Federal Specifications Board on July 6, 1925, for the use of the Departments and Independent Establishments of the Government in the purchase of brown wide cotton sheeting.

[The latest date on which the technical and inspection requirements of this specification shall become mandatory for all Departments and Independent Establishments of the Government is October 6, 1925. They may be put into effect, however, at any earlier date, after promulgation]

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I. GRADE

The sheeting shall be of a grade commercially known as "firsts."

II. MATERIAL

The sheeting shall be made of cotton thoroughly cleaned and free from waste. It shall be evenly woven and free from an excessive number of avoidable imperfections of manufacture.

III. GENERAL REQUIREMENTS

The proposal shall state the width selected from any of the following widths as shown in Table 1.

TABLE 1.—Widths to be specifically stated in the proposal

Widths		Widths	
<i>Inches</i>	<i>Yards</i>	<i>Inches</i>	<i>Yards</i>
42	-----	72	8/4
45	5/4	81	9/4
50	-----	90	10/4
54	6/4	99	11/4
63	7/4		

## IV. DETAIL REQUIREMENTS

1. FINISH.—The material shall be unbleached.
2. WEAVE.—The weave shall be plain.
3. THREAD COUNT.—The thread count shall be as given in Table 3 within the tolerance specified. A variation in the individual sample of plus or minus two threads from the average will be permitted.
4. WIDTH.—The width shall be as stated in the proposal within a tolerance of plus or minus 1 per cent. A variation in the average in the individual sample will be permitted as shown in Table 2.

TABLE 2.—Width variations from average in the individual sample

Width	Variation	Width	Variation
<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>
42	1/4	72	1/2
45	1/4	81	1/2
50	1/4	90	5/8
54	3/8	99	5/8
63	3/8		

5. LENGTH OF CUT OR ROLL.—Single cuts of cloth delivered shall average from 50 to 60 yards and double cuts from 100 to 120 yards. No lengths under 40 yards will be accepted.

6. WEIGHT.—The minimum weight per square yard shall be as given in Table 3.

7. BREAKING STRENGTH (1 by 1 by 3 inch grab method).—The minimum breaking strength shall conform to the amounts specified in Table 3.

8. CONSTRUCTION TABLE.—

TABLE 3.—Construction

Type	Minimum weight per square yard	Minimum thread count		Minimum breaking strength 1 by 3 inch grab	
		Warp	Filling	Warp	Filling
High count.....	<i>Ounces</i> 4.6	<i>Per inch</i> 65	<i>Per inch</i> 66	<i>Pounds</i> 65	<i>Pounds</i> 65
Medium count.....	3.9	60	61	55	50

## V. METHOD OF INSPECTION AND TESTS

1. **SAMPLING.**—On a basis of each 2,000 yards (about 40 single cuts) or fraction thereof, samples 18 inches long by the width of the material shall be taken for test purposes, as desired by the purchaser.

2. **ATMOSPHERIC CONDITIONS.**—Tests may be made under prevailing atmospheric conditions except in the settlement of disputes where moisture is an influencing factor in tests for breaking strength, thread count, weight, width, length, etc. Such tests shall then be made upon material having normal moisture content obtained by exposure for at least four hours to an atmospheric condition of 65 per cent relative humidity at 70° F.

3. **BREAKING STRENGTH** (1 by 1 by 3 inch grab method).—Six test specimens 6 inches long by 4 inches wide shall be cut, three in the direction of the warp and three in the direction of the filling, respectively. Care shall be taken that no two test specimens include the same threads, except for retest as specified below. No sample for testing should be taken at less than 8 inches from either selvage.

The machine used shall be of the inclination balance type. The maximum capacity of the machine shall be 300 pounds. The lower or pulling jaw shall travel at a uniform rate of 12 inches per minute under no load. The distance between jaws shall be 3 inches at start of test. The inside or back half of each jaw shall be 2 inches or more in width; the other half shall be 1 inch in width. Jaws shall have a smooth and flat surface with edges slightly rounded to prevent cutting. The results of the test of each direction shall be averaged. If a specimen slips in the jaw, breaks in the jaw, breaks at the edge of the jaw, or for any reason due to faulty operation the result falls markedly below the general average, the result shall be disregarded, another specimen taken from the same threads, and the result of this break included in the average.

4. **WEIGHT PER SQUARE YARD.**—(a) *Method No. 1.*—Take 1 yard of the sample. Weigh, and if the width is not 1 yard, calculate the weight per square yard.

$$\frac{\text{Weight of linear yard}}{\text{width}} \times 36 = \text{weight of square yard}$$

Average two tests.

(b) *Method No. 2.*—Take a measured portion of the material and weigh. Calculate from this area the weight per square yard.

$$\frac{1296 \times \text{weight of known area}}{\text{area in inches}} = \text{weight per square yard}$$

Average three tests.

(c) *Method No. 3.*—Cut from the sample a specimen 2 by 2 inches, using a steel die. No specimen for testing shall be taken at less than

8 inches from either selvage. Weigh on a balance adjusted to read the weight of the material in ounces per square yard. Average three to five tests.

5. **THREAD COUNT.**—The actual number of threads in 1 inch of width shall be counted in each direction at three different places in the cloth and the results averaged for each direction.

When the size of the sample permits, these counts shall be taken about 6 inches apart. No warp reading shall be taken at less than 8 inches from the selvage.

6. **WIDTH.**—The width shall be determined by laying the material on a flat surface without tension, then measuring the distance perpendicular to the length between the selvages to an accuracy of one-sixteenth inch. Three measurements shall be taken at different places in the sample and the results averaged.

7. **LENGTH OF CUT OR ROLL.**—In the event of a dispute regarding measurements, the material shall be placed under sufficient tension to make it lie flat upon a plane surface and exposed for at least four hours to an atmosphere of 65 per cent relative humidity at 70° F. and when measured under these conditions the yardage delivery shall be not less than the invoiced yardage.

## VI. PACKING AND MARKING

No details specified.

## VII. ADDITIONAL INFORMATION

While the usual trade designation is "brown sheeting," it is also called at various times "gray," "in the gray," or "unbleached."

## VIII. GENERAL SPECIFICATIONS

No details specified.

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