

**DEPARTMENT OF COMMERCE**  
**BUREAU OF STANDARDS**  
**George K. Burgess, Director**

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**CIRCULAR OF THE BUREAU OF STANDARDS, No. 246**

[Issued June 11, 1925]

**UNITED STATES GOVERNMENT MASTER SPECIFICATION FOR  
RUBBER RING CUSHIONS**

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**FEDERAL SPECIFICATIONS BOARD SPECIFICATION No. 227a**

[Revised June 1, 1925]

This specification was officially promulgated by the Federal Specifications Board on November 5, 1924, for the use of the Departments and Independent Establishments of the Government in the purchase of rubber ring cushions.

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**I. TYPE**

Rubber ring cushions shall be of a single type as described below. Cloth inserted ring cushions are considered in Specification No. 226a.

**II. MATERIAL AND WORKMANSHIP**

The cushion shall be made of rubber. It shall have a smooth, uniform soft finish and shall be free from pits and other imperfections.

### III. GENERAL REQUIREMENTS

The cushion shall be round with an open center. All seams shall be reinforced and there shall be an additional reinforcement of rubber around the air valve. The cushion shall be accurately fitted with a nickel-plated screw-tightening air valve. The diameter of the cushion shall be taken as the outside diameter of the air pocket when the cushion is deflated. The width of the outer border, which is formed by the seams and reinforcements, shall not be included as a part of the diameter.

The cushion when measured as described shall conform to the following requirements:

TABLE 1.—*Dimensions*

Nominal size	Diameter deflated, minimum	Width of air pocket deflated, minimum
	<i>Inches</i>	<i>Inches</i>
8.....	16	5½
10.....	18	7½

### IV. DETAIL REQUIREMENTS

1. THICKNESS OF WALL.—The wall shall be 0.035 inch thick, with a tolerance of  $\pm 0.005$  inch.

2. RUBBER CONTENT.—The rubber compound shall contain not less than 65 per cent by volume of best quality new wild or plantation rubber.

3. TENSILE STRENGTH AND ULTIMATE ELONGATION.—See Table 2.

4. RESISTANCE TO HOT WATER.—Samples shall be submerged in boiling water for seven days. Twenty-four hours after removal the tensile strength and elongation shall conform to the requirements in Table 2.

5. RESISTANCE TO HOT AIR.—Samples shall be aged in a drying oven in circulating air at 70° C. for seven days. Twenty-four hours after removal the tensile strength and elongation shall conform to the requirements in Table 2.

TABLE 2.—*Tensile strength and ultimate elongation*

Sample	Tensile strength, minimum	Ultimate elongation, minimum
	<i>Lbs./in.<sup>2</sup></i>	<i>Per cent</i>
As received.....	1,600	400
After seven days in boiling water.....	600	350
After seven days in dry air at 70° C.....	800	200

6. INFLATION.—Each cushion when inflated with air at a pressure of 3 lbs./in.<sup>2</sup> shall show no leakage nor any indication of weakness.

### V. SAMPLING

One cushion shall be selected from each 100 or less delivered for test and analysis.

### VI. PACKING AND MARKING

Each cushion shall have the size and manufacturer's name or trade name vulcanized in raised letters. Packing shall be as called for in the proposal.

### VII. ADDITIONAL INFORMATION

No details specified.

### VIII. GENERAL SPECIFICATIONS

General Specifications for Rubber Goods, F. S. B. Specification No. 59a, in effect on date of issuance of proposal, shall form part of this specification.

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