

DEPARTMENT OF COMMERCE
BUREAU OF STANDARDS
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**UNITED STATES GOVERNMENT MASTER SPECIFICATION FOR
DIVERS' HOSE**

FEDERAL SPECIFICATIONS BOARD SPECIFICATION No. 44b

[Revised September 16, 1925]

This specification was officially promulgated by the Federal Specifications Board on October 6, 1922, for the use of the departments and independent establishments of the Government in the purchase of divers' hose.

[The latest date on which the technical requirements of this revision shall become mandatory for all departments and independent establishments of the Government is December 16, 1925. They may be put into effect, however, at an earlier date after promulgation]

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I. GRADE AND TYPE

Hose shall be of a single grade and shall be of the "sinking" type.

II. MATERIAL AND WORKMANSHIP

Hose shall be free from defects in material and workmanship.

III. GENERAL REQUIREMENTS

1. **CONSTRUCTION.**—Hose shall consist of an inner rubber tube, three plies of braided-cotton reinforcement, well embedded in a rubber compound, and an outer rubber cover. Length of hose shall be as specified in the proposal, and each end shall be capped with a rubber compound one-sixteenth inch thick of the same composition as the tube.

2. **TUBE AND COVER.**—Tube and cover shall be smooth (the tube absolutely smooth), free from pitting, and of uniform thickness.

3. **COTTON REINFORCEMENT.**—The reinforcement shall be evenly and uniformly braided and as free from unsightly defects, dirt, knots, lumps, and irregularities of twist as is consistent with the best manufacturing practice.

4. **COUPLINGS.**—Each length of hose shall be fitted with couplings as specified in the proposal. Couplings shall be well secured in place by a high-grade rubber cement and three metal clamps. Female couplings shall be fitted with a leather washer one-eighth inch thick.

IV. DETAIL REQUIREMENTS

1. **PHYSICAL.**—Hose shall meet the following requirements:

Physical test requirements

Size, inside diameter	inches..	$\frac{1}{2}$
Outside diameter	do.....	$1\frac{1}{16}$
Tolerance, inside diameter and outside diameter, plus or minus	do.....	$\frac{1}{32}$
Length: As specified in proposal.		
Tolerance:		
50-foot length, plus or minus	inches..	2
3-foot length, plus or minus	do.....	1
Hydrostatic test pressure:		
Coupling test, minimum	pounds per square inch...	250
Burst test, minimum	do.....	1,000
Friction, ¹ minimum	pounds..	15
Tensile strength: ²		
Tube, minimum	pounds per square inch..	1,400
Cover, minimum	do.....	1,200
Ultimate elongation, tube and cover, minimum	inches..	2-10
Set, tube, and cover, stretch, 10 minutes	do.....	2-8
Set after 10 minute rest, maximum	per cent..	25

2. **CHEMICAL.**—Tube and cover shall contain not less than 70 per cent, by volume, of the best quality new wild or plantation rubber nor more than $1\frac{1}{2}$ per cent of waxy hydrocarbons. The rubber compounds shall be free from all substances which might injuriously affect their quality.

¹ The rate of separation shall not be greater than 1 inch per minute under the specified load.

² The tensile strength of tube and cover, after being subjected to an accelerated aging test of 96 hours in dry air at $153\pm 2^\circ$ F., shall show a decrease from the tensile strength, determined before aging, of not more than 40 per cent.

V. INSPECTION AND SAMPLING

The manufacturer shall notify the purchaser sufficiently in advance of the completion of the hose to permit of arrangements for inspection.

Inspection and tests shall be made at place of manufacture unless otherwise specified, manufacturer providing a place for conducting tests; also necessary help, equipment, etc. One length shall be taken from each 2,000 feet or less for test. A 3-foot section shall be cut from each length so selected for hydrostatic tests after which further tests shall be made on the same sample. Manufacturer shall refit couplings to said lengths, which shall be accepted as full lengths provided they otherwise conform to specifications. When hose is furnished in lengths under 10 feet, extra lengths shall be furnished at contractor's expense for test purposes.

The inspector shall, after tests, mark the remainder of samples with manufacturer's name, order, requisition, and item numbers and forward them to the testing laboratory. Any lot represented by a sample which fails in one or more tests may be retested at the expense of the contractor. For this purpose two additional samples shall be selected. Failure of either in any respect shall be cause for rejection.

VI. PACKING AND MARKING

Packing shall be as called for in the proposal. Brands shall contain the manufacturer's name and trade-mark. Hose 25 feet or over in length shall have brands of a distinctive color inlaid in the rubber cover at two places on each length, approximately 4 feet from the ends, letters to be at least one-fourth inch high. Hose less than 25 feet in length shall have one inlaid brand approximately in the center. Use the word "Divers" on divers' hose.

VII. ADDITIONAL INFORMATION

No details specified.

VIII. GENERAL SPECIFICATIONS

All tests and analyses shall be made in accordance with the methods described in United States Government General Specifications for Rubber Goods, Federal Specifications Board Specification No. 59, in effect on date of proposal.

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