

DEPARTMENT OF COMMERCE

BUREAU OF STANDARDS

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UNITED STATES GOVERNMENT MASTER SPECIFICATION FOR  
WATER AND WASH DECK HOSE

FEDERAL SPECIFICATIONS BOARD SPECIFICATION No. 48b

[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 water and wash deck 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 any earlier date after promulgation]

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I. GRADES

Hose shall be of the following grades: Grade A, for all sizes except three-fourths inch. Grade B, for three-fourths-inch hose.

The 1½-inch 3-ply hose is called "Wash deck hose." All other hose under this specification is called "Water hose."

II. MATERIAL AND WORKMANSHIP

Hose shall be free from defects in material and workmanship.

### III. GENERAL REQUIREMENTS

1. **CONSTRUCTION.**—Hose shall consist of a rubber tube, cotton duck reinforcements, and a rubber cover. It shall be of wrapped construction. Length of hose shall be as specified in the proposal.

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

3. **COTTON DUCK.**—Cotton duck shall be well, evenly, and firmly woven; as free from unsightly defects, dirt, knots, lumps, and irregularities of twist as is consistent with the best manufacturing practice. The layers shall be applied on a bias of 45°, with edges lapped at least ½ inch (not sewed), and shall be well impregnated with a rubber compound.

4. **COUPLINGS.**—Each length of hose shall be fitted with couplings and clamps as specified in the proposal. Female couplings shall be fitted with a rubber washer cut from a tube of the same composition and cure as the hose tube.

### IV. DETAIL REQUIREMENTS

1. **PHYSICAL REQUIREMENTS.**—Hose shall meet all requirements stated in the following table:

*Physical test requirements*

Size, inside diameter.....inches..	$\frac{3}{4}$	1	$1\frac{1}{2}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Tolerance, plus or minus.....do....	$\frac{3}{32}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$
Outside diameter.....do.....	$1\frac{1}{8}$	$1\frac{1}{4}$	$2\frac{1}{8}$	2	$2\frac{3}{8}$	$3\frac{1}{8}$	$3\frac{1}{4}$
Tolerance, plus or minus.....do....	$\frac{1}{32}$	$\frac{1}{32}$	$\frac{1}{32}$	$\frac{1}{32}$	$\frac{1}{32}$	$\frac{1}{32}$	$\frac{1}{32}$
Thickness:							
Tube, minimum.....do.....	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{3}{32}$
Cover, minimum.....do.....	$\frac{3}{32}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{3}{32}$
Fabric plies, minimum.....do.....	3	4	4	3	4	4	5
Weight of duck, minimum.....do....							
.....ounces per square yard..	10.8	14.4	18.0	18.0	18.0	18.0	18.0
Hydrostatic test pressure:							
Coupling test, minimum.....do....							
.....pounds per square inch..	150	150	150	150	150	150	150
Burst test, minimum.....do.....	600	550	550	400	500	475	450
Friction: <sup>2</sup>							
Cover and plies, minimum.....pounds..	10	13	13	13	13	13	13
Tube and plies, minimum.....do.....	10	13	13	13	13	13	13
Between plies, minimum.....do.....	15	15	15	15	15	15	15
Tensile strength: <sup>3</sup>							
Tube, minimum.....do.....							
.....pounds per square inch..	800	1,500	1,500	1,500	1,500	1,500	1,500
Cover, minimum.....do.....	600	1,300	1,300	1,300	1,300	1,300	1,300
Ultimate elongation, tube and cover, minimum.....do.....							
.....inches..	2-9	2-11	2-11	2-11	2-11	2-11	2-11
Set, tube, and cover:							
Stretch, 10 minutes.....do.....	2-7	2-10	2-10	2-10	2-10	2-10	2-10
Set after 10 minutes' rest, maximum.....do....							
.....per cent..	25	25	25	25	25	25	25

<sup>1</sup> This size to be known as "Wash deck hose." It shall weigh not more than 25 and 46 pounds for a 25 and 50 foot length of hose, with couplings attached, respectively. Each 50-foot length of wash deck hose shall coil within a circle having a diameter of 36 inches.

<sup>2</sup> The rate of separation shall be not greater than 1 inch per minute under the specified loads.

<sup>3</sup> The tensile strength of tube and cover, after being subjected to an accelerated aging test of 96 hours in dry air at 158±2° F., shall show a decrease from the tensile strength determined before heating of not over 40 per cent.

2. CHEMICAL REQUIREMENTS.—*Grade A.*—(a) Tube, cover, and washer shall contain not less than 75 per cent by volume of the best quality new wild or plantation rubber. (b) The compound shall be free from all substances which might injuriously affect its quality.

*Grade B.*—(a) Tube and cover shall contain at least 60 per cent of rubber by volume. (b) The compound shall be free from all substances which might injuriously affect its quality.

## 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. The manufacturer shall submit with each order 1 foot of unfriictioned duck the full width of the bolt.

## 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 more in length shall have brands 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.

## 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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