

**SPECIFICATION
FOR
FLAGS, UNITED STATES AND NORTH CAROLINA**

(THIS SPECIFICATION IS RELEASED FOR PROCUREMENT PURPOSES UNTIL REVISED OR RESCINDED.)

SCOPE

This specification covers United States and North Carolina flags to be used by state institutions, colleges, universities, schools, state buildings, etc.

I. CLASSIFICATION

1. United States Flag.
- 2 North Carolina Flag.
 - A. Types:
 - I - Nylon - (Heavy Duty)
 - II - Rayon
 - III - Polyester
 - B. Sizes:

2' X 3'	5' X 8'
3' X 5'	6' X 10'
4' X 6'	8' X 12'

II. APPLICABLE STANDARDS

The following documents of issue in effect on the date of the invitation for bids shall form a part of the specification to the extent described in Section III. REQUIREMENTS.

Military Specification Mil-G-16491-Grommets, Metallic
Federal Standard No. 751-Stitches, Seams, And Stitching
Federal Standard No. 191-Textile Test Methods
Superintendent of Documents
U. S. Government Printing Office
Washington, D.C. 20402

Standard Color Card of America
The Color Association Of The United States, Inc.
200 Madison Avenue
New York, N.Y. 10016

Textile Fiber Products Identification Act
Federal Trade Commissioner
Washington, D.C. 20580

General Statutes of North Carolina Ch. 144, State Flag, Motto and Colors
Office of N.C. Attorney General
Raleigh, N.C. 27611

III. REQUIREMENTS

A. STANDARD SAMPLE

All bidders shall submit a pre-production sample of each type flag (U.S. and N.C.) to be offered for bidding for each type of fabric prior to the bid openings. Samples of each to be sized a minimum 3'x5'. Each sample to be properly identified by bid number, item number, manufacturer, catalog or model number and bidder's name. Samples to be supplied at no expense to the state as required per the Invitation For Bids.

B. COLOR

The colors shall be in accordance with the Standard Color Card Of America and shall be as follows:

1. OLD GLORY RED #70180
2. WHITE, CABLE #70001
3. OLD GLORY BLUE, CABLE #70075
4. YELLOW, CABLE #70068
5. BLACK, CABLE NO. 65018

C. DESIGN AND CONSTRUCTION

1. UNITED STATES FLAGS

The United States flag shall consist of 13 horizontal stripes, seven red and six white, which shall alternate beginning and ending with a red stripe, and the union. On the face side, stripes shall overlap forming a shingle effect. The canton or union shall contain 50 stars arranged in nine rows; five rows of six stars and four rows of five stars which shall alternate beginning and ending with a row of six stars. Each star shall have one point upward. Stars shall be symmetrically arranged in horizontal, vertical and diagonal rows. Stars to be embroidered or applique as required per the Invitation For Bids. The warp of the base cloth fabric shall run in the direction of the stripes. A tolerance of plus/minus 5% shall be allowed for all dimensions exceeding 4", except that maximum and minimum measurement of dimensions for length and width of flag and length and width of 50 star union jack on a single flag may not differ by more than 2% of the required dimensions and both be within 5% tolerance. A tolerance of plus/minus 1/4" shall be allowed on dimensions from 2" to 4" and a tolerance of plus/minus 1/8" shall be allowed for dimensions 2" or less. Piecing of the blue field is prohibited except for flags with a hoist exceeding 60", in which case only three pieces will be allowed and no piece shall measure less than 32" in the hoist dimension.

2. NORTH CAROLINA FLAGS

The State of North Carolina flag to be of same materials as the United States flag, with sizes as specified by the Invitation For Bids; materials not specified shall be first class normally used in good commercial practices. Construction, seam stitching; hem, and reinforcement patching shall follow those of the U.S. flag. The letters "N" and "C" on the North Carolina flags shall be approved yellow letters in gothic style. Any deviations from requirements shall be noted in writing and presented to the Division of Purchase and Contract.

The flag of the State of North Carolina shall consist of a blue union, which will contain a white star in the center of the union, the letter "N" on the left of the star and the letter "C" on the right of the star. The star shall be contained within a circle. The circle shall not be marked or be visible on finished flag. The fly of the flag shall consist of two equally proportioned bars, the upper bar to be red, and the lower bar to be white. Above the star in the center of the union shall be a yellow scroll in semi-circular form, containing in black letters the inscription

May 20th 1775, and below the star shall be a similar scroll containing in black letters the inscription April 12th 1776. Scrolls, letters in scrolls, N and C letters and star may be screen dyed in flag sizes 2'x3' through 5'x8'. In flag size 6'x10', scrolls, letters in scrolls, stars and letters N and C to be screen dyed and insert sewn or applique. In flag size 8'x12', scrolls, letters in scrolls, star and letters N and C to be applique.

3. MATERIALS AND COMPONENTS

Threads used in the manufacture of the flags to be of the best commercial material available in size and color for the application. Color fastness of thread to be equal to or better than the material on which used.

Flags shall be manufactured utilizing the following types of material:

- A. Nylon (Type I): Material to be heavy weight 100 percent nylon filament. Warp yarn nominal denier to be 200 or 210. Filling yarn to be singles or ply. Finished fabric plain weave, weight to be minimum 3.6 oz/sq.yd. Warp yarn count to be minimum 62 yarns/inch. Filling yarn count to be minimum 50 yarns/inch. Breaking strength to be minimum 225 warpwise and minimum 152 fillingwise.
- B. Rayon (Type II): Yarn to be multifilament, viscose or cuprammonium rayon, 75 denier both ways. Yarn to be two-ply for both warp and filling. Screen dyed flags to be acceptable provided hue and brilliancy required are achieved. The dyed and finished cloth to weigh minimum 5 oz/sq.yd. Yarn count to be minimum 110 yarns/inch warp and minimum 72 yarns/inch filling. Warp breaking strength minimum 125 pounds and filling breaking strength minimum 50 pounds. Rayon flag sizes to be 4" x 6", 8" x 12", 12" x 18", 16" x 24", 20" x 30", 24" x 36".
- C. Polyester (Type III): Fiber to be first quality polyester. Finished cloth to weigh 4.5 oz/sq.yd., with a thread count of minimum 36 yarns/inch warpwise and minimum 30 yarns/inch fillingwise, or equivalent construction. Warp breaking strength to be minimum 180 pounds and filling minimum 152 pounds flex abrasion minimum 5000 warp and 3450 filling. Fabric air permeability minimum 476 cu.ft./min./sq.ft. Colorfastness to sea water (60 hrs) 4-5, and to light (60 hrs) 4-5.

4. COMPONENTS

OUTDOOR FLAGS

- A. Bleached canvas or duck heading: To be bleached canvas sewn on with minimum two rows of stitching and finished by securely clinching two grommets in position.

Heading to be white or natural, minimum 8 oz/sq. yd., 2 ply yarn in both warp and filling, breaking strength approximately 105 pounds in the warp, 100 pounds in the filling per federal standard # 191 - test method #5100.

Heading minimum 3" wide and 3" longer than flag hoist to which it is to be attached, both side edges turned in approximately 1/2" and both ends turned in approximately 1 1/2". The hoist end of the flag to be inserted minimum 1" into the heading.

Grommets to go through all layers of heading plus flag, to conform to Type II, Class I or type III of Mil-G-16491, and to securely grasp all layers of heading & flag.

- B. This type of heading to be for flags 8 ft. X 12 ft. and larger. To be provided with steel thimbles, or equivalent construction.

- C. Stars: Material shall be cotton or of the same material as flag: nylon, nylon-wool, rayon, or polyester. Stars to be identically oriented on each side with respect to the heading or staff side of the flag, neatly trimmed.

Machine embroidered stars should be solid or split stitch design, single or double thread embroidery.

- D. Stitches and Seams: Should conform to Federal Standards No. 751. Stitches in embroidered stars to completely cover cloth base, and be clear, dense, and distinct. Ends of all stitching when not caught in other seams to be backstitched 1" minimum or locked with a 9/16" - 28 stitch bartack. Seams to be double stitched. Seams on white portion of the stripes, no seams on the blue field.

Fly-end hems shall be sewn with minimum three rows of stitching which shall be backstitched for a distance of not less than 1" or bartacked.

- E. Hems: To be double stitched. All raw edges to be hemmed.
- F. Threads: To be either red on red stripes, and white on white stripes, or red and/or white throughout.

INDOOR FLAGS

- A. Pole hem heading: Pole hem to be large enough to fit a minimum 1-3/8" diameter pole. Should be flannel lined with leather tabs.

5. WORKMANSHIP

All components of finished flags to be free from runs, loose threads, raw edges, faulty stitching, loose stars, creases, wrong bar lengths, color defects, etc. They must be well finished, neatly packed and free of defects which may affect appearance or serviceability. All stitching to be of the best commercial quality available, of proper tension and size so as to avoid any puckering after flags have been laundered, and to give the best durable performance.

D. PACKING AND LABELING

Flags shall be delivered in strong plastic bags as minimum requirement. Packing and delivering of finished United States of America national flags and North Carolina state flags shall be in accordance with the best current industry standards. Each flag shall be labeled in accordance with the textile fiber products identification act.

IV. WARRANTY

The contractor warrants to the owner that all flags furnished under this specification will be of good material and workmanship, and agrees to replace promptly any flag or flags which by reason of defective material or workmanship shall fail under normal use (8 hours a day, good weather), free of negligence or accident, for a period of 90 days from date of issuance. Such replacement shall be free of any charge to the owner or his representative.

V. SERVICE, PARTS AND MANUALS

This section not applicable to this specification.

VI. ACCEPTANCE INSPECTION AND TESTING

If deemed necessary, an acceptance inspection may be conducted by the owner or his representative. Inspection may be made at place of manufacture, at the option of the state. The state of North Carolina reserves the right to request samples and to examine said samples to determine whether or not they meet all of the requirements of this specification.

TESTING

Fabrics will be tested following the Federal Test Methods Standard No. 191 per listing below, including conditioning if required.

<u>TEST</u>	<u>TEST METHODS</u>	<u>TEST REQUIREMENTS</u>
Identification of nylon	1530	see paragraph III.C.3.A.
Identification of rayon	1520	see paragraph III.C.3.C.
Identification of polyester	1600	See paragraph III.C.3.D.
Colorfastness to:		
Salt water and soap	5632	see paragraph III.C.3.D.
Light	5660	see paragraph III.C.3.D.
Weave	Visual	see paragraph III.C.3.A,D.
Ply	Visual	see paragraphs III.C.3.A, C & III.C.4.A.
Weight (oz/sq.yd.)	5041	see paragraphs III.C.3.A, B,C,D & III.C.4.A.
Threads per inch	5050	see paragraphs III.C.3.A, B,C,D.
Breaking strength (psi) (min.)	5100	see paragraphs III.C.3.A, B,C,D & III.C.4.A.

RESPONSIBILITY FOR TESTING AND INSPECTION

The supplier is responsible for all testing and requirements as specified herein. Except as otherwise specified in the Invitation For Bids, the supplier may use his own or any other suitable facilities for the performance of the testing and inspection requirements specified herein, unless disapproved by the state government. The state reserves the right to perform any of the inspection and tests set forth in the specification where such inspections and tests are deemed necessary, at no expense to the state, to assure supplies and services to conform to prescribed requirements.

CERTIFICATION EXAMINATION

Certificates of compliance, certified test reports, approval labels or listing marks for codes and standards, as applicable, that are submitted as proof of compliance with the specification requirements shall be examined and validated.

VII. DELIVERY AND PAYMENT

Delivery to be prepaid to designated agency. Delivery and payment for all flags furnished under this specification shall be in accordance with the terms and conditions of the Invitation For Bids. The contractor shall be responsible for any packaging, packing, or protection required to insure delivery in an undamaged condition.

VIII. ORDERING DATA

Purchasers should exercise any desired options offered herein and should specify the following in the requisition and Invitation For Bids:

1. Title, number, and date of this specification.
2. U.S. or N.C. flags, types, sizes, quantities. (See I. Classification).
3. Flags color requirements (See III.B. Color).
4. If pre-production sample is required. (See III.A. Standard Sample).
5. Stars embroidered or applique on U.S. flags (See III. C. 1).
6. Type of heading (See III.C.4.A. Heading)
7. Type of star design application (See III.C.4.C. Stars).
8. If flags are to be plain or fringed.
9. If acceptance certificates of compliance are to be required. (See VI. ACCEPTANCE INSPECTION AND TESTING).