

USMA Purchase Description

Net, Laundry

1. **SCOPE:** This purchase description covers the requirements for USMA laundry nets in the form of a bag.

2. **TYPES:** The laundry nets shall be of the following types, as specified:

Type I – Knitted Polyester

Size – 32 inches width x 40 inches length

Color - White (Natural)

Type II -- Knitted Polyester

Size – 32 inches width x 40 inches length

Color - Brown, Pantone color Dark Earth # 19-1020TPX

3. **YARN:** The yarn used in type I and type II nets shall be bright, high tenacity, 840 denier 192 filament base threads and 220 denier 50 filament crossing threads.

4. **FABRIC (netting) CONSTRUCTION:** The construction of the fabric shall be a warp-knit Raschel Knit and shall conform to physical requirements of Table I. Net mesh and fibers must maintain dimensions (+/- ½ inch) and minimum bursting strength through up to 30 Industrial launderings.

Table I -- Physical Requirements					
Type	Minimum weight per square yard	Maximum weight per square yard	Minimum meshes per square inch	Maximum meshes per square inch	Bursting Strength minimum
Type I	5.6 oz	6.25 oz	9	11	125 lb
Type II	5.6 oz	6.25 oz	9	11	125 lb

5. **COLOR:** Coloration of the netting shall be colorfast. Dyes and color shall not bleed or migrate onto the garments and personal effects that will be industrially laundered inside of the nets.

Type I -- The color of the fabric for type I nets shall be White (natural).

Type II -- The color of the fabric for type II nets shall be Brown, Pantone color Dark Earth # 19-1020TPX.

6. FABRIC FINISH: The fabric shall be scoured and heat set at a minimum temperature of 400 degrees Fahrenheit.

7. BAG CONSTRUCTION: (see FIGURES 1, 2, and 3)

a. The fabric shall be made into a rectangular-shaped bag, formed by cutting the material so that the finished net shall conform to the size specified. The warp-knot fabric shall have the wales running lengthwise of the net. The ends of all stitching shall be knotted.

b. The top edges of the net body shall be seamed using a bound-seam type BSa-2 as found in FED. STD. No. 751a, also see FIGURE 1. Top-edge seams shall be formed by folding a binding tape or strip over the cut edge that shall become the top opening to the net, seaming the binding tape/strip and net with two rows of stitches. Binding shall be cut even at the side edges of the netting panel. Top edge seams must maintain secure closure of binding and mesh through Industrial laundering tests. Top-edge seams shall consist of one of the following:

i. 4 threads making two rows Stitch Type 301 (see FIGURE 2) approximately 3/8 inches apart (+/- 1/16 inches) and 3/8 inches from the outside edge (+/- 1/16 inch) at a rate of between 8 to 10 stitches per inch.

ii. 3 threads making one seam (two needles at 0.375 gauge) of Stitch Type 311 (see FIGURE 3) approximately 3/8 inches apart (+/- 1/16 inch) and 3/8 inches in from the outside edge (+/- 1/16 inch) at a rate of between 8 to 10 stitches per inch.

d. The ends of the binding for side and bottom seams shall be cut at a length 1-1/2 inch longer than the length of the net for that seam (+/- 3/8 inch) and be folded back evenly on top of the binding of the sewn seam. There the folded ends shall be bar tacked securely in place through the previous binding and mesh to further reinforce the top corners of the bag at its opening. Bar tack stitches shall consist of no less than 18 stitches, run parallel to the edge of the seam and be approximately 3/4 inches long (+/- 1/8 inch). Bar tack stitches must maintain secure tacking of binding and mesh through Industrial Laundering.

e. Laundry Pin. A commercial style laundry pin shall be provided with each laundry bag, permanently attached to the bag, as specified below.

1. The Laundry Pin shall conform to the following specifications: Overall length shall be five (5) inches (+/- 1/8 inch). Material shall be stainless steel copper/30% zinc), spring tempered wire .144 inch diameter, head .32 inch thickness, bright nickel plated, safety-type, rustproof and washable. Intended use is for heavy duty commercial laundering.

2. Attachment. The laundry pin shall be permanently attached to the laundry bag using braided nylon cord, one sixteenth (1/16) inch +/- 1/64 inch in diameter, white in color. The nylon cord shall be 10 inches in length. The cord shall be threaded through the eye of the laundry pin and the two ends brought together to form a loop. Both ends of the cord, in parallel shall be attached to the laundry bag approximately 2 inches below the top open edge of the left side of the laundry bag. The orientation of the laundry bag shall be as viewed facing the fill strip. Both ends of the nylon cord shall be attached, in parallel, to the binding tape with three bar tacks. Each bar tack shall be 1/2 inch wide and positioned across the binding tape permanently and securely attaching the nylon cord to the bound edge of the bag. Three inches of both ends of the nylon cord shall be tacked to the binding, creating a loop that attaches the laundry pin. Tacks shall be positioned 1/4 inch from ends, 1-1/2 inch from ends and 3 inches from ends, please see Photo three (3) for reference.

f. Fill Line: The fill line shall consist of a fabric strip, 4 inches (finished height) in width positioned on one side of the bag running the full width of the bag. The strip shall be positioned on the bag so that the bottom of the strip shall be 20 inches from the bottom of the bag. Photo 1 is provided as a reference only. The fabric strip shall be of the same material as described in paragraph 8a, entitled Patch. The Fill line strip shall have all four (4) edges folded over and completely and securely sewn onto the mesh on one side of the bag.

1. Fill Line Printing. Color of the print shall be black. Coloration of the printed characters shall be colorfast. The printed characters shall not bleed or migrate onto the garments and personal effects that will be industrially laundered inside of the nets. The Fill line strip shall be printed with the following two (2) lines, using Photo 1 as an example.

PRINT FULL NAME:

DO NOT FILL ABOVE THIS LINE:

All Characters shall be in upper case lettering. The top of the characters on the first line shall be spaced three quarters (3/4) inch from the top of the strip. The bottom of the characters of the second line shall be positioned three quarters (3/4) inch from the bottom of the strip. Measurements are + / – one sixteenth (1/16) inch. Both of the printed line characters shall be one (1) inch tall, +/- one sixteenth inch. The second printed line, DO NOT FILL ABOVE THIS LINE, shall be centered on the strip with the first character of the second word (FULL) of the first line, PRINT FULL NAME beginning directly above the first letter of the second line. Please use printed example above and Photo one (1) as a reference for placement. Using the placement criteria specified above when viewing the combined lines the grouping shall be horizontally centered on the strip.



Photo 1



Photo 2

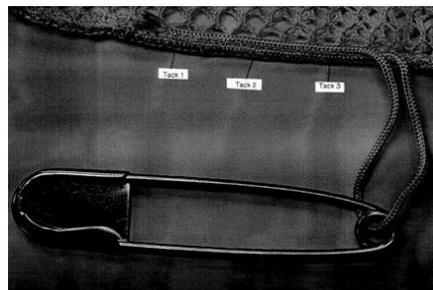
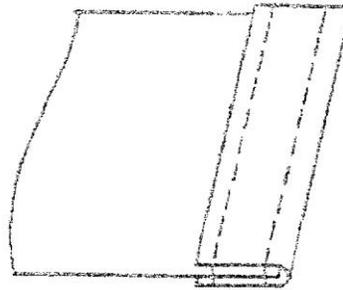


Photo 3

FIGURE 1



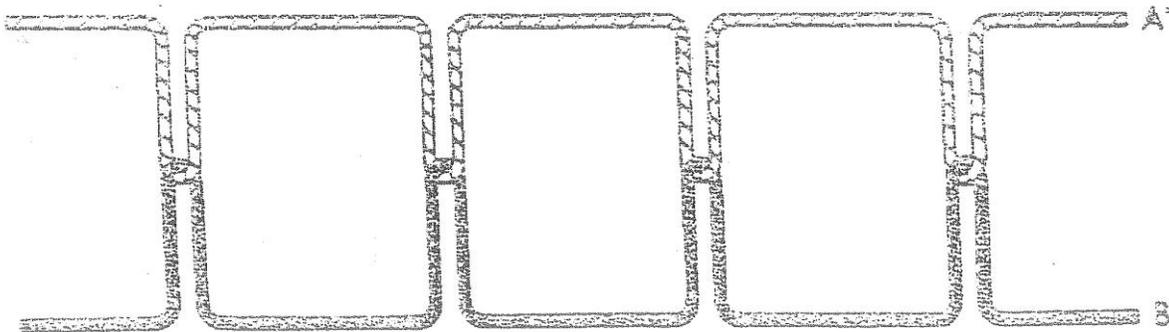
Seam type BSa-2

This type of seam shall be formed by folding a binding strip over the edge of the ply or plies of body material and seaming the binding strip and body material with one or more rows of stitches.

FIGURE 2

Stitch Type 301

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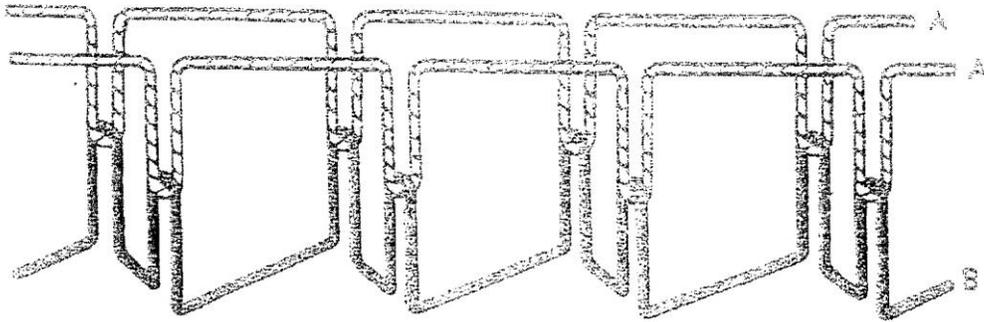


Stitch Type 301

This type of stitch shall be formed with two threads; one needle thread, A and one bobbin thread, B. A loop of thread A shall be passed through the material and interlaced with thread B. Thread A shall be pulled back so that the interlacing shall be midway between surfaces of the material of materials being sewn.

FIGURE 3

Direction of successive stitch formation



This type of stitch shall be formed with three threads; two needle threads, A and A', and one bobbin thread, B. Loops of threads A and A' shall be passed through the material and interlaced with thread B. Threads A and A' shall be pulled back so that the interlacing shall be midway between surfaces of the material or materials being sewn.

8. **PATCH:** Each net shall have one patch with finished dimensions of 4 inches x 6 inches (+/- ¼ inch either direction). The patch shall have no raw edges and be securely sewn into a side seam of the net approximately 9 inches (+/- 1 inch) from the top edge or centered from top edge to bottom edge (+/- 1 inch). The patch must remain securely attached to the net binding of the side seam closure through Industrial launderings. The patch must not fray or deteriorate through Industrial laundering tests. The patch shall be attached only on one side to the net binding and side seam. The patch shall not be sewn to the net on the other three (3) sides.

a. **PATCH FABRIC:** Patch shall be cut from a canvas type cloth weighing no less than 7.0 ounces per square yard and shall be white (natural) in color. This cloth shall be capable of applying a heat/pressure sensitive tag with identification information to last through at least two laundering cycles. Patch coloration shall be colorfast and not bleed or migrate from the patch onto garments or personal effects that will be industrially laundered inside the nets.

9. **THREAD:** Sewing thread for all seams sewn on all nets shall be 220-denier four-ply polyester and white or natural in color.

10. **BINDING MATERIAL:**

a. Binding material shall be either a woven tape or strips of sufficient width to accommodate seam in 7.b and 7.c and possess finished edges either woven or sewn where no loose thread are present.

b. Binding material shall not fray or deteriorate in industrial laundering tests.

c. Binding material shall be white or natural in color.

d. The coloration of binding material shall be colorfast and not bleed or migrate from the binding onto garments or personal effects that will be industrially laundered inside the nets.

11. WORKMANSHIP: The finished nets shall conform to the quality and grade of product established by this purchase description.

12. EXAMINATION: Supplier shall perform one hundred percent inspection of each lot. Lots shall consist of first quality nets only.

13. PREPARATION FOR DELIVERY: Packaging: The bags shall be consistently boxed in the same sized boxes. The different color nets shall not be mixed in any boxes. All boxes shall be marked as to the color and quantity of laundry bags within each box. Box quantity shall be consistent and such a quantity to make storage and handling consistent with standard warehouse practices.

14. TESTING PHASE ONE: USMA shall examine laundry nets in accordance with paragraphs 2-11. Nets are considered a fail if any of the requirements are not met per the specifications for the USMA laundry nets.

15. TESTING PHASE TWO:

USMA shall test nets for colorfastness, shrinkage, color and durability as outlined in this purchase description through a maximum of 10 industrial launderings which include both the washing and the drying cycles as performed by the current facility providing laundering services to USMA. At a minimum nets shall be inspected by the government and/or the laundry representative after every other (every second) laundering.

a. Each type of net shall be tested for seam, net binding and patch durability through a maximum of 10 industrial launderings while loaded to capacity with white cotton or cotton poly terry cloth towels. Loaded nets shall be securely closed with the provided laundry safety pin.

b. Any seam, binding, netting or patch failure after any of the laundering cycles shall cause the net to fail testing and shall be considered unacceptable.

c. Any fraying of binding edges or patches after any of the launderings under conditions listed above shall cause the net to fail testing and shall be considered unacceptable.

d. Any discoloration from netting onto towels will cause nets to fail and be considered unacceptable.

f. Color matching and colorfastness shall be performed by visual examination.

g. It shall be at the Governments discretion to continue the full 10 laundering cycles or to reject nets that have failed and deem them unacceptable after any number of laundering cycles.