

# AERONAUTICAL MATERIAL SPECIFICATIONS

## AMS 3815A

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

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BRAID, FLAT, NYLON  
Electrical Tying, Synthetic Rubber Coated

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. **APPLICATION:** Primarily for tying and lacing electrical wire harness assemblies, especially for miniature devices or where maximum fungus resistance is required.
3. **MATERIAL AND FABRICATION:**
  - 3.1 **Yarn:** Braid shall be made from high tenacity bright nylon continuous filament yarn, free from weighting materials, twisted 3/4 to 1 turn per inch.
  - 3.2 **Impregnation:** Finished braid shall contain 15 to 25% by weight of a non-flaking fungistatic synthetic rubber dispersion. No fungicide containing mercury or copper compounds shall be used.

#### 4. TECHNICAL REQUIREMENTS:

##### 4.1 General:

4.1.1 **Color:** Shall be natural, unless otherwise specified.

4.1.2 **Construction:** Unless otherwise specified, the finished braid shall conform to the following requirements, when tested in accordance with ASTM D259-44:

	Size Designation			
	15	25	50	80
Nominal Width, in.	0.050	0.060	0.080	0.120
Nominal Thickness, in.	0.007	0.007	0.011	0.011
Yards per lb, min	2800	2000	900	600
Total Ends, min	17	17	17	25
Picks per in., min	22	22	20	20

4.2 **Properties:** The product shall conform to the following requirements; tests shall be performed on the product supplied and in accordance with ASTM D259-44, insofar as practicable.

	Size Designation			
	15	25	50	80
4.2.1 Breaking Strength, lb, min	15	25	50	80
4.2.2 Ultimate Elongation, %, max	25	25	40	40

Section 7C of the SAE Technical Board rules provides that: "All technical reports including standards approved and practices recommended, are advisory only. The use by anyone engaged in industry or trade is entirely voluntary. There is no obligation to conform to or be guided by any technical report. In formulating and approving technical reports, the Board and its Committees will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents."

4.2.3 Slip Resistance: Breaking strength test applied to a square knot made in the braid shall result in no slippage of the knot at loads up to 2/3 the specified breaking strength of the braid.

4.2.4 Fray Resistance: A freshly cut end of the material shall not fray open when held 1/4 in. from the end and firmly tamped several times on a hard surface.

5. QUALITY: Material shall be uniform in quality and condition, clean, smooth, and free from foreign materials and from imperfections detrimental to fabrication or to performance of parts.

6. TOLERANCES: Unless otherwise specified width tolerance shall be  $\pm 15\%$  and thickness tolerance shall be  $\pm 0.003$  inch.

7. REPORTS: Unless otherwise specified, the vendor of the material shall furnish with each shipment three copies of a report stating that the material meets the requirements of this specification. This report shall include the purchase order number, material specification number, size designation, vendor's number, and quantity.

8. IDENTIFICATION:

8.1 Each spool of braid shall be marked with the manufacturer's name or trade mark, AMS 3815A, and size designation.

8.2 Each package shall be permanently and legibly marked to give the following information:

NYLON FLAT BRAID, ELECTRICAL TYING, SYNTHETIC RUBBER COATED  
 AMS 3815A  
 SIZE DESIGNATION \_\_\_\_\_  
 LENGTH \_\_\_\_\_  
 MANUFACTURER'S NAME \_\_\_\_\_  
 MANUFACTURER'S DESIGNATION \_\_\_\_\_

9. PACKAGING:

9.1 Unless otherwise specified, the braid shall be wound on heavy cardboard spools or tubes approximately 1-1/2 in. in OD, in such a manner as to prevent the braid from becoming unwound during ordinary use. Each spool shall have the following length and contain the following quantity of braid.

Size Designation	Spool or Tube Length, in.	Yards per Spool, min
15, 25	2-1/4 to 4	250 or 500
50, 80	4 to 6-1/4	500

9.2 Individual spools or tubes of braid, after marking as in 8.1, shall be wrapped with suitable paper or packaged in a snugly fitting, folding carton. Each wrapped or packed roll shall be sealed with gummed paper or pressure sensitive adhesive tape, and the packaged marked as in 8.2. Packaging materials and procedures shall be **such** as to ensure that the product during shipment and storage, will be protected against damage from exposure to moisture, weather, or any normal hazard.