

AERONAUTICAL MATERIAL SPECIFICATIONS

AMS 3817

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

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Revised

BRAID, FLAT, NYLON
Electrical Tying, Resin Coated

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. APPLICATION: Primarily for tying and lacing electrical wire harness assemblies, especially for miniature devices where fungus resistance is required.
3. MATERIAL AND FABRICATION:
 - 3.1 Yarn: Braid shall be made from high tenacity nylon continuous filament yarn, free from weighting materials, twisted 3/4 to 1 turn per inch.
 - 3.2 Impregnation: Finished braid shall contain 15 - 25% by weight of a nonflaking, nontoxic, fungistatic resin dispersion. No fungicide containing mercury or copper shall be used.
4. TECHNICAL REQUIREMENTS:
 - 4.1 General:
 - 4.1.1 Color: Unless otherwise specified, color shall be natural.
 - 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		
	30	50	80
Nominal Width, in.	0.050	0.090	0.160
Nominal Thickness, in.	0.014	0.014	0.014
Yards per lb, min	1200	750	550

- 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		
	30	50	80
4.2.1 Breaking Strength, lb, min	30	50	80
4.2.2 Ultimate Elongation, %, max	25	40	40

- 4.2.3 Slip Resistance: Breaking strength test applied to a tightened square knot made in the finished braid, with the short ends trimmed to 1.0 inch $\pm$ 0.25, shall result in breakage at the knot rather than slippage of the short ends through the knot.
- 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 conforms to the requirements of this specification. This report shall include the purchase order number, material specification number, size designation, vendor's number, and number of yards.
8. IDENTIFICATION:
- 8.1 Each spool or tube of braid shall be marked with the manufacturer's name or trade mark, AMS 3817, and size designation.
- 8.2 Each package shall be permanently and legibly marked to give the following information:
- NYLON FLAT BRAID, ELECTRICAL TYING, RESIN COATING
 AMS 3817
 SIZE DESIGNATION _____
 LENGTH _____
 MANUFACTURER'S NAME _____
 MANUFACTURER'S DESIGNATION _____
9. PACKAGING:
- 9.1 Unless otherwise specified, the braid shall be wound on 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. The number of pieces per spool or roll shall not exceed 4, and no piece shall be shorter than 50 yards. Each spool shall have the following length and contain the following quantity of braid:

Size Designation	Spool or Tube Length, in.	Yards per Spool or Tube, min
30	2-1/4 to 4	250 or 500
50, 80	4 to 6-1/4	500