



AEROSPACE MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 3813/2

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Revised

ROPE, ARAMID FIBER, JACKETED Parallel Strand, Extruded Jacket

1. SCOPE:

- 1.1 Form: This specification covers parallel-strand ropes formed from impregnated aramid fibers.
- 1.2 Classification: The ropes are classified by size, based on the nominal diameter of the finished rope as shown in Table I.

2. APPLICABLE DOCUMENTS: Shall be as shown in AMS 3813.

3. TECHNICAL REQUIREMENTS:

- 3.1 Basic Specification: The complete requirements for procuring the ropes described herein shall consist of this document and the latest issue of the basic specification, AMS 3813.
- 3.2 Material and Construction: The rope shall consist of aramid fiber yarn strands, lubricated, gathered together in a parallel arrangement without twist, and covered with an extruded jacket.
 - 3.2.1 Constructional Yarn: Each single yarn shall conform to AMS 3904/5 and shall be free of splices.
 - 3.2.2 Rope Strand: Each rope strand shall consist of a multiplicity of aramid-fiber constructional yarns gathered together with a slight twist defined as a 1.1 twist multiplier in the formula specified below, impregnated with a polymeric formulation, and cured.

$$1.1 = \frac{\text{Turns/in.} \times \sqrt{\text{denier}}}{73} \quad \text{or} \quad 1.1 = \frac{\text{Turns/25.4 mm} \times \sqrt{\text{denier}}}{73}$$

- 3.2.3 Polymeric Formulation: Shall be a urethane polymer, unless nylon, chloroprene, or other polymer is specified by purchaser.
- 3.2.4 Jacket: The finished rope shall be covered with an extruded jacket of polyurethane, unless polyethylene or polyvinyl chloride jacketing is specified by purchaser. Thickness of the jacket shall be 0.015 in. \pm 0.005 (0.38 mm \pm 0.13).
- 3.2.5 Rope Size: Shall be designated by the finished nominal diameter as shown in Table I.
- 3.3 Properties: Shall be as specified in Table I and as follows; the properties of ropes having sizes other than those listed in Table I shall be as agreed upon by purchaser and vendor.
 - 3.3.1 Breaking Strength: Shall be as specified in Table I.
 - 3.3.2 Linear Density: Shall be within $\pm 10\%$ of the value determined during preproduction testing. Nominal values are shown in Table I.
 - 3.3.3 Weatherability: The breaking strength, after exposure to accelerated weathering conditions, shall be not less than 95% of the value specified in Table I.

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