

FED. SUPPLY CLASS

5320

1. SCOPE

- 1.1 This specification covers performance requirements of solid aluminum and aluminum alloy rivets intended to be used for aerospace applications.

2. APPLICABLE DOCUMENTS

- 2.1 The following documents of the issue in effect on date of invitation for bids or request for proposal shall form a part of this specification to the extent specified herein:

Federal

QQ-A-430 Aluminum Alloy Rod and Wire; for Rivets and Cold Heading

Military

AMS2770 Heat Treatment of Aluminum Alloys

MIL-STD-2073/1 Standard Practice for Military Packaging

American Society for Quality (ASQ)

ANSI/ASQ Z1.4 Sampling Procedures and Tables for Inspection by Attributes

Copies can be obtained from the American Society for Quality, 600 North Plankinton Ave., Milwaukee, WI 53203.

www.asq.org

ASTM International

ASTM D3951 Standard Practice for Commercial Packaging

Copies can be obtained from ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959. www.astm.org

Aerospace Industries Association of America (AIA/NAS)

NASM1312 Fastener Test Methods

Copies can be obtained from the Aerospace Industries Association, 1000 Wilson Blvd., Suite 1700, Arlington, VA 22209. www.aia-aerospace.org

3. REQUIREMENTS

- 3.1 General. Rivets supplied to this specification shall comply with all the requirements of this specification and shall have passed all of the applicable tests herein.

- 3.2 Material. Rivets shall be fabricated from material specified on the applicable rivet standard.

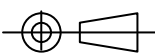
- 3.3 Design and Construction. Rivet design and construction shall conform to the following requirements:

- 3.3.1 Dimensions. Dimensions shall be in accordance with the applicable rivet standard.

- 3.3.2 Finish. Finish shall be as called for on the applicable rivet standard.

- 3.4 Heat Treatment. Heat treatment shall be in accordance with AMS2770.

① COMPLETELY REVISED

THIRD ANGLE PROJECTION 	CUSTODIAN NATIONAL AEROSPACE STANDARDS COMMITTEE	REVISION 1
PROCUREMENT SPECIFICATION NONE	TITLE RIVETS, SOLID, ALUMINUM AND ALUMINUM ALLOY, METRIC, PROCUREMENT SPECIFICATION FOR	CLASSIFICATION SPECIFICATION DA0154 SHEET 1 OF 5

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FORM 09-01

REVISION DATE: OCTOBER 28, 2011

ISSUE DATE: AUGUST 1982



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- 3.5 Workmanship. Rivets shall be of uniform appearance and free from injurious defects such as seams, laps, cracks, cold shuts, tool marks, pits and hydrogen blistering.
- 3.5.1 Defects. The maximum acceptable depth of any local noncontinuous defect is 0,07 mm measured perpendicular to a tangent line with the surface. See Tables II, III and IV.
- 3.6 Mechanical Properties
- 3.6.1 Shear Strength. The shear strength of rivets (undriven) when calculated using the actual diameter of the rivet shall be as specified in Table I.
- 3.6.2 Drivability. Rivets shall be capable of forming an upset head diameter of 1,4x"ØD" min and an upset head height of 0,3x"ØD" max when driven or squeezed. The upset head of Alloys 1100, 2117, 2219, 5056 and 7050 shall not crack. Cracks in the upset head of Alloys 2017 and 2024 within the limits specified in Figure 1 are acceptable.
- 3.6.2.1 The 7050 rivets shall not be driven with a single impact riveting gun.
- 4. QUALITY ASSURANCE PROVISIONS**
- 4.1 Responsibility for Inspection. Unless otherwise specified in the contract or purchase order, the manufacturer is responsible for the performance of all test and inspection requirements as specified herein. Except as otherwise specified, the manufacturer may use his own or any commercial laboratory acceptable to the procuring activity. The procuring activity reserves the right to perform any inspection set forth in the specification whenever it is deemed necessary to assure that the item conforms to prescribed requirements.
- 4.2 Inspection Conditions
- 4.2.1 Sampling. The rivet samples intended for testing are to be taken at random from each lot. Each test must be the subject of a separate sampling.
- 4.2.2 Sampling Plan. Tables III and IV provide sampling plans covering major and minor defects respectively in accordance with ANSI/ASQ Z1.4.
- 4.3 Quality Conformance Inspection
- 4.3.1 Visual and Dimensional Examination. Each of the sample rivets selected in accordance with Tables III and IV shall be visually and dimensionally inspected to determine conformance to all requirements of this specification, and the appropriate rivet standard, not covered by tests. Any sample rivet found to contain one or more visual or dimensional defect shall be considered defective.
- 4.3.2 Classification of Defects. Table II classifies defects into major and minor categories.
- 4.4 Methods of Examination and Tests
- 4.4.1 Shear Tests. Shear tests may be either single or double shear tests.
- 4.4.1.1 Single Shear Tests. Single shear tests shall be conducted in accordance with MIL-STD-1312-20 fixtures per Figure 3a. The rivet shank diameter shall be measured before testing and the shear strength in MPa calculated at the conclusion of the tests. A shear strength less than the minimum specified in Table I shall be cause for rejection.
- 4.4.1.2 Double Shear Tests. Double shear tests shall be conducted in accordance with MIL-STD-1312-13. When rivet lengths are less than 2,5x"ØD", the tests shall be performed using a sample of wire from which the rivets were made and was heat treated with the lot of rivets. The rivet shank or wire diameter shall be measured before testing and the shear strength in MPa calculated at the conclusion of the tests. A shear strength less than the minimum specified in Table I shall be cause for rejection.

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