

FED. SUPPLY CLASS

5315

1. SCOPE

1.1 Scope. This specification covers tubular-shaped spring pins constructed to resist reduction in pin diameter by means of spring action.

1.2 Classification. Spring pins shall be of the following types, classes and compositions as specified (see 6.2).

1.2.1 Types. Spring pins shall be of the following types:

- Type I – Slotted
- Type II – Coiled

1.2.2 Classes. Type II spring pins shall be of the following classes:

- Class 1 – Heavy duty
- Class 2 – Standard duty
- Class 3 – Light duty

1.2.3 Compositions. Spring pins shall be of the following compositions:

- Composition A – Carbon steel
- Composition B1 – Austenitic CRES
- Composition B2 – Ferritic and martensitic CRES
- Composition C – Beryllium-copper alloy
- Composition D – Alloy steel

2. APPLICABLE DOCUMENTS

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

SPECIFICATIONS

Federal

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

Military

MIL-DTL-16232 Phosphate Coatings, Heavy Manganese or Zinc Base (For Ferrous Metals)

STANDARDS

Military

MIL-STD-129 Marking for Shipment and Storage

Copies can be obtained from the Department of Defense Single Stock Point (DODSSP). <http://dodssp.daps.dla.mil>.

THE INITIAL RELEASE OF THIS DOCUMENT SUPERSEDES MIL-P-10971, REVISION E. AMENDMENT 3.

THIRD ANGLE PROJECTION	CUSTODIAN NATIONAL AEROSPACE STANDARDS COMMITTEE		REVISION 1
PROCUREMENT SPECIFICATION NONE	TITLE PIN, SPRING, TUBULAR, COILED AND SLOTTED		CLASSIFICATION SPECIFICATION
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AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC.
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ARLINGTON, VA 22209

THIS DRAWING SUPERSEDES ALL ANTECEDENT STANDARD DRAWINGS FOR THE SAME
PRODUCT AND SHALL BECOME EFFECTIVE NO LATER THAN SIX MONTHS FROM THE LAST
REVISION DATE.

FORM 09-01

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2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for approval shall apply.

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

ASTM A342/A342M Standard Test Methods for Permeability of Feebly Magnetic Materials

ASTM B194 Copper-Beryllium Alloy, Plate Sheet Strip, and Rolled Bar

ASTM B565 Rivets and Cold Heading Wire and Rods, Testing of Aluminum and Aluminum Alloy Rivets and Cold-Heading Wire and Rods

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)

NAS561 Pins, Spring, Slotted and Coiled, Heavy Duty

NAS1407 Pins, Spring, Coiled

NASM1312-6 Fasteners, Test Methods, Method 6, Hardness

NASM16562 Pins, Spring, Tubular, Slotted

NASM39086 Pin, Spring-Tubular, Coiled, Heavy Duty

NASM51923 Pin, Spring-Tubular, Coiled, Standard Duty

NASM51987 Pin, Spring-Tubular, Coiled, Light Duty

NASM171401 THRU NASM171900 Pin, Spring, CRES

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

SAE International

AMS2400 Cadmium Plating

AMS5120 Steel Strip

AMS5121 Steel Strip

AMS5506 Steel Sheet and Strip, Corrosion and Moderate Heat Resistant

AMS2700 Passivation Treatments for Austenitic, Ferritic and Martensitic CRES

AIR4127 Steel: Chemical Composition and Hardenability

AMS-QQ-P-416 Plating, Cadmium (Electrodeposited)

Copies can be obtained from SAE International, 400 Commonwealth Dr., Warrendale, PA 15096-0001. www.sae.org

ASME International

ASME B18.8.2 Taper Pins, Dowel Pins, Straight Pins, Grooved Pins, and Spring Pins (Inch Series)

Copies can be obtained from ASME, Three Park Ave., New York, NY 10016-5990. www.asme.org

3. REQUIREMENTS

3.1 Materials. Spring pins shall be manufactured from the materials specified in 3.1.1, 3.1.2, 3.1.3 or 3.1.4 as specified in the contract or order (see 1.2.3 and 6.2).

3.1.1 Composition A. Carbon steel shall conform to the requirements of any of the Steel Numbers 1070 thru 1095, as specified in AIR4127, AMS5120 and AMS5121, or as shown on applicable documents.

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3.1.2 Composition B

3.1.2.1 Composition B1 (austenitic). Austenitic CRES shall have the composition of Steel Number 302 as specified in AIR4127 and shall have a magnetic permeability of 3.0 maximum (Air = 1.0) at a field strength of H = 200 oersteds (see 4.4.7).

3.1.2.2 Composition B2 (ferritic and martensitic). Ferritic and martensitic CRES shall have the composition of Steel Numbers 410 thru 420 where applicable and as specified in AIR4127, and AMS5506 as specified in NASM171401 THRU NASM171900.

3.1.3 Composition C. Beryllium-copper alloy shall conform to the requirements specified in ASTM B194.

3.1.4 Composition D. Alloy steel shall conform to the requirements of Steel Numbers 6150 as specified in AIR4127 or shall be alloy spring steel conforming to the following chemical composition:

Carbon	.52% – .60%
Manganese	.70% – 1.00%
Silicon	1.50% – 1.80%
Sulphur	.05% max
Phosphorous	.05% max

3.2 Slotted pins. The designs, sizes, dimensions and tolerances of Type I (slotted) pins shall be as specified on NASM16562, NASM171401 THRU NASM171900, and NAS561.

3.3 Coiled pins. The designs, sizes dimensions and tolerances of Type II (coiled) pins shall be as specified on NASM39086, NASM51923, NASM51987, NAS561 and NAS1407.

3.4 Protective finish

3.4.1 Carbon and alloy steel pins. Carbon and alloy steel pins shall be furnished with one of the protective finishes specified in 3.4.1.1, 3.4.1.2, or 3.4.1.3 (see 6.2).

3.4.1.1 Black oiled finish. Pins shall be furnished with a black, tumbled, oil dipped finish.

3.4.1.2 Cadmium plating. Cadmium plating shall be in accordance with AMS-QQ-P 416 Type II, Class 2 or AMS2400-2 as specified in the applicable specification sheet.

3.4.1.3 Phosphate coating. Phosphate coating shall be Type Z, Class 2 in accordance with MIL-DTL-16232.

3.4.1.4 Hydrogen embrittlement. Hydrogen embrittlement of the carbon and alloy steel pins due to protective finishes shall be relieved as specified in the applicable finish specification.

3.4.2 CRES pins. CRES pins shall be passivated in accordance with AMS2700, Method 1, Class 4, unless otherwise specified.

3.4.3 Beryllium-copper pins. Beryllium-copper pins shall be furnished with a plain finish and shall have a light film of high grade machine oil applied to prevent surface tarnishing.

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