# AERONAUTICAL MATERIAL SPECIFICATIONS

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**AMS 7211A**

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## COTTER PINS, STEEL, CORROSION AND HEAT RESISTANT 18Cr - 9.5Ni - Ti

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 use where a corrosion and heat resistant locking device ø is required at temperatures up to 1500 F.

3. COMPOSITION:

| | | Check Analysis Under Min or Over Max | |
|---|---|---|---|
| Carbon | 0.08 max | -- | 0.01 |
| Manganese | 2.00 max | -- | 0.04 |
| Silicon | 1.00 max | -- | 0.05 |
| Phosphorus | 0.040 max | -- | 0.005 |
| Sulfur | 0.030 max | -- | 0.005 |
| Chromium | 17.00 - 19.00 | 0.20 | 0.20 |
| Nickel | 8.00 - 11.00 | 0.15 | 0.15 |
| Titanium | 6xC - 0.70 | 0.05 | 0.05 |
| Molybdenum | 0.50 max | -- | 0.03 |
| Copper | 0.50 max | -- | 0.03 |

4. CONDITION: Wire from which pins are manufacturered shall be solution heat treated and cold finished.

5. TECHNICAL REQUIREMENTS:

5.1 Hardness: Pins shall have hardness as follows:

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| Nominal Pin Diameter Inch | Hardness Vickers (10 kg load) | Hardness Rockwell 15-N |
|---|---|---|
| 1/16 and under | 200 - 350 | 65 - 78 |
| Over 1/16 to 3/32, incl | 170 - 245 | 60 - 70 |
| Over 3/32 | 140 - 220 | 55 - 67 |

5.2 Bending: Either prong of any pin shall withstand bending flat on itself, without cracking; the flat of the prong shall form the outside of the bend.

6. QUALITY: Pins shall be uniform in quality, condition, and diameter, of smooth, bright finish and good workmanship, and shall be free from foreign materials and from internal and external imperfections detrimental to their performance.

7. SHAPE: Unless otherwise specified on the drawing, pins shall have ends slightly ø rounded, beveled, or pointed, and with one end slightly extended beyond the other to permit easy assembly.