

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
29 West 39th Street
New York City

AMS 7211

Issued 11-1-52

Revised

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

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.

2. 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

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

4. TECHNICAL REQUIREMENTS:

- 4.1 Hardness: Wire shall have hardness as follows:

Nominal Pin Diameter	Hardness	
Inch	Vickers (10 kg load) or Rockwell 15-N	
1/16 and under	200-300	65-75
Over 1/16 to 3/32, incl	170-245	60-70
Over 3/32	140-220	55-67

- 4.2 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.
5. 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 defects detrimental to their performance.
6. SHAPE: Pins shall have ends slightly rounded, beveled, pointed, or with one end slightly extended beyond the other to permit easy assembly.
7. TOLERANCES: Permissible variations in the cross-section dimensions of the half-round wire used for manufacture of pins shall be plus and minus 0.002 in. for the major axis and plus and minus 0.001 in. for the minor axis.

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