

# AERONAUTICAL MATERIAL SPECIFICATION

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

## AMS 5679

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Revised

ALLOY WIRE, CORROSION AND HEAT RESISTANT  
Nickel Base - 15.5Cr - 8Fe  
Cold Drawn

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. APPLICATION: Primarily for use as bare wire filler metal for inert gas metal arc welding and atomic hydrogen welding.
3. COMPOSITION:

|                       |               |     |
|-----------------------|---------------|-----|
| Carbon                | 0.10          | max |
| Manganese             | 1.00          | max |
| Silicon               | 0.75          | max |
| Sulfur                | 0.015         | max |
| Chromium              | 14.00 - 17.00 |     |
| Nickel + Cobalt       | 70.00         | min |
| Cobalt, if determined | 1.00          | max |
| Columbium + Tantalum  | 4xSi          | min |
| Iron                  | 6.00 - 10.00  |     |
| Copper                | 0.50          | max |
4. CONDITION: Cold drawn, unless otherwise specified.
5. TECHNICAL REQUIREMENTS: Melted wire shall flow smoothly and evenly during welding and shall be capable of producing acceptable welds.
6. QUALITY: Wire shall be uniform in quality and condition, clean, sound, smooth, and free from foreign materials and from internal and external defects detrimental to its use for welding purposes.
7. TOLERANCES:
  - 7.1 Unless otherwise specified, straight lengths shall not vary in length more than plus and minus 1/4 in. from the length ordered.
  - 7.2 Unless otherwise specified, diameter of the wire shall not vary more than plus 0.001 in. and minus 0.003 in. from the size ordered.
8. REPORTS:
  - 8.1 Unless otherwise specified, the vendor of wire shall furnish with each shipment three copies of a report of the results of tests for chemical composition of each heat in the shipment. This report shall include the purchase order number, heat number, material specification number, size, and quantity from each heat.

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