

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 5694

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Revised

STEEL WIRE, CORROSION AND HEAT RESISTANT 25Cr - 20Ni

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 welding.
3. **COMPOSITION:**

Check Analysis
Under Min or Over Max

| | | | |
|------------|---------------|------|-------|
| Carbon | 0.15 max | -- | 0.01 |
| Manganese | 1.25 - 2.50 | 0.04 | 0.04 |
| Silicon | 0.25 - 0.60 | 0.05 | 0.05 |
| Phosphorus | 0.040 max | -- | 0.005 |
| Sulfur | 0.030 max | -- | 0.005 |
| Chromium | 26.50 - 28.00 | 0.25 | 0.25 |
| Nickel | 21.00 - 22.50 | 0.20 | 0.20 |
| Molybdenum | 0.50 max | -- | 0.03 |
| Copper | 0.50 max | -- | 0.03 |

4. **CONDITION:** Cold drawn, unless otherwise specified. Wire furnished in coils shall have tensile strength of 125,000 - 150,000 psi.
5. **TECHNICAL REQUIREMENTS:** Wire melted during welding shall flow smoothly and evenly, 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 defects detrimental to weld quality.
7. **TOLERANCES:**
 - 7.1 Unless otherwise specified, straight lengths shall not vary in length more than plus and minus 1/4 inch from the length ordered.
 - 7.2 Unless otherwise specified, diameter of the wire shall not vary more than plus and minus 0.002 inch from the size ordered.
8. **REPORTS:** Unless otherwise specified, the vendor of wire shall furnish with each shipment three copies of a notarized 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.
9. **PACKAGING:**
 - 9.1 Packaging shall be accomplished in such a manner as to ensure that the wire, during shipment and storage, will be protected against mechanical injury and exposure to moisture.

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