

# AERONAUTICAL MATERIAL SPECIFICATION

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

## AMS 5530

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Revised

ALLOY SHEET, CORROSION AND HEAT RESISTANT  
Nickel Base - 17Mo - 15Cr - 6Fe - 5W

- 1. ACKNOWLEDGMENT:** A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
- 2. APPLICATION:** This material is intended for parts such as welded nozzle diaphragm assemblies, burner liner parts, tail pipes, exhaust cone assemblies, and other parts requiring high strength up to approximately 1700F, and oxidation resistance up to 2000F.
- 3. COMPOSITION:**

Check Analysis  
Under Min or Over Max

|            |               |      |      |
|------------|---------------|------|------|
| Carbon     | 0.15 max      | —    | 0.01 |
| Manganese  | 1.00 max      | —    | 0.03 |
| Silicon    | 1.00 max      | —    | 0.05 |
| Molybdenum | 15.00 - 18.00 | 0.15 | 0.15 |
| Chromium   | 13.50 - 15.50 | 0.20 | 0.20 |
| Iron       | 4.50 - 7.00   | 0.10 | 0.15 |
| Tungsten   | 3.75 - 5.25   | 0.10 | 0.15 |
| Vanadium   | 0.60 max      | —    | 0.04 |
| Nickel     | Remainder     | —    |      |

- 4. CONDITION:** Unless otherwise specified, material shall be hot rolled, annealed, and pickled, having a surface appearance comparable to a commercial corrosion resistant steel No. 2B Finish.
- 5. TECHNICAL REQUIREMENTS:** (a) Physical Properties - Material shall have the following physical properties:

|                        |                   |
|------------------------|-------------------|
| Tensile Strength, psi  | 100,000 - 135,000 |
| Elongation, % in 2 in. | 30 min            |

For widths 9 inches and over, tensile test specimens shall be taken with the axis perpendicular to the direction of rolling. For widths less than 9 inches, tensile test specimens shall be taken with the axis parallel to the direction of rolling.

(b) Bending - Material shall withstand, without cracking, bending at room temperature through the angle indicated below around a diameter equal to the bend factor times the thickness of the material, with axes of bends both perpendicular and parallel to the direction of rolling.

| Thickness<br>Inch | Angle, Degrees<br>Min | Bend Factor |
|-------------------|-----------------------|-------------|
| Under 0.050       | 180                   | 1.5         |
| 0.050 and Over    | 90                    | 2           |

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