

# AEROSPACE MATERIAL SPECIFICATIONS

**AMS 5592**

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

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Revised

## STEEL SHEET, STRIP, AND PLATE, HEAT RESISTANT 18.5Cr - 35Ni - 1.15Si

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. APPLICATION: Primarily for parts and assemblies requiring heat and oxidation resistance at elevated temperatures and where such assemblies may require welding during fabrication. Oxidation resistant up to 2100 F (1150 C).
3. COMPOSITION:

|            |       |         |
|------------|-------|---------|
| Carbon     | 0.08  | max     |
| Manganese  | 2.00  | max     |
| Silicon    | 0.75  | - 1.50  |
| Phosphorus | 0.030 | max     |
| Sulphur    | 0.030 | max     |
| Chromium   | 17.00 | - 20.00 |
| Nickel     | 34.00 | - 37.00 |
| Copper     | 0.50  | max     |
| Tin        | 0.025 | max     |
| Lead       | 0.005 | max     |

- 3.1 Check Analysis: Composition variations shall meet the requirements of the latest issue of AMS 2248.

### 4. CONDITION:

- 4.1 Sheet 0.050 In. and Over Thick: Hot rolled, solution heat treated free from continuous carbide network, and descaled.
- 4.2 Sheet Under 0.050 In. Thick and Strip: Cold rolled, solution heat treated free from continuous carbide network, and descaled.
- 4.3 Plate: Hot rolled, solution heat treated free from continuous carbide network, and descaled.

### 5. TECHNICAL REQUIREMENTS:

#### 5.1 Tensile Properties:

|                        |            |
|------------------------|------------|
| Tensile Strength, psi  | 70,000 min |
| Elongation, % in 2 in. | 30 min     |

- 5.1.1 Elongation requirement does not apply to sheet or strip under 0.020 in. in thickness.

- 5.2 Hardness: Shall be not higher than Rockwell B 95 or equivalent.

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