



AEROSPACE MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

485 Lexington Ave., New York, N. Y. 10017

AMS 5593A

Superseding AMS 5593

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ALLOY SHEET, STRIP, AND PLATE, HEAT RESISTANT 25.5Cr - 45.5Ni - 3.2Co - 3.2Mo - 3.2W - 18Fe

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. **APPLICATION:** Primarily for parts and assemblies requiring heat and oxidation resistance and where such parts may require welding during fabrication. Material is oxidation resistant up to 2150 F (1177 C).
3. **COMPOSITION:**

	min	max
Carbon	--	0.08
Manganese	--	2.00
Silicon	0.75 -	1.50
Phosphorus	--	0.030
Sulphur	--	0.030
Chromium	24.00 -	27.00
Nickel	44.00 -	47.00
Cobalt	2.50 -	4.00
Molybdenum	2.50 -	4.00
Tungsten	2.50 -	4.00
Copper	--	0.50
Tin	--	0.025
Lead	--	0.025
Iron	remainder	

- 3.1 **Check Analysis:** Composition variations shall meet the requirements of the latest issue of AMS 2248.
4. **CONDITION:** Unless otherwise ordered, the product shall be supplied in the following condition:

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

5. **TECHNICAL REQUIREMENTS:**

5.1 **Tensile Properties:**

∅	Tensile Strength, psi	120,000 max
	Elongation, % in 2 in. or 4D	30 min

- 5.1.1 Elongation requirement does not apply to sheet and strip under 0.020 in. in thickness.
- 5.1.2 **Hardness:** Shall be not higher than Rockwell B 95 or equivalent.

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