

STEEL PLATE, CORROSION AND MODERATE HEAT RESISTANT
15.5Cr - 4.5Ni - 2.9Mo - 0.1N
Equalized and Overtempered

This specification has been declared "NONCURRENT" by the Aerospace Materials Division, SAE, as of 10-13-80. It is recommended that this specification not be specified for new designs.

This cover sheet should be attached to the initial issue of the subject specification.

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AEROSPACE MATERIAL SPECIFICATIONS

AMS 5594

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

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STEEL PLATE, CORROSION AND MODERATE HEAT RESISTANT 15.5Cr - 4.5Ni - 2.9Mo - 0.1N Equalized and Overtempered

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 high strength and oxidation resistance up to 800 F (425 C) and where parts require welding during fabrication. This material has better machinability but lower formability than AMS 5549.

3. **COMPOSITION:**

	min	max
Carbon	0.10	0.15
Manganese	0.50	1.25
Silicon	--	0.50
Phosphorus	--	0.040
Sulfur	--	0.030
Chromium	15.00	16.00
Nickel	4.00	5.00
Molybdenum	2.50	3.25
Nitrogen	0.07	0.13

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

4. **CONDITION:** Hot rolled, equalized, overtempered, and descaled.

5. **TECHNICAL REQUIREMENTS:**

- 5.1 **Heat Treatment:** Material shall be equalized by heating to 1425 F $\pm$ 50 (773.9 C $\pm$ 28), holding at heat for 2 - 4 hr, and quenching in air, oil, or water to 80 F (26 C) or lower, and overtempered by heating to 1075 F $\pm$ 25 (579.4 C $\pm$ 14), holding at heat for 2 - 4 hr, and cooling in air.
 - 5.2 **Hardness:** Shall be not higher than Rockwell C 40 or equivalent.

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