



AMS 5539

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AERONAUTICAL MATERIAL SPECIFICATION

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

AMS5539

Issued 12-1-53

Revised

STEEL SHEET AND STRIP, CORROSION AND HEAT RESISTANT

20Cr - 9Ni - 1.6Mo - 1.4W - Ti

Hot Rolled and Stress Relieved, 125,000 psi

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. FORM: Sheet, strip, and plate.
3. APPLICATION: Primarily for parts and assemblies, such as tank shells, doublers, bulkhead rings, tail pipes and exhaust cones, requiring high strength up to 1000 F and oxidation resistance up to 1600 F.
4. COMPOSITION:

		Check Analysis	
		Under	Min or Over Max
Carbon	0.28 - 0.35	0.02	0.02
Manganese	0.75 - 1.50	0.04	0.04
Silicon	0.30 - 0.80	0.05	0.05
Phosphorus	0.040 max	—	0.005
Sulfur	0.030 max	—	0.005
Chromium	18.00 - 21.00	0.25	0.25
Nickel	8.00 - 11.00	0.15	0.15
Molybdenum	1.25 - 2.00	0.05	0.05
Tungsten	1.00 - 1.75	0.05	0.05
Titanium	0.40 - 0.75	0.05	0.05
Copper	0.50 max	—	0.03

5. CONDITION:
 - 5.1 Sheet: Hot rolled or cold finished, stress relieved and descaled having a surface appearance as close as possible to a commercial corrosion resistant steel No. 2D finish; actual acceptance and rejection standards shall be as agreed upon by purchaser and vendor.
 - 5.2 Strip: Cold finished, stress relieved and descaled (No. 1 Strip Finish).
 - 5.3 Plate: Hot rolled, stress relieved and descaled.
6. TECHNICAL REQUIREMENTS:
 - 6.1 Heat Treatment: Material shall be heated to 1200 F $\pm$ 25 and air cooled.

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