

ALLOY SHEET AND STRIP, CORROSION AND HEAT RESISTANT
Cobalt Base - 20Cr - 20Ni - 4Mo - 4W - 4Cb

This specification has been declared "NONCURRENT" by the Aerospace Materials Division, SAE, as of 4-17-80. It is recommended that this specification not be specified for new designs.

This cover sheet should be attached to the "A" revision of the subject specification.

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AEROSPACE MATERIAL SPECIFICATIONS

AMS5534A

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ALLOY SHEET AND STRIP, CORROSION AND HEAT RESISTANT Cobalt Base - 20Cr - 20Ni - 4Mo - 4W - 4Cb

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. **FORM:** Sheet, strip, and plate.
3. **APPLICATION:** Parts and assemblies, such as welded turbine nozzle assemblies, burner liner parts, tail pipes, exhaust cone assemblies, and hollow turbine buckets or blades, requiring high strength up to 1500 F and oxidation resistance up to 1800 F.
4. **COMPOSITION:**

Check Analysis Under Min or Over Max

Carbon	0.32 - 0.42	0.00	0.00
Manganese	2.00 max	--	0.04
Silicon	1.00 max	--	0.05
Phosphorus	0.040 max	--	0.005
Sulfur	0.030 max	--	0.005
Chromium	18.50 - 21.50	0.25	0.25
Nickel	18.50 - 21.50	0.20	0.20
Molybdenum	3.50 - 4.50	0.10	0.10
Tungsten	3.50 - 4.50	0.10	0.10
Columbium + Tantalum	3.50 - 4.50	0.05	0.05
Iron	5.00 max	--	--
Cobalt	40.00 min	--	--

5. **CONDITION:** Unless otherwise specified, material shall be hot rolled with or without subsequent cold reduction, solution heat treated, and pickled, having a surface appearance as close as possible to a commercial corrosion resistant steel No. 2D finish; standards for acceptance and rejection shall be as agreed upon by purchaser and vendor.
6. **TECHNICAL REQUIREMENTS:**
 - 6.1 **Heat Treatment:** Material shall be heated to 2150 F $\pm$ 20, followed by air cooling.
 - 6.2 **Physical Properties:**

Tensile Strength, psi	160,000 max
Elongation, % in 2 in.	20 min
Hardness, Rockwell C	35 max

Note: 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.

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