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

AMS 5742
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Revised

ALLOY, CORROSION AND HEAT RESISTANT
Iron Base - 20.5Cr - 32Ni - 1.1Ti

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.

2. FORM: Bars, forgings, and forging stock.

3. APPLICATION: Primarily for parts and assemblies requiring both corrosion and oxidation resistance and where such parts may require welding during fabrication. Parts and assemblies requiring oxidation resistance up to approximately 2000 F, but useful at the higher temperatures only when stresses are low.

4. COMPOSITION:

Carbon	0.10 max
Manganese	1.5 max
Silicon	1.0 max
Sulfur	0.03 max
Chromium	19.0 - 22.0
Nickel Cobalt	30.0 - 34.0
Cobalt, if determined	1.0 max
Titanium	0.75 - 1.5
Copper	0.50
Iron	remainder

5. CONDITION:

5.1 Rounds 2.5 in. and Less in Diameter: Cold finished and annealed.

5.2 Rounds Over 2.5 in. in Diameter: Hot finished and annealed. They may be turned, and shall be turned when specified.

5.3 Squares and Rectangles: Hot finished and annealed.

5.4 Forgings: Stress relieved by heating uniformly to 1825 F ± 25, holding at heat for 2 hr, and cooling in air.

5.5 Forging Stock: As ordered by the forging manufacturer.

6. TECHNICAL REQUIREMENTS:

6.1 Hardness: Shall be not higher than Brinell 190 or equivalent.

7. QUALITY: Material shall be uniform in quality and condition, clean, sound, and free from foreign materials and from internal and external imperfections detrimental to fabrication or to performance of parts.