



AEROSPACE MATERIAL SPECIFICATION

AMS5644™**REV. E**

Issued	1954-05
Revised	1964-06
Noncurrent	1982-10
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Stabilized	2017-04

Superseding AMS5644D

Steel, Bars and Forgings, Corrosion Resistant
17Cr - 7Ni - 1Al

UNS S17700

RATIONALE

AMS5644E stabilizes this document because it contains mature technology that is not expected to change and thus no further revisions are anticipated.

STABILIZED NOTICE

AMS5644E has been declared "STABILIZED" by the SAE AMS F Corrosion Heat Resistant Alloys Committee. This document was stabilized because this document contains mature technology that is not expected to change and thus no further revisions are anticipated. Previously this document was non-current. The last technical update of this document occurred in June, 1964. Users of this document should refer to the cognizant engineering organization for disposition of any issues with reports/certifications to this specification; including exceptions listed on the certification.

NOTE: In many cases, the purchaser may represent a sub tier supplier and not the cognizant engineering organization.

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1. ACKNOWLEDGMENT:

A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

2. FORM:

Bars, wire, forgings, and forging stock.

3. APPLICATION:

Primarily for parts requiring corrosion resistance and high strength up to 600 F (315 C), and when such parts may require welding during fabrication.

4. COMPOSITION:

	min	max
Carbon	--	0.09
Manganese	--	1.00
Silicon	--	1.00
Phosphorus	--	0.040
Sulfur	--	0.030
Chromium	16.00	18.00
Nickel	6.50	7.75
Aluminum	0.75	1.50

4.1 Check Analysis:

Composition variations shall meet the requirements of the latest issue of AMS 2248.

5. CONDITION:

5.1 Bars:

Solution heat treated at 1900 F $\pm$ 25 (1037.8 C $\pm$ 14) and water quenched, having hardness as indicated below when tested midway between center and surface.

- 5.1.1 Rounds: Unless otherwise specified, ground, turned, or polished, having hardness not higher than Brinell 229 or equivalent, except that rounds ordered cold drawn for size after solution heat treatment may have hardness not higher than Brinell 255 or equivalent.