



AEROSPACE MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

485 Lexington Ave., New York, N. Y. 10017

AMS 5825B

Superseding AMS 5825A

Issued 1-15-62

Revised 4-15-67

STEEL WIRE, WELDING, CORROSION RESISTANT 16. 4Cr - 4. 8Ni - 0. 22(Cb + Ta) - 3. 6Cu

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. APPLICATION: Primarily for use as filler metal for inert gas arc welding of precipitation hardening corrosion resistant steel parts fabricated from material of similar composition.
3. COMPOSITION:

	min	max
Carbon	--	0. 05
Manganese	0. 25	0. 75
Silicon	--	0. 75
Phosphorus	--	0. 025
∅ Sulfur	--	0. 025
Chromium	16. 00 -	16. 75
Nickel	4. 50 -	5. 00
Columbium + Tantalum	0. 15 -	0. 30
Copper	3. 25 -	4. 00

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

4. CONDITION:

- 4.1 Unless otherwise specified, wire shall be overaged and cold drawn, bright finish, as drawn temper. Wire shall be furnished on disposable spools for machine welding or in cut lengths for manual welding, as ordered.
- 4.2 Drawing compounds, oxides, and dirt shall be removed.
- 4.2.1 If pickling is necessary to remove surface contamination or scaling, only a light pickle shall be used.

5. TECHNICAL REQUIREMENTS:

- 5.1 Welding: Melted wire shall flow smoothly and evenly during welding and shall be capable of producing acceptable welds.
- 5.2 Hardenability: Weld metal deposits approximately 1/4 in. in thickness deposited on AMS 5643 steel shall be capable of attaining hardness not lower than Rockwell C 38 or equivalent when solution heat treated by heating to 1900 F + 25 (1037. 8 C ± 14), holding at heat for not less than 1/2 hr, and cooling to below 60 F (15. 6 C), and then precipitation heat treated by heating to 900 F ± 10 (482. 2 C ± 5. 6), holding at heat for 1 hr, and air cooling.
- 5.3 Spooled Wire: Shall conform to the following, unless otherwise agreed upon by purchaser and vendor.
 - 5.3.1 Cast: Wire shall have imparted to it a curvature such that a specimen sufficient in length to form one loop, when cut from the spool and laid on a flat surface, shall form a circle not less than 15 in. and not greater than 30 in. in diameter.

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