

AEROSPACE MATERIAL SPECIFICATION



AMS 5827G

Issued JAN 1962
Revised OCT 1992
Cancelled SEP 2000

Superseding AMS 5827F

Steel, Corrosion Resistant, Covered Welding Electrodes
16.4Cr - 4.8Ni - 0.22Cb - 3.6Cu

UNS W37410

CANCELLATION NOTICE

This specification has been declared "CANCELLED" by the Aerospace Materials Division, SAE, as of September 2000, and has been superseded by AWS A5.4 E630-15 or E630-16. The requirements of the latest issue of AWS A5.4 E630-15 shall be fulfilled whenever reference is made to the cancelled AMS 5827, Type A. The requirements of the latest issue of AWS A5.4 E630-16 shall be fulfilled whenever reference is made to the cancelled AMS 5827, Type B. When AMS 5827 is specified without reference to type, the requirements of AWS A5.4 E630-15 shall be fulfilled. By this action, this document will remain listed in the Numerical Section of the Index of Aerospace Material Specifications noting that it is superseded by AWS A5.4 E630.

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1. SCOPE:

1.1 Form:

This specification covers a corrosion-resistant steel in the form of covered welding electrodes.

1.2 Application:

Primarily for shielded-metal-arc welding of parts fabricated from steels of similar composition, particularly when the weld zone is required to have strength and corrosion-resistance comparable to those of the parent metal.

1.3 Classification:

Electrodes covered by this specification are classified as follows:

Type A - DC (AWS E630-15)

Type B - DC-AC (AWS E630-16)

1.3.1 When DC is specified, reverse polarity (electrode positive) is required.

1.3.2 If no type is specified, Type A electrodes shall be supplied.

2. APPLICABLE DOCUMENTS:

The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of purchase order.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AMS 5643 Steel Bars, Forgings, Tubing, and Rings, Corrosion-Resistant, 16Cr - 4.0Ni
- 0.30(Cb + Ta) - 4.0Cu, Solution Heat Treated

2.2 ASTM Publications:

Available from ASTM, 1916 Race Street, Philadelphia, PA 19103-1187.

ASTM E 18 Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials

ASTM E 353 Chemical Analysis of Stainless, Heat-Resisting, Maraging, and Other Similar
Chromium-Nickel-Iron Alloys

2.3 U.S. Government Publications:

Available from Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

MIL-W-10430 Welding Rods and Electrodes; Preparation for Delivery of

2.4 AWS Publication:

Available from American Welding Society, Inc., P.O. Box 351040, Miami, FL 33135-1040.

AWS A5.4 Corrosion-Resisting Chromium and Chromium-Nickel Steel Covered Welding Electrodes

3. TECHNICAL REQUIREMENTS:

3.1 Composition:

Weld metal deposited from electrodes shall conform to the percentages by weight shown in Table 1, determined by wet chemical methods in accordance with ASTM E 353, by spectrochemical methods, or by other analytical methods acceptable to purchaser.

TABLE 1 - Composition

Element	min	max
Carbon	--	0.05
Manganese	0.25	0.75
Silicon	--	0.75
Phosphorus	--	0.04
Sulfur	--	0.03
Chromium	16.00	16.75
Nickel	4.50	5.00
Columbium	0.15	0.30
Copper	3.25	4.00
Molybdenum	--	0.75

- 3.1.1 Weld Pads for Chemical Analysis: The referee procedure for making pads of weld metal and removing samples for chemical analysis shall be AWS A5.4.