



AEROSPACE MATERIAL SPECIFICATION

AMS5797™**REV. E**

Issued	1952-11
Revised	2002-01
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Stabilized	2018-01

Superseding AMS5797D

Cobalt Alloy, Corrosion and Heat-Resistant, Covered Welding Electrodes
51.5Co - 20Cr - 10Ni - 15W
(Composition similar to UNS W73605)

RATIONALE

AMS5797E has been declared "STABILIZED" by SAE AMS Committee F Corrosion and Heat Resistant Alloys.

STABILIZED NOTICE

AMS5797E has been declared "STABILIZED" by SAE AMS Committee F Corrosion and Heat Resistant Alloys. This document will no longer be updated and may no longer represent standard industry practice. This document was stabilized because it is no longer state of the art and other document contain similar but not necessarily equivalent requirements. Previously this document was reaffirmed. The last technical update of this document occurred in January, 2002. Users of this document should refer to the cognizant engineering organization for disposition of any issues with reports/certifications to this specification.

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

AMS Committee F recommends that the following similar but not necessarily identical specification may be considered for future procurement. This listing does not constitute authority to substitute this specification for the "STABILIZED" specification.

MIL-E-22200/3 Electrodes, Welding, Covered: Nickel Base Alloy ; And Cobalt Base Alloy—Type MIL-3-N1L

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1. SCOPE

1.1 Form

This specification covers a corrosion and heat-resistant cobalt alloy in the form of covered welding electrodes.

1.2 Application

These electrodes have been used typically for shielded-metal-arc welding of parts fabricated from material of similar composition, particularly when the weld zone is required to have corrosion and heat resistance comparable to that of the parent metal, but usage is not limited to such applications.

1.3 Classification

The electrodes covered by this specification are classified as follows:

Type A - DC

Type B - DC - AC

Type C - DC

Type D - DC - AC

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

1.3.2 If a type is not specified, Type A shall be supplied.

1.3.3 Lime-type coverings are required for Types A and C electrodes.

2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been canceled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 ASTM Publications

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM E 354 Chemical Analysis of High-Temperature, Electrical, Magnetic, and Other Similar Iron, Nickel, and Cobalt Alloys

2.2 AWS Publications

Available from American Welding Society, Inc., 550 NW LeJeune Road, Miami, FL 33126.

AWS A5.4 Stainless Steel Electrodes for Shielded Metal Arc Welding

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 354, by spectrochemical methods, or by other analytical methods acceptable to purchaser.

TABLE 1 - COMPOSITION

Element	min	max
Carbon	--	0.15
Manganese	0.50	2.00
Silicon	--	1.00
Phosphorus	--	0.03
Sulfur	--	0.03
Chromium	19.00	21.00
Nickel	9.00	11.00
Tungsten	14.00	16.00
Iron	--	3.00
Cobalt	remainder	

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.

3.2 Properties

Electrodes shall conform to the following requirements: