Society of Automotive Engineers, Inc.
TWO PENNSYLVANIA PLAZA, NEW YORK, N.Y. 10001

AEROSPACE MATERIAL SPECIFICATION

AMS 5030C
Superseding AMS 5030B

Issued 5-1-48
Revised 6-1-74

STEEL WIRE, WELDING
Low Carbon

1. SCOPE:

1.1 Form: This specification covers a low-carbon steel in the form of welding wire.

1.2 Application: Primarily for use as filler metal for welding low-carbon and low-alloy steels.

2. APPLICABLE DOCUMENTS: The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications (AMS) shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

2.1 SAE Publications: Available from Society of Automotive Engineers, Inc., Two Pennsylvania Plaza, New York, New York, 10001.

2.1.1 Aerospace Material Specifications:

AMS 2259 - Chemical Check Analysis Limits, Wrought Low-Alloy and Carbon Steels
AMS 2350 - Standards and Test Methods
AMS 2370 - Quality Assurance Sampling of Carbon and Low-Alloy Steels, Wrought Products Except Forgings and Forging Stock
AMS 2813 - Packaging, Welding Wire, Standard Method
AMS 2816 - Identification, Welding Wire, Color Code System

2.2 ASTM Publications: Available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania, 19103.

ASTM E350 - Chemical Analysis of Carbon Steel, Low-Alloy Steel, Silicon Electrical Steel, Ingot Iron, and Wrought Iron

2.3 Government Publications: Available from Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, Pennsylvania, 19120.

2.3.1 Federal Standards:

Federal Test Method Standard No. 151 - Metals; Test Methods

3. TECHNICAL REQUIREMENTS:

3.1 Composition: Shall conform to the following percentages by weight, determined by wet chemical methods in accordance with ASTM E350, by spectrographic methods in accordance with Federal Test Method Standard No. 151, Method 112, or by other approved analytical methods:

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	min	max
Carbon	--	0.06
Manganese	--	0.25
Silicon	--	0.08
Phosphorus	--	0.040
Sulfur	--	0.040
Copper	--	0.15

3.1.1 Check Analysis: Composition variations shall meet the requirements of AMS 2259, paragraph titled, "Carbon Steels, Wire, Other Than Flat."

3.2 Condition: Cold drawn, copper coated.

3.3 Properties:

3.3.1 Weldability: Melted wire shall flow smoothly and evenly during welding and shall be capable of producing acceptable welds, determined by a procedure agreed upon by purchaser and vendor.

3.4 Quality: Wire shall be uniform in quality and condition, clean, sound, and free from foreign materials and from internal and external imperfections detrimental to welding operations, operation of welding equipment, or properties of the deposited weld metal.

3.5 Sizes and Tolerances: Unless otherwise specified, wire shall be supplied in the sizes and to the tolerances shown in 3.5.1 and 3.5.2.

3.5.1 Diameter:

TABLE I

Form	Nominal Diameter Inch	Tolerance, Inch plus and minus
Cut Lengths	0.045, 0.062, 0.078, 0.093, 0.125	0.003

TABLE I (SI)

Form	Nominal Diameter Millimetres	Tolerance, Millimetre plus and minus
Cut Lengths	1.14, 1.57, 1.98, 2.36, 3.18	0.08

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3.5.2 Length: Cut lengths shall be furnished in 18, 27, or 36 in. (457, 686, or 914 mm) lengths, as ordered, and shall not vary more than + 0, -1/2 in. (-12.7 mm).

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection: The vendor of the wire shall supply all samples and shall be responsible for performing all required tests. Results of such tests shall be reported to the purchaser as required by 4.4. Purchaser reserves the right to perform such confirmatory testing as he deems necessary to assure that the wire conforms to the requirements of this specification.

4.2 Classification of Tests:

4.2.1 Acceptance Tests: Tests to determine conformance to composition (3.1) and tolerance (3.5) requirements are classified as acceptance or routine control tests.

4.2.2 Qualification Tests: Tests to determine conformance to weldability (3.3.1) requirements are classified as qualification or periodic control tests.