



AEROSPACE MATERIAL SPECIFICATION

AMS7728™**REV. J**

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Superseding AMS7728H

Iron-Nickel-Cobalt Alloy, Sheet, Strip, and Plate
53Fe - 29Ni - 17Co
Low Expansion Glass Sealing, Annealed

K94610

RATIONALE

AMS7728J has been declared "STABILIZED" by AMS Committee F. This document was stabilized because this document contains mature technology that is not expected to change and thus no further revisions are anticipated.

STABILIZED NOTICE

AMS7728J 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, 2000. 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.

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

ASTM F15 Iron-Nickel-Cobalt Sealing Alloy

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1. SCOPE:

1.1 Form:

This specification covers an iron-nickel-cobalt alloy in the form of sheet, strip, and plate.

1.2 Application:

These products have been used typically for electronic elements to be sealed to hard glasses during assembly, but usage is not limited to such applications.

2. APPLICABLE DOCUMENTS:

The issue of the following documents in effect on the date of the purchase order form 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 SAE Publications:

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

AMS 2371	Quality Assurance Sampling and Testing, Corrosion and Heat Resistant Steels and Alloys, Wrought Products and Forging Stock
AMS 2807	Identification, Carbon and Low-Alloy Steels, Corrosion and Heat Resistant Steels and Alloys, Sheet, Strip, Plate, and Aircraft Tubing

2.2 ASTM Publications:

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

ASTM E 18	Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials
ASTM E 112	Determining the Average Grain Size
ASTM E 228	Linear Thermal Expansion of Solid Materials with a Vitreous Silica Dilatometer
ASTM E 354	Chemical Analysis of High-Temperature, Electrical, Magnetic, and Other Similar Iron, Nickel, and Cobalt Alloys

3. TECHNICAL REQUIREMENTS:

3.1 Composition:

Shall be approximately 53% iron, 29% nickel, and 17% cobalt by weight with impurities not exceeding the percentages by weight shown in Table 1; composition shall be determined by wet chemical methods in accordance with ASTM E 354, by spectrochemical methods, or by other analytical methods acceptable to purchaser.

TABLE 1 - Maximum Impurities

Element	max
Carbon	0.04
Manganese	0.50
Silicon	0.20
Chromium	0.20
Molybdenum	0.20
Copper	0.20
Titanium	0.10
Aluminum	0.10
Magnesium	0.10
Zirconium	0.10
Sum of Ti+Al+Mg+Zr	0.20

3.2 Condition:

Cold rolled and bright annealed, having a surface appearance comparable to the following commercial corrosion-resistant steel finishes as applicable (See 8.2).

3.2.1 Sheet: No. 2D finish

3.2.2 Strip: No. 1 strip finish

3.3 Properties:

The product shall conform to the following requirements:

3.3.1 As Received:

3.3.1.1 Average Grain Size: Shall be ASTM No. 5 or finer, determined in accordance with ASTM E 112.