MIL-F-62453(AT)
8 July 83
Superseding
(see 6.3)

MILITARY SPECIFICATION
FIBER METAL, SHEET, NICKEL BASE, UNBACKED

This specification is approved for use by the US Army Tank-Automotive Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers one type of unbacked nickel base fiber metal material.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards and handbooks. Unless otherwise specified, the following specifications and standards of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation, form a part of this specification to the extent specified herein.

STANDARDS
MILITARY

MIPD-STD-1872 - Radiographic Inspection, Method of.

(Copies of specifications, standards, drawings, and publications required by manufacturers in connection with specific acquisition functions should be obtained from the Army Tank-Automotive Command, ATTN: DRSTA-GSS, Warren, MI 48090 or as directed by the contracting officer.)

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: US Army Tank-Automotive Command, ATTN: DRSTA-GSS, Warren, MI 48090, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document, or by letter.

FSC 9515

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2.2 Other publications. The following document(s) form a part of this specification to the extent specified herein. The issues of the documents which are indicated as DoD adopted shall be the issue listed in the current DoDISS and the supplement thereto, if applicable.

SOCIETY OF AUTOMOTIVE ENGINEERS, INC. (SAE)

AS 478	- Identification Marking Methods.
AMS 2269	- Chemical Check Analysis Limits - Wrought Nickel Alloys and Cobalt Alloys.

(Application for copies should be addressed to the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096.)

(Industry association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and Federal agencies).

2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS

3.1 Condition. Material shall consist of a fiber metal material of sintered metal fibers with a controlled density.

3.2 Quality. Material shall be uniform in quality and condition, clean and free from foreign materials and imperfections detrimental to fabrication, appearance, or performance.

3.3 Chemical composition. Chemical composition shall conform to the following percentages by weight:

	Min	Max
Carbon	0.05	0.45
Chromium	20.5	23.0
Iron	17.0	20.0
Molybdenum	8.0	10.0
Cobalt	0.50	2.50
Tungsten	0.20	1.00
Boron	--	0.010
Nickel	Remainder	

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3.3.1 Composition variations. Composition variations shall meet requirements of AMS 2269.

3.4 Density. Density of the material shall be the equivalent in weight of 1.48 to 1.65 grams per cubic centimeter (0.053 to 0.059 pound per cubic inch) or 19 ± 1 percent of base density of 8.23 grams per cubic centimeter (0.294 pound per cubic inch).

3.5 Identification and marking. Material shall be marked with MIL-F-62453(AT) and vendors batch or lot number in accordance with AS 478, method 30.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use any facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1 Certification. Supplier shall furnish three copies of a certificate with each shipment stating the following information:

a. Purchase order number.
b. Size (length, width, thickness).
c. Quantity.
d. Heat code or sheet identification.
e. Sheet properties.
f. Conformance to this specification, MIL-F-62453(AT).

4.2 Quality conformance inspections.

4.2.1 Inspection. Each fiber metal sheet shall be subject to radiographic inspection in accordance with MIPD-STD-1872. Radiographic inspection shall not show evidence of the presence of any apparent high or low density areas.

4.3 Sampling.

4.3.1 Density. To determine conformance to 3.4, a material sample from each heat lot shall be weighed.

5. PACKAGING

5.1 Preservation, packaging and packing. Fiber metal sheet shall be prepared for shipment in accordance with commercial practice to assure carrier acceptance and safe transportation to the point of delivery. Packaging shall conform to requirements of carrier rules and regulations applicable to the mode of transportation.

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5.2 Marking. All interior packages and shipping containers shall be permanently and legibly marked for the purpose of shipment and storage.

6. NOTES

6.1 Intended use. The material is primarily intended for use in abradable and/or compressible sealing applications at temperatures of up to 1300°F (705°C).

6.2 Ordering data. Acquisition documents should specify the following:

a. Title, number, and date of this specification.
b. Size (length, width, thickness) or drawing number for finished or assembled products.
c. Quantity.

6.3 Supersession data. The specification supersedes Avco Lycoming Inc. internal specification M3619C, dated 16 April 1982.

Custodian:
Army - AT

Preparing activity:
Army - AT

Project No. 9515-A036

☆U.S. GOVERNMENT PRINTING OFFICE: 1983 – 605-034/3667

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STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions – Reverse Side)

1. DOCUMENT NUMBER	2. DOCUMENT TITLE
MIL-F-62453(AT)	Fiber Metal, Sheet, Nickel Base, Unbacked

3a. NAME OF SUBMITTING ORGANIZATION	4. TYPE OF ORGANIZATION *(Mark one)*
	☐ VENDOR ☐ USER ☐ MANUFACTURER ☐ OTHER *(Specify)*: _____
b. ADDRESS *(Street, City, State, ZIP Code)*	

5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation:

6. REMARKS

7a. NAME OF SUBMITTER *(Last, First, MI)* – Optional	b. WORK TELEPHONE NUMBER *(Include Area Code)* – Optional
c. MAILING ADDRESS *(Street, City, State, ZIP Code)* – Optional	8. DATE OF SUBMISSION *(YYMMDD)*

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