AERONAUTICAL
MATERIAL SPECIFICATIONS
SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

AMS 7719

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Revised

MAGNETIC ALLOY SHEET AND STRIP
Nickel-Iron Alloy
Stamping Quality

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.

2. FORM: Sheet and strip.

3. APPLICATION: Primarily for parts used in magnetic circuits requiring high magnetic permeability and saturation induction after high temperature annealing in hydrogen.

4. COMPOSITION: Shall be a metallic alloy containing approximately 50% nickel and 50% iron with perhaps several other alloying elements in such proportions as to meet the technical requirements.

5. CONDITION: Unless otherwise specified, material shall be cold rolled having a surface appearance as close as possible to a commercial corrosion resistant steel No. 2D finish; actual acceptance and rejection standards shall be as agreed upon by purchaser and vendor.

6. TECHNICAL REQUIREMENTS:

6.1 Hardness: Unless otherwise specified, material shall have hardness not lower than Rockwell B 90 or equivalent.

6.2 Magnetic Properties after Heat Treatment: Material shall conform to the following requirements after annealing by heating to 2150 F + 25 in a dry hydrogen atmosphere (-60 F max dew point), holding at heat for 4 hr, and cooling to 1100 F at a rate not greater than 100 F per hr in a non-oxidizing atmosphere; tests shall be performed in accordance with Sections 7 thru 19 of ASTM A341-55, using an assumed density of 8.26 g per cubic centimeter.

6.2.1 Maximum Permeability, min

Under 0.020 in. thickness	60,000
0.020 in. thickness and over	40,000

6.2.2 Permeability at 100 gausses, min

Under 0.020 in. thickness	8,000
0.020 in. thickness and over	6,000

6.2.3 Saturation Induction at 100 oersteds, gausses, min 15,000

7. QUALITY: Material shall be uniform in quality and condition, clean, sound, and free from foreign materials and from internal and external imperfections detrimental to fabrication or to performance of parts.

8. TOLERANCES: Unless otherwise specified, tolerances shall conform to the latest issue of AMS 2242.