AEROSPACE
MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York, N.Y. 10017

AMS 7716

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Revised

STEEL, FLAT-ROLLED ELECTRICAL, ORIENTED
3Si
AISI Type M-6, Completely Processed

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

2. FORM: Sheet and strip in coils or cut lengths.

3. APPLICATION: Primarily for use as a core material in power transformers for the electronic industry and in distribution transformers, designed to operate at frequencies of 60 cps and with the flux path parallel to the rolling direction of the steel.

4. COMPOSITION: Iron base, silicon approximately 3%.

5. CONDITION: Cold rolled, grain-oriented material, fully processed by the supplier to develop the specified core loss and lamination factor.

5.1 Surface Coating: Unless otherwise specified, material shall be coated by a chemical and thermal treatment conforming to AISI Type C-4 or C-5 insulation, to provide interlamination resistance.

6. TECHNICAL REQUIREMENTS: When ASTM methods are specified for determining conformance to the following requirements, tests shall be conducted in accordance with the issue of the ASTM method listed in the latest issue of AMS 2350.

6.1 Magnetic Properties: Material shall conform to the following requirements after annealing for two hours at 790 C ± 14 (1454 F ± 25) in a protective atmosphere; tests shall be performed in accordance with the methods listed in ASTM A34 and ASTM A343.

6.1.1 Core Loss at 60 Hertz, w per lb, max:

6.1.1.1 Epstein specimens from material treated in accordance with 6.1, cut parallel to the rolling direction, shall not exceed the following maximum core losses.

Nominal Thickness Inch	Core Loss at 15 Kilogausses
0.011	0.63
0.012	0.64
0.014	0.66

6.1.2 Lamination Factor: Material treated in accordance with 6.1 shall have a lamination (stacking) factor not lower than 96%.

6.1.3 Permeability: Material treated in accordance with 6.1, tested parallel to the rolling direction, shall have a permeability value as agreed upon by purchaser and vendor.

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 the AISI products manual for Flat-Rolled Electrical Steel.