

AERONAUTICAL MATERIAL SPECIFICATIONS

AMS 7712

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Revised

STEEL, FLAT-ROLLED ELECTRICAL
2.5Si
AISI Type M-27, Semiprocessed

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 in motors and generators of good efficiencies, small transformers, reactors, and other apparatus where medium core losses are desired.
4. COMPOSITION: Iron base, nominal 2.5% silicon.
5. CONDITION: Semiprocessed material, in which the specified core loss is developed by the purchaser. Unless otherwise specified, either cold rolled or hot rolled material may be supplied.
6. TECHNICAL REQUIREMENTS:
 - 6.1 Magnetic Properties: Material shall conform to the following requirements after annealing at not lower than 1450 F by means which will avoid carburization or excessive oxidation; tests shall be performed in accordance with the methods listed in ASTM A34-55, insofar as practicable, using assumed density of 7.65 g per cubic centimeter.
 - 6.1.1 Core Loss at 60 Cycles, w per lb, max:
 - 6.1.1.1 Epstein specimens cut from material treated in accordance with 6.1 (fully processed) shall not exceed the following maximum core losses at either 10 or 15 kilogausses as specified on the purchase order. If no value is specified on the purchase order, requirements for 15 kilogausses shall apply.

Nominal Thickness Inch	Core Loss at 10 Kilogausses	Core Loss at 15 Kilogausses
0.0140	1.01	2.46
0.0155	1.05	2.55
0.0170	1.09	2.63
0.0185	1.14	2.74
0.0220	1.22	2.92
0.0250	1.30	3.09
0.0280	1.44	3.41
0.0310	1.60	3.78

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