



Designation: A 904 – 9804

Standard Specification for 50 Nickel-50 Iron Powder Metallurgy (P/M) Soft Magnetic Parts¹

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1. Scope

1.1 This specification covers the magnetic properties of 50 nickel-50 iron parts fabricated by powder metallurgy techniques and is intended for parts that require high magnetic permeability, high electrical resistivity, low coercive field strength, and low hysteresis loss. It differs from the wrought alloy specification (see Specification A 753) because these parts are porous. A number of magnetic properties such as permeability are proportional to the sintered density.

1.2 This specification deals with P/M parts in the sintered or annealed condition. Should the sintered parts be subjected to any secondary operation that causes mechanical strain, such as machining or sizing, they should be resintered or annealed.

1.3 The values stated in ~~either customary (cgs-emu and inch-pound) units or SI units~~ are to be regarded separately as standard. ~~Within the text, the SI units are shown in brackets. The values stated given in each system parentheses are mathematical conversions to SI units, which are provided for information only and are not exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with this specification.~~ considered standard.

¹ This specification is under the jurisdiction of ASTM Committee A06 on Magnetic Properties and is the direct responsibility of Subcommittee A06.02 on Material Specifications.

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