



AEROSPACE MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

485 Lexington Ave., New York, N. Y. 10017

AMS 2418B

Superseding AMS 2418A

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COPPER PLATING

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. **APPLICATION:** Primarily to provide an anti-seize surface, to prevent carburizing of surfaces on which carburizing is neither required nor permitted, for prevention of decarburization, or for a source of copper for furnace brazing.
3. **PREPARATION:**
 - 3.1 All welding and brazing (except when copper plate is used as a source of copper for brazing) shall be completed before parts or assemblies are plated.
 - 3.2 Before placing the parts in plating solutions, they shall have chemically clean surfaces prepared with minimum abrasion, erosion, or pitting.
4. **PROCEDURE:**
 - 4.1 The plating process consists of electrodeposition of copper from a conventional copper cyanide solution directly on the metal part or from a high speed copper cyanide solution following a "copper strike", except that on parts made of corrosion-resistant steels, a preliminary flash of nickel or other suitable metal is permissible.
 - 4.2 Unless otherwise specified, after plating, rinsing, and drying, all parts having hardness higher than Rockwell C 40 that are not to be subsequently carburized, heat treated, or brazed, shall be suitably heated to relieve possible embrittlement. Temperatures to which parts are heated shall in no case be so high as to reduce the hardness of the basis metal below drawing limits but shall be not lower than 300 F (149 C) for not less than 1 hr, unless otherwise specified. At higher temperatures, the time may be shortened.
5. **THICKNESS:**
 - 5.1 AMS 2418 shall designate plate thickness of 0.0005 - 0.0007 inch.
 - 5.2 Other plate thicknesses may be specified by this specification number and a suffix number designating the minimum thickness in ten thousandths of an inch; thus AMS 2418-1 designates a thickness of 0.0001 - 0.0003 in., AMS 2418-6 designates a thickness of 0.0006 - 0.0008 inch. A tolerance of +0.0002 in. on thickness is allowed, unless otherwise specified.
 - 5.3 Where "copper flash" is specified, the thickness of copper shall be approximately 0.0001 inch.
 - 5.4 If internal surfaces or surfaces of small holes and deep recesses are required to be plated, notes on drawings will so specify, but minimum plate thickness requirements will be waived except when such surfaces can be touched by a sphere 0.75 in. in diameter. When plating of such surfaces is specified, external surfaces may have plate thickness greater than that specified, but this will not be cause for rejection if dimensions of parts are within specified tolerances.

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