Society of Automotive Engineers, Inc.
TWO PENNSYLVANIA PLAZA, NEW YORK, N.Y. 10000

# AEROSPACE MATERIAL SPECIFICATION

AMS 3682A
Superseding AMS 3682

Issued 11-1-68
Revised 5-1-69

## COATING, ELECTRICALLY CONDUCTIVE
Silver - Organic Resin

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

2. FORM: The material shall be supplied in liquid form suitable for application by brushing or (after thinning if required) by spraying.

3. APPLICATION: Primarily for providing an electrically conductive coating on either metals or nonmetals for shielding purposes or as a precoating prior to electroplating.

4. COMPOSITION: Unless otherwise specified, the coating shall consist of epoxy resin filled with silver. A curing agent shall be supplied as a separate package.

   Caution: In high humidity or presence of moisture, the silver particles in this coating can set up corrosion cells in contact with other metals which are lower in the electromotive series. Also, silver migration or whisker growth may occur between points of unequal electrical potential.

5. 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, insofar as practicable.

5.1 General:

5.1.1 Shelf Life: The material shall be capable of meeting requirements of this specification after storage for not less than 6 months from date of manufacture when stored in unopened containers at temperatures not higher than 30 C (86 F).

5.1.2 Corrosion: The coating shall not have a corrosive effect on other materials when exposed to conditions normally encountered in service. Discoloration of metal shall not be considered objectionable.

5.2 Properties: When mixed, applied, and cured in accordance with manufacturer's instructions, the coating shall have the following properties:

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|---|---|---|
| Cure Time at 25 C (77 F), hr, max | 24 | |
| Surface Resistivity, ohm per sq, max | 0.005 | ASTM D257 |
| Salt Spray Resistance, hr, min | 48 | ASTM B117 (See Note 1) |
| Fungus Resistance | Pass (Rating 1) | ASTM D1924 |

Note 1. Specimen size, shape, and preparation shall be as agreed upon by purchaser and vendor.

5.2.1 Appearance: The coating shall be smooth and free from sags, runs, bubbles, blisters, pits, and streaks.