Society of Automotive Engineers, Inc.
TWO PENNSYLVANIA PLAZA, NEW YORK, N.Y. 10001

AEROSPACE MATERIAL SPECIFICATION

AMS 3410F
Superseding AMS 3410E
Issued 3-13-40
Revised 6-1-74

FLUX, SILVER BRAZING

1. SCOPE:

1.1 Form: This specification covers a silver brazing compound in paste form containing not more than 35% water by weight.

1.2 Application: Primarily for silver brazing nonferrous (excluding aluminum- and magnesium-base alloys) and ferrous metals (including austenitic steels) at temperatures between 1150°F and 1600°F (620°C and 870°C).

2. APPLICABLE DOCUMENTS: The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications (AMS) shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

2.1 SAE Publications: Available from Society of Automotive Engineers, Inc., Two Pennsylvania Plaza, New York, New York 10001.

2.1.1 Aerospace Material Specifications:

AMS 2350 - Standards and Test Methods

2.2 ASTM Publications: Available from American Society For Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania, 19103.

ASTM E11 - Wire-Cloth Sieves For Testing Purposes

3. TECHNICAL REQUIREMENTS:

3.1 Material: The flux shall be an intimately blended mixture of uniform consistency. It shall not separate in the container to such an extent that it cannot be restored to uniform consistency by stirring.

3.1.1 The flux, when diluted with water as required, shall have acceptable fusibility and acceptable application and fluxing characteristics, and shall produce satisfactory brazed joints of any type on copper-and nickel-base alloys and all types of steels, including corrosion resistant types, when used in conjunction with silver brazing filler metal.

3.2 Properties:

3.2.1 Flux shall withstand heating in a suitable container to 1600°F ± 10 (871.1°C ± 5.6) and holding at heat for 30 min. ± 3 without appreciable change in physical characteristics. On heating, flux shall fuse at 1150°F (621°C) or lower; on cooling from 1600°F (871°C), flux shall remain in the liquid state until temperature drops to 1150°F (621°C) or lower.

3.2.2 Flux, when placed on a U.S. Standard 40-mesh sieve conforming to ASTM E11 and worked lightly with a brush, shall pass completely through the sieve. If the flux has partially coagulated in the container, the flux may, before conducting the test, be warmed over a water bath until it has returned to its normal consistency.

3.2.3 Flux shall not produce, during use, a flame or smoke of sufficient intensity to obscure the work.

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3.2.4 Flux shall be soluble in water at 175°F (79° C) or lower after being subjected to normal brazing operations.

3.3 Quality: Flux shall be free from all substances which might affect its serviceability.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection: The vendor of the flux shall supply all samples and shall be responsible for performing all required tests. Results of such tests shall be reported to the purchaser as required by 4.5. Purchaser reserves the right to perform such confirmatory testing as he deems necessary to assure that the flux conforms to the requirements of this specification.

4.2 Classification of Tests: Tests to determine conformance to all technical requirements of this specification are classified as acceptance or routine control tests.

4.3 Sampling: At least one randomly selected sample of flux per batch shall be used for testing. A batch is defined as all material in an identifiable quantity processed at one time and presented for inspection at one time.

4.4 Approval:

4.4.1 Sample flux shall be approved by purchaser before flux for production use is supplied, unless such approval be waived. Results of tests on production flux shall be essentially equivalent to those on the approved sample.

4.4.2 Vendor shall use ingredients, manufacturing procedures, processes, and methods of inspection on production flux which are essentially the same as those used on the approved sample flux. If any change is necessary in ingredients, in type of equipment for processing, or in manufacturing procedures, vendor shall submit samples for reapproval unless purchaser grants written approval after review of a detailed statement of materials and processing used on the approved sample and those proposed. No production flux made by the revised procedure shall be shipped prior to receipt of approval of such changes.

4.5 Reports: The vendor of the product shall furnish with each shipment three copies of a report stating that the flux conforms to the technical requirements of this specification. This report shall include the purchase order number, material specification number and its revision letter, batch number, date of manufacture, and quantity.

4.6 Resampling and Retesting: If any specimen used in the above tests fails to meet the specified requirements, disposition of the product may be based on the results of testing three additional specimens for each original nonconforming specimen. Failure of any retest specimen to meet the specified requirements shall be cause for rejection of the flux represented and no additional testing shall be permitted. Results of all tests shall be reported.

5. PREPARATION FOR DELIVERY:

5.1 Identification: Each package shall be permanently and legibly marked to give the following information:

FLUX, SILVER BRAZING
AMS 3410F
PURCHASE ORDER NUMBER _____
MANUFACTURER'S NAME _____
MANUFACTURER'S DESIGNATION _____
BATCH NUMBER _____
DATE OF MANUFACTURE _____
DIRECTIONS FOR MIXING AND APPLICATION _____
WEIGHT OF CONTENTS _____