

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
29 West 39th Street
New York City

AMS 3412 A

Issued 5-1-48

Revised 6-15-52

FLUX, ALUMINUM BRAZING

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. FORM: Powder.
3. APPLICATION: Brazing of aluminum and aluminum alloys at temperatures of 1050 F and above.
4. GENERAL REQUIREMENTS:
 - 4.1 Flux shall be a finely ground and uniformly blended mixture, free of all substances which might adversely affect its serviceability.
 - 4.2 Flux shall not harden in the container. A slight amount of agglomeration is permissible provided the lumps can be readily broken into a powder no coarser than the remainder of the material.
 - 4.3 Flux, when mixed with water in the proportions of 3 to 1 by weight, with or without a suitable wetting agent as desired, shall form a smooth paste, free from coarse particles, having acceptable fusibility and acceptable application and fluxing characteristics. Flux shall permit production of satisfactorily brazed joints of any type on applicable aluminum alloys when used in conjunction with aluminum brazing alloys.
 - 4.4 Flux shall not produce, during use, a flame or smoke of sufficient intensity to obscure the work.
 - 4.5 Flux shall not produce toxic or suffocating fumes under normal conditions of use.
 - 4.6 Flux should be readily removed by water at 190 F or hotter after being subjected to brazing operations. If the flux is not completely removed by the hot water but is removed by immersion in a 10% solution of nitric acid to which 0.25% hydrofluoric acid is added, for not more than 15 min. at 100 F, followed by a final rinse, the flux will be acceptable.
5. TECHNICAL REQUIREMENTS:
 - 5.1 Flux shall not contain more than 5% water by weight.
 - 5.2 On heating, flux shall fuse at 1050 F or lower; on cooling from 1100 F or higher, flux shall remain in the liquid state until the temperature drops to 1050 F or lower.

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