

AERONAUTICAL MATERIAL SPECIFICATIONS

AMS 3416

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

Issued 6-30-60
Revised

FLUX, ALUMINUM DIP BRAZING 1090 F Fusion Point

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. FORM: Granular.
3. APPLICATION: Brazing of aluminum and aluminum alloys in a molten flux bath at temperatures above 1100 F.
4. GENERAL REQUIREMENTS:
 - 4.1 Flux shall be a uniformly blended mixture free of all substances which might adversely affect its serviceability.
 - 4.2 Flux shall permit production of satisfactory brazed joints on aluminum or applicable aluminum alloys when used in conjunction with aluminum brazing alloys.
 - 4.3 Flux shall not erode parent metal to an extent greater than indicated by the following test:
 - 4.3.1 A coupon of AMS 4001, or equivalent, 0.025 in. thick x 1 in. wide x 6 in. long, immersed for 2 min. in a bath of dehydrated molten flux at 1120 F shall not be reduced more than 0.001 in. in thickness.
 - 4.4 Flux adhering to brazed assemblies should be removed by water at 190 F or hotter. If the flux is not completely removed by the hot water but is removed by immersion in a solution containing 10% HNO_3 and 0.25% H_2F_2 , for not more than 15 min. at 100 F, followed by a final hot water rinse, the flux will be acceptable.
5. TECHNICAL REQUIREMENTS:
 - 5.1 Flux shall be primarily metallic chlorides with addition of metallic fluorides, and shall contain not more than 5% by weight of water. Flux shall not contain any metallic chlorides or fluorides that deposit corresponding metals on the aluminum assembly during brazing.
 - 5.2 On heating, flux shall fuse at 1035 - 1090 F; on cooling from 1110 F or higher, flux shall remain in the fluid state until the temperature drops to 1035 - 1090 F.
6. REPORTS: Unless otherwise specified, the vendor of flux shall furnish with each shipment three copies of a report stating that the flux conforms to the requirements specified. This report shall include the purchase order number, material specification number, lot number or date of manufacture, and quantity.

using standards approved and practices recommended, are advisory only. Their use by anyone engaged in industry or trade is entirely voluntary. There is no agreement to conform to or be guided by any technical report. In formulating and approving technical reports, the Board and its Committees will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents.

Section 8.3 of the SAE Technical Board rules provides that: "All technical report use by anyone engaged in industry or trade is entirely voluntary. There is no agreement to conform to or be guided by any technical report. In formulating and approving technical reports, the Board and its Committees will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents."