

AERONAUTICAL MATERIAL SPECIFICATIONS

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AMS 3416

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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.

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