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

AEROSPACE MATERIAL SPECIFICATION

AMS 2673A
Superseding AMS 2673
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ALUMINUM MOLTEN FLUX (DIP) BRAZING

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

2. APPLICATION: Primarily for joining aluminum and selected aluminum alloys by immersion in molten flux bath.

3. PROCESS REQUIREMENTS:

3.1 Surface Condition: The mating surfaces and adjacent areas of all parts to be joined shall be thoroughly cleaned prior to assembly to remove all oil, grease, paint, dirt, oxide, and other foreign materials.

3.1.1 Cleaning: Shall include controlled alkaline solution dip, cold water rinse, acid brightener dip, cold water rinse, and hot water rinse, unless otherwise specified.

3.2 Fluxing: Unless otherwise specified, flux conforming to AMS 3415 or AMS 3416 shall be melted in suitable containers and held at proper temperature to provide satisfactory joints. Molten flux shall be dehydrated when necessary by repeated immersion of clean, dry AMS 4001 aluminum sheets or coils, or equivalent, until no dark oxide film appears on the metal surface.

3.3 Assembly: Parts to be joined shall be assembled so that clearances between mating surfaces are within tolerances specified on drawing. Assembly should be supported so that the parts will be in proper alignment after brazing. Jigs, fixtures, and clamps shall be fabricated from materials that will not significantly contaminate the flux bath. On closed assemblies, vent holes shall be provided as specified.

3.4 Brazing Material: Sufficient brazing filler alloy shall be prepositioned within, or in close proximity to, the joint except when parts to be brazed are fabricated from clad brazing sheet such as AMS 4054, AMS 4055, or other such materials. Unless otherwise specified, aluminum brazing filler metal shall conform to AMS 4185. Aluminum brazing alloy powder may be mixed with flux and water to form a paste of such consistency as will allow a uniform coating to be applied to the parts.

3.5 Joining:

3.5.1 Preheating: Assemblies to be brazed shall be preheated in a suitable furnace at a temperature of 900 - 1050 F (482.2 - 565.6 C).

3.5.2 Brazing: The preheated assembly shall be transferred from the preheat furnace as rapidly as possible and slowly immersed in the molten flux bath which is maintained at suitable temperature to melt the brazing alloy and form the joints. The bath temperature shall be controlled to prevent incipient melting, excessive alloying at the joint, and excessive distortion.

3.6 Cooling: After brazing and prior to handling, assemblies shall be cooled for sufficient time to allow the brazing alloy to solidify and in such a manner as to prevent cracks and minimize distortion.

ø When authorized, solution heat treatment may be done in conjunction with brazing. Precipitation hardening of solution heat treated assemblies shall be performed as specified on the drawing.