AERONAUTICAL
MATERIAL SPECIFICATIONS

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AMS 3411

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Revised

FLUX, SILVER BRAZING
High Temperature

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

2. FORM: Paste containing not more than 35% water by weight.

3. APPLICATION: Primarily for silver brazing nickel base alloys, ferrous metals (including austenitic steels), and tungsten and chromium carbides, at temperatures between 1100 F and 1800 F. May also be used for critical heating applications involving long heating cycles for high temperature brazing, or for uneven heating cycles such as quick induction heating applications.

4. TECHNICAL REQUIREMENTS:

4.1 General:

4.1.1 Flux shall be an intimately blended mixture of uniform consistency and shall be an acid fluoride base containing 0.5 - 1.0% powdered metallic boron. It shall not separate in the container to such an extent that it cannot be restored to uniform consistency by stirring.

4.1.2 Flux, diluted with water as required, shall have acceptable fusibility and acceptable application and fluxing characteristics, and shall produce satisfactory brazed joints on nickel base alloys, all types of steel, including corrosion resistant types, copper base alloys, and tungsten and chromium carbides, when used in conjunction with silver brazing alloys.

4.2 Properties:

4.2.1 Flux shall withstand heating in a suitable container to 1650 F ± 10 and holding at heat for 30 min. without appreciable change in physical characteristics except the loss of its black color; loss of water will not be considered as change in characteristics. On heating, flux shall fuse at 1100 F or lower; on cooling from 1650 F, flux shall remain in the liquid state until temperature drops to 1150 F or lower.

4.2.2 Flux, when placed on a 30-mesh sieve 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.

4.2.3 Flux shall not produce, during use, a flame or smoke of sufficient intensity to obscure the work; however, the dark opaque nature of the flux is a distinctive feature when it initially fuses or melts.

4.2.4 Flux shall be soluble in water at 175 F or lower after being subjected to brazing operations.