

National Aerospace and Defense Contractors
Accreditation Program
Requirements for Gas Arc Fusion Spot Welding

RATIONALE

AS7003 at Revision C removed the requirement for AS standards. The Nadcap Weld Task Group have revised their checklists and per AS7003 have not re-written associated standards. The AS standards, therefore, require cancellation.

CANCELLATION NOTICE

This document has been declared "CANCELLED" as of March 2007. By this action, this document will remain listed in the Numerical Section of the Aerospace Standards Index.

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Superseding AS7110/11

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1. SCOPE

This Aerospace Standard (AS) is to be used to supplement AS7110. In addition to the requirements contained in AS7110, the requirements contained herein shall apply to suppliers seeking NADCAP accreditation for gas tungsten arc fusion spot welding.

2. REFERENCES

2.1 SAE Publications.

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15086-0001.

AS7110 National Aerospace and Defense Contractors Accreditation Program (NADCAP) -
Requirements for Welding

3. REFERENCE REQUIREMENTS

3.1 Applicable customer specifications shall be available at the facility.

4. MATERIALS/MATERIAL CONTROL

4.1 The supplier shall have sufficient control over method of identification of welding electrode of various face contours and alloys.

5. EQUIPMENT CONTROL

5.1 Welding equipment shall meet the requirements of applicable customer specification.

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- 5.2 The supplier shall have a reliable means of controlling and indicating the magnitude of the current and the time of current flow.
- 5.3 The supplier shall have adequate shear test equipment to perform spot weld test as required.
- 5.4 The supplier shall have adequate equipment and facilities for cross-sectioning, macroetching and macroexamination, and qualified personnel for evaluation.
- 5.5 Welding power supply shall be electrically and mechanically recalibrated and standardized at 30 day intervals or less.
- 5.6 Timers, meters, controls, and shear test equipment shall be periodically calibrated.
6. QUALIFICATION
- 6.1 Fusion spot weld machines shall be qualified by applicable customer specification.
- 6.2 Welding operators shall be qualified for manual GTA welding by MIL-STD-1595 for the applicable material group.
- 6.3 Weld schedules shall be certified by qualified personnel.
- 6.4 Weld schedules shall include all details required.
7. PROCESS CONTROL
- 7.1 Parts shall be properly cleaned prior to welding by applicable customer specification. A completed "Chemical Processes Flow Chart" shall be attached to appropriate documentation. Clean cotton gloves shall be worn when handling cleaned parts of titanium.
- 7.2 The supplier shall have control over delay time and cleanliness between completion of cleaning operations and start of welding of aluminum alloys.
- 7.3 Welds on titanium shall be shielded on the back side with an inert gas of argon or helium or mixtures thereof.
- 7.4 Welds in stainless steels shall be shielded on the back side with nitrogen, argon, or helium or mixtures thereof.
- 7.5 Routine test specimens shall be taken on production runs as specified in applicable specifications.