SAE Aerospace
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# AEROSPACE STANDARD

| AS7110/7 | REV. D |
|---|---|

Issued 1995-03
Revised 2003-12
Cancelled 2007-03

Superseding AS7110/7C

## Nadcap
## Requirements for Rotational Friction/Inertia 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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## Nadcap
## Requirements for Rotational Friction/Inertia Welding

1. SCOPE:

This Aerospace Standard (AS) is to be used to supplement AS7110, and/or any other Nadcap recognized quality system. In addition to the requirements contained in AS7110, the requirements contained herein shall apply to suppliers seeking Nadcap accreditation for Rotational Friction/Inertia Welding.

2. REFERENCES:

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AS7110 Nadcap - Requirements for Welding/Brazing

3. REFERENCE REQUIREMENTS:

3.1 Applicable customer specifications shall be available at the facility.

4. MATERIALS/MATERIAL CONTROL:

4.1 Preweld cleaning of the materials to be welded shall be performed in accordance with applicable customer specification.

4.2 Surfaces of the part details and representative test specimens shall be properly cleaned and free from contaminants such as oxides, scale, oil, dirt, ink, or other surface conditions that are detrimental to the welding process.

5. EQUIPMENT CONTROL:

5.1 Welding machines shall be capable of automatically controlling a preset sequence of events through the complete welding cycle to consistently produce welds meeting the requirements of customer specification.

5.2 Machines shall be equipped with appropriate instruments for indicating or recording spindle revolutions per minute (rpm), hydraulic ram pressure, time, displacement and parameters as applicable.

5.3 The equipment shall be qualified in accordance with applicable customer specifications if required.

5.4 Control instruments shall be calibrated and maintained on a scheduled basis.

5.5 Control instruments not requiring calibration shall be so identified.

5.6 The rotation of the workpiece shall be controlled by instrumentation in accordance with customer requirements.

5.7 Thrust axial pressure shall be controlled by instrumentation in accordance with customer requirements.

5.8 Machine qualifications shall be achieved through welding performance tests and records shall be posted with traceability for each machine, procedure, and weld joint qualified, when required.

5.9 The machine shall be capable of reaching the minimum set pressure within the specified time limits, if required.

6. PERIODIC MAINTENANCE:

6.1 Written procedures shall require preventive maintenance of equipment and tooling at a specified frequency.

6.2 Records shall indicate that maintenance is performed on equipment and tooling in accordance with the procedures and appropriate standards.

7. QUALIFICATION OF WELDING PROCEDURES/SCHEDULES:

7.1 Welding procedures/schedules shall identify those parameters specified by applicable customer specifications.

7.2 A qualified welding procedure/schedule shall be established for each production joint.