

National Aerospace and Defense Contractors Accreditation Program
Requirements for Electrical Discharge Machining (EDM)

RATIONALE

AS7116/3A is being cancelled and superseded by PRI AC7116/3. The requirements in the document have not changed.

CANCELLATION NOTICE

This document has been declared "CANCELLED" as of July 2008 and has been superseded by PRI AC7116/3. By this action, this document will remain listed in the Numerical Section of the Aerospace Standards Index noting that it is superseded by PRI AC7116/3. Cancelled specifications are available from SAE.

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1. SCOPE:

This Aerospace Standard (AS) is to be used to supplement AS7116. In addition to the requirements contained in AS7116, the requirements contained herein shall apply to suppliers seeking NADCAP accreditation for electrical discharge machining (EDM). The EDM requirements contained herein address the wire, sinker and fast hole EDM process methods.

2. REFERENCES:

2.1 SAE Publications:

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

- AS7101/4 National Aerospace and Defense Contractors Accreditation Program (NADCAP) – Requirements for Materials Testing Laboratories – Metallography and Microhardness
- AS7108 National Aerospace and Defense Contractors Accreditation Program (NADCAP) – Audit Criteria for Chemical Processing
- AS7116 National Aerospace and Defense Contractors Accreditation Program (NADCAP) – Requirements for Nonconventional Machining.

2.2 PRI Documents:

Available from Performance Review Institute, 161 Thornhill Road, Warrendale, PA 15086-7527.

- AC7116/3 National Aerospace and Defense Contractors Accreditation Program (NADCAP) – Audit Criteria for Electrical Discharge Machining (EDM)

2.3 ASTM Publications:

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428

ASTM E3 Methods of Preparation of Metallographic Specimens

2.4 Applicable customer specifications shall be available at the facility.

3. EQUIPMENT:

3.1 Calibration of EDM Meters and Gages:

3.1.1 An EDM power supply calibration plan shall exist and include the following items, if applicable:

- a. Conductivity measuring devices for water based dielectric systems
- b. Volt meters
- c. Ammeters
- d. Pressure gage

3.2 Verification of EDM Power Supplies Without Calibrated Meters or Gages:

3.2.1 EDM machine power supplies that do not have meters or gages shall be verified by one of the following:

- a. Annually per the EDM manufacturers setup or diagnostic procedure or by a comparable plan annually
- b. After any power supply maintenance that includes work performed on circuit boards, transistors, integrated circuits, or rectifiers

3.2.2 A diagnostic plan comparable to the EDM manufacturer's plan shall include schematic test point checks and a comparison of test point check results to baseline or schematic values.

3.3 Maintenance:

An EDM preventative maintenance plan shall exist and include the following, where applicable:

- a. EDM dielectric system to include limits on pressure drop across filters, and a filter maintenance plan
- b. EDM machine
- c. EMD power supply

3.3.1 There shall be a documented schedule for preventative maintenance.

3.3.2 There shall be a preventative maintenance completion document.

3.4 EDM Power Supplies:

3.4.1 EDM power supplies shall meet customer requirements (i.e., solid state or tube).