

(R) Nadcap
Requirements for Stripping of Coated Material

1. SCOPE:

This SAE Aerospace Standard (AS) is to be used as a supplement to AS7109. In addition to the requirements contained in AS7109, the requirements contained herein shall apply to suppliers seeking Nadcap Coatings accreditation who are engaged in stripping of coated material.

1.1 The requirements for accreditation for the following classification are contained herein:

- a. Electrolytic
- b. Mechanical
 - 1. Grit Blast
 - 2. Grinding
 - 3. Machining
- c. Water Jet
- d. Molten Salt
- e. Chemical

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2. APPLICABLE DOCUMENTS:

The following publications form a part of this standard to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Telephone: (724) 776-4841, Web address: <http://www.sae.org>.

AS7102	Nadcap - Requirements for Heat Treating
AS7109	Nadcap - Requirements for Coatings
AS7109/7	Nadcap - Requirements for Heat Treating for Suppliers of Coatings

3. EQUIPMENT AND FACILITIES:

- 3.1 The supplier shall have suitable stripping equipment to perform the stripping to classifications indicated in 2.1.
- 3.2 Records shall support that preventive maintenance has been performed by schedule and procedure.

4. PROCESS PLANNING:

- 4.1 If required by customer, the supplier shall have customer approval to strip parts by non-mechanical procedures.
- 4.2 If required, stripping trials shall be conducted to ensure that all coating is removed, and there is no degradation of substrates beyond customer approved criteria.
- 4.3 The number of strip cycles shall be approved and each shall be documented and traceable to the hardware.
- 4.4 The reason for each strip shall be recorded on the individual part/lot documentation and the rework properly authorized and the need for corrective action considered.
- 4.5 The supplier shall have procedures for each stripping method.
- 4.6 The operational parameters shall be defined in the procedures.
- 4.7 The supplier shall use control methods to monitor significant operational parameters.

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4.8 The supplier shall have defined inspection procedures to evaluate stripped hardware.

5. MANUFACTURING:

5.1 The operator shall have work instructions describing each step in the stripping procedure.

5.2 These work instructions shall include the following:

- a. Preparation of stripping equipment/materials/solutions before removing coatings.
- b. Methods of preparing parts before stripping.
- c. Masking techniques.
- d. Stripping process procedure including process parameters and their limits.
- e. Accept/reject criteria.
- f. Details of post stripping treatments.
- g. Methods of protection against corrosion with appropriate time limits for protecting parts.

6. STRIPPING MATERIAL/MEDIA CONTROL:

6.1 The material control shall demonstrate the following elements:

- a. Listing of approved chemical material and other media sources.
- b. Procedure for verification and documentation of materials received.
- c. Material storage is in an appropriately controlled environment.
- d. Product traceability maintained throughout the stripping process.

7. STRIPPING:

7.1 Electrolytic:

7.1.1 Parts shall be fixtured, or other provisions shall be made, to preclude air entrapment.

7.1.2 The process shall be equipped with arc detector/auto shutdown mechanism.

7.1.3 Solution control analysis shall be performed.

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- 7.1.4 The hardware shall receive an embrittlement relief bake prior to recoating if required by specification.
- 7.1.5 Inspection requirements and accept/reject criteria shall be defined.
- 7.2 Mechanical:
 - 7.2.1 Grit Blasting:
 - 7.2.1.1 There shall be a system to ensure that blast media that has been used for stripping is not used for surface preparation prior to coating.
 - 7.2.1.2 There shall be work instructions to define the grit blasting parameters.
 - 7.2.1.3 Controls (i.e., inspection, frozen parameters, training, documented procedures) shall be in place to ensure the base material is protected from excessive erosion during coating removal.
 - 7.2.1.4 Inspection requirements and accept/reject criteria shall be defined.
 - 7.2.1.5 Control procedures shall be in place to assure proper particle size distribution is maintained.
 - 7.2.2 Grinding:
 - 7.2.2.1 There shall be work instructions to define the grinding parameters.
 - 7.2.2.2 Inspection requirements and accept/reject criteria shall be defined.
 - 7.2.3 Machining:
 - 7.2.3.1 There shall be work instructions to define the machining parameters.
 - 7.2.3.2 Inspection requirements and accept/reject criteria shall be defined.
- 7.3 Water Jet:
 - 7.3.1 There shall be work instructions to define the water jet parameters.
 - 7.3.2 Controls (i.e., inspection, frozen parameters, training, documented procedures) shall be in place to ensure the base material is protected from excessive erosion during coating removal.
 - 7.3.3 Inspection requirements and accept/reject criteria shall be defined.

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7.4 Molten Salt:

7.4.1 Parts shall be fixtured, or other provisions shall be made, to preclude air/water/molten salt entrapment.

7.4.2 There shall be work instructions to define the molten salt stripping parameters.

7.4.3 Inspection requirements and accept/reject criteria shall be defined.

7.5 Chemical:

7.5.1 Chemical stripping baths shall be inhibited if required by specification.

7.5.2 The hardware shall receive an embrittlement relief bake prior to recoating if required by specification.

7.5.3 Galvanic coupling by processing dissimilar hardware shall be precluded.

7.5.4 The process shall be approved by the customer, if required.

7.5.5 The chemistry of the stripping solution shall be controlled.

7.5.6 Parts shall be fixtured, or other provisions shall be made, to preclude air/solution entrapment.

7.5.7 There shall be work instructions to define the chemical stripping parameters.

7.5.8 Inspection requirements and accept/reject shall be criteria defined.

8. PROCESS CONTROL LABORATORY PROCEDURES (SOLUTION ANALYSIS/STRIP RATE DETERMINATION):

8.1 The following responsibilities shall be assigned and documented.

- a. Review and approval of test results.
- b. Authorization of retests.
- c. Calculation of process solution additions and corrections.
- d. Preparation and approval of retests.

8.2 These responsibilities shall be performed by a qualified individual, or by a technician supervised by such an individual.