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**SPM 70-23-19 STRIPPING OF THERMAL SPRAYED ALUMINUM OXIDE/ NICKEL ALUMINIDE COATINGS  
INCO-718, TI-17, TI-6-4, RENE 95, AND RENE 41****DISCLAIMER**

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**HIGHLIGHTS****HIGHLIGHT REFERENCE    DESCRIPTION OF CHANGE**

sk70-23-19-100-042    Technical Change: Changed procedure for the stripping of thermal sprayed aluminum oxide/nickel aluminide coatings.

TASK 70-23-19-100-004

1. General.

- A. This stripping method allows parts to be stripped of alumina-nickel aluminum, single coating. Refer to TASK 70-49-09-340-010 Thermal Spraying Nickel-Aluminide (Powder), or Metco 450/aluminum oxide, two coatings. Refer to TASK 70-49-02-340-003 Thermal Spraying Aluminum Oxide - Alumina (Powder) without removing chromium plating or Ni-Cr-Al thermal spray coatings.

**NOTE:** This stripping method to be used on parts made of Inco 718, Ti-17, Ti-6-4, Rene 41 and Rene 95.

2. Materials.

Subtask 70-23-19-100-041

- A. Refer to TASK 70-00-99-800-017, S0017 - Consumable Materials - Cyanide Stripping Aluminum Oxide/Nickel Aluminide Coatings.

3. Procedure.

Subtask 70-23-19-100-042

**WARNING:** THIS IS AN ALKALINE SODIUM CYANIDE SOLUTION CONTAINING AN ORGANIC OXIDIZING AGENT. THIS SOLUTION IS VERY POISONOUS AND WILL REACT WITH ACIDS TO FORM DEADLY HYDROGEN CYANIDE GAS. WEAR FACE SHIELD, RUBBER GLOVES AND APRON. USE ONLY IN A WELL VENTILATED AREA. WASH HANDS, FACE AND ANY EXPOSED SKIN AREAS AFTER REMOVAL OF PROTECTIVE CLOTHING.

**CAUTION:** DO NOT BLAST EXCESSIVELY, PARTICULARLY IF COATING IS SPALLED OR MISSING IN PATCHES.

- A. Grit blast. Refer to TASK 70-21-04-120-A01, Cleaning Method No. 4 - Dry Abrasive Blast Cleaning, Method No. 4A, using 120-150 mesh aluminum oxide, maintain air pressure at 45 psi (310 kPa) for direct pressure equipment or at 90 psi (621 kPa) for suction-type equipment with gun distance of 6-8 inches (152-203 mm) from the part with a recommended angle to the surface being blasted of 50 to 70 degrees.

- B. Mask any metal sprayed areas that are not to be stripped as follows:
- (1) Mask metal sprayed areas to be stripped with masking tape, and seal all part opening with alkaline resistant tape.
  - (2) Dip entire part into Turco No. 537 Bubble-free maskant (Turco Products, Inc.; Joliet, IL) or equivalent, and let dry. Repeat until a minimum of 3 coats have been applied.
  - (3) Trim by cutting through masking tape and maskant around areas to be stripped. Expose only the area to be stripped by peeling away tape and maskant, but do not remove alkaline resistant tape/maskant from opening.
- C. Immerse part in stripping solution S0017 for 6-8 hours at 140°-160°F (60°-71°C).
- D. Cold water rinse.
- E. Immerse parts in hot water at minimum 150°F (66°C).
- F. Air dry or oven dry.
- G. Lightly grit blast as in 3.A. to remove loose residual coating.
- H. Blow all residual grit from part using clean, dry air.
- WARNING:** ACETONE IS HIGHLY FLAMMABLE. TAKE PRECAUTIONS AGAINST FIRE. AVOID PROLONGED INHALATION OF VAPOR.
- I. Peel maskant from part. Use acetone or methyl-ethyl-ketone to remove any maskant or tape that does not peel away readily. Steam clean entire part as directed in TASK 70-21-03-160-001, Cleaning Method No. 3 - Steam Cleaning, then follow with a pure steam "rinse".

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