INCREMENTAL CHANGE Release Notification Date: 05/09/2024

SPM 70-43-08 CHEMICAL FILM COATING FOR ALUMINUM

DISCLAIMER

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HIGHLIGHTS

HIGHLIGHT REFERENCE	DESCRIPTION OF CHANGE
tk70-43-08-380-008	Technical Change: Changed procedure to refinish and restore the protective coating on aluminum or aluminum alloy parts.

TASK 70-43-08-380-008

1. General.

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

A. This method is used to refinish and restore the protective coating on aluminum or aluminum alloy parts from which all or most of the initial anodized finish was removed. The treatment that follows is used for over-all refinishing by immersing the part in the chemical coating solution.

2. Equipment.

Subtask 70-43-08-380-083

A. The equipment that follows is used for the application of this process:

(1) If chromate conversion coating solution is to be applied, use the equipment that follows:

(a) A tank for chromate conversion coating solution. Make sure that the tank material is compatible with the solution to prevent damage to the tank.

(b) A water rinse tank at room temperature.

(c) A water rinse tank that can maintain the water temperature at 120°F-140°F (49°C-60°C).

(d) A dust-free, ventilated oven that can maintain its temperature at 140°F-150°F (60°C-65°C). This equipment is optional.

(2) If Socosurf TCS S1219 and Socosurf PACS S1220 solutions must be applied, use the equipment that follows:

(a) A dedicated tank for Socosurf TCS solution S1219 made from PVC, PVDC, PP, or 316L Stainless Steel. The tank must maintain the solution temperature at 96.8°F-104°F (36°C-40°C).

(b) A dedicated tank for Socosurf PACS solution S1220 made from PVC, PVDC, or PP. The tank must maintain the solution temperature at 59°F-77°F (15°C-25°C).

(c) A dedicated water rinse tank at room temperature that is only used after S1219 application.

(d) A dedicated water rinse tank at room temperature that is only used after S1220 application.

3. Materials.

Subtask 70-43-08-380-081

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

CAUTION: DO NOT MIX DIFFERENT COATING MATERIALS. IF YOU MIX DIFFERENT COATING MATERIALS TOGETHER, THE RESULT CAN GIVE UNSATISFACTORY PROTECTION.

A. Interchangeability. You can use the materials specified by MIL-DTL-81706 Type-I (with Hexavalent Cr) and listed in QPL-81706 as alternatives to the materials in the table that follows if:

- They are from the same class, and

- They use the same method of application.

The materials in QPL-81706 approved for Type-I and the materials in the table that follows will give equivalent protection if they are from the same class and method of application.

TABLE 1. Materials

Description	Consumable Code/Solution No.
Solvent, General	C04-002
Solvent, General	C04-003
Solvent, General	C04-035
Abrasive Hand Pad	C10-010
Abrasive Cloth	C10-187
Chromated Conversion Coating	C03-006
Socosurf TCS	S1219
Socosurf PACS	S1220

4. Procedure.

Subtask 70-43-08-380-082

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

A. Clean the part with a clean, lint-free cloth soaked with one of the liquid solvent degreasers: C04-002 , C04-003 , C04-035 , or other approved equivalent non-hazardous solvents.

B. Rinse the part with water.

C. Sand the areas to be coated with hand paper C10-010 , abrasive cloth C10-187 , or equivalent with 180 grit or finer until the surface is clean and ready for application.

D. Rinse the part with water or a clean cloth soaked with water until you remove all traces of abrasives.

CAUTION: MAKE SURE THAT THE REFINISHING SOLUTION DOES NOT GET ONTO MATERIALS OTHER THAN ALUMINUM. THE SOLUTION IS VERY CORROSIVE.

E. Refinish the part as follows:

Subtask 70-43-08-380-084

(1) Alternative Procedure Available. If you use chromated conversion coating C03-006 , apply the refinishing solution as follows:

CAUTION: IF YOU USE AN INTERCHANGEABLE COATING MATERIAL, OBEY THE MANUFACTURER'S INSTRUCTIONS TO MIX AND APPLY THE MATERIAL. IF YOU DO NOT USE THE MANUFACTURER'S INSTRUCTIONS, THE RESULT CAN BE DAMAGE TO THE PART OR UNSATISFACTORY PROTECTION.

(a) If you use chromated conversion coating C03-006 , prepare the solution according to S1173.

(b) Put the part fully into S1173 solution for 5-10 minutes at room temperature.

(c) Rinse the part. Put the part fully into water at room temperature.

(d) Rinse the part. Put the part fully into warm water at 120°F-140°F (49°C-60°C).

(e) Dry the part with clean, dry air or in a dust-free, ventilated oven heated at 140°F-150°F (60°C-65°C).

NOTE: Do not rinse the part with the jet from a hose or with a pressure spray. Do not permit liquids to remain in holes or depressions in the part.

Subtask 70-43-08-380-085

(1) Alternative Procedure. Refinish the part with hexavalent-chromium free refinishing solutions Socosurf TCS
A. S1219 and Socosurf PACS S1220 as follows:

(a) Lightly stir the Socosurf TCS S1219 and Socosurf PACS S1220 solutions before you put the part fully into the solution. You must prevent the creation of bubbles and turbulence.

NOTE: Recirculation of the solutions is recommended.

(b) Wet the application area with deionized water. Make sure that the area to be coated is wet with deionized water before application.

(c) Put the part fully into Socosurf TCS solution S1219 at 96.8°F-104°F (36°C-40°C) for 10-15 minutes.

NOTE: It is permitted to rinse the part with running deionized water before rinsing by immersion.

(d) Rinse the part. Put the part fully into deionized water at room temperature for a minimum of 3 minutes until the part is fully rinsed.

(e) Put the part fully into Socosurf PACS solution S1220 at 59°F-77°F (15°C-25°C) for 3-10 minutes.

NOTE: It is permitted to rinse the part with running deionized water before rinsing by immersion.

(f) Rinse the part. Put the part fully into deionized water at room temperature for a minimum of 3 minutes.

(g) Dry the part with clean, dry air.

5. Quality Assurance.

Subtask 70-43-08-220-001

A. Visually examine the coating.

(1) For chromate conversion coating C03-006 , the final coating usually has a golden iridescent color, however the color can change with different alloys and processing conditions. If coating is powdery, the treatment time was longer than necessary; however, the powder can be wiped off with a soft cloth without damage to the coating.

(2) For Socosurf TCS S1219 and Socosurf PACS S1220, the final coating must be continuous, smooth, adherent, and uniform in appearance. The final coating must be free from powdery areas, loose films, and discontinuities such as breaks or scratches (except on contact points), or other imperfections.