

SECTION 6. CORROSION REMOVAL PROCEDURES

6-89. GENERAL. General safety precautions for handling materials with hazardous physical properties are outlined in the following paragraphs. They also address emergency procedures for immediate treatment of personnel who have inadvertently come into contact with harmful materials. All personnel responsible for using or handling hazardous materials should be thoroughly familiar with the information in the following paragraphs.

6-90. SAFETY PRECAUTIONS.

a. Chemical. When required to use or handle solvents, special cleaners, paint strippers (strong alkalies and acids), etchants (corrosion removers containing acids), or surface activation material (Alodine 1200), observe the following safety precautions:

(1) Avoid prolonged breathing of solvent or acid vapors.

(2) Never add water to acid. Always add acid to water.

(3) Mix all chemicals per the manufacturer's instructions.

(4) Clean water for emergency use should be available in the immediate work area before starting work.

(5) Avoid prolonged or repeated contact with the skin of solvents, cleaners, etchants (acid), or conversion coating material (Alodine solution). Rubber or plastic gloves should be worn. Goggles or plastic face shields and suitable protective clothing should be worn

when cleaning, stripping, etching, or conversion coating overhead surfaces.

(6) When mixing alkalies with water or other substance, use containers that are made to withstand heat generated by this process.

(7) Wash any paint stripper, etchant, or conversion coating material immediately from body, skin, or clothing.

(8) Materials splashed into the eyes should be promptly flushed out with water, and medical aid obtained immediately.

(9) Do not eat or keep food in areas where poisons may be absorbed. Always wash hands before eating or smoking.

(10) Verify that the area within 50 feet of any cleaning or treating operations where low flash point (140 °F or below) materials are being used, is clear and remains clear of all potential ignition sources.

(11) Suitable fire-extinguishing equipment should be available to the cleaning/treating area.

(12) Equipment should be effectively grounded where any flammable materials are being used.

(13) If materials (acid, alkali, paint remover, or conversion coatings) are spilled on equipment and/or tools, treat immediately by rinsing with clean water, if possible, and /or neutralizing acids with baking soda and alkalies with a weak (5 percent) solution of acetic acid in water.

(14) In confined location, do not use solvents with a low flash point, (below 100 °F) such as Methyl Ethyl Ketone (MEK) and acetone.

(15) All equipment should be cleaned after work has been completed.

(16) Check and follow all applicable restrictions and requirements on the use of solvents, primers, and top coats.

(17) Check and follow all applicable restrictions and requirements for use and disposal of waste material.

b. Blasting. The following precautions should be taken when using any type of blasting equipment:

(1) Operators should be adequately protected with complete face and head covering equipment, and provided with pure breathing air.

(2) Static-ground the dry abrasive blaster and the material to be blasted.

(3) Magnesium cuttings and small shavings can ignite easily and are an extreme hazard. Fires of this metal must be extinguished with absolutely dry talc, calcium carbonate, sand, or graphite by applying the powder to a depth of 1/2 inch over the metal.

(4) Titanium alloys and high-tensile-strength steel create sparks during dry abrasive blasting. Care should be taken to ensure that hazardous concentrations of flammable vapors do not exist.

6-91. CORROSION CONTROL WORK PROCEDURES. The effectiveness of corrosion control depends on how well basic work procedures are followed. The following common work practices are recommended:

a. If rework procedures or materials are unknown, contact the aircraft manufacturer or FAA authorized Designated Engineering Representative (DER) before proceeding.

b. The work areas, equipment, and components should be clean and free of chips, grit, dirt, and foreign materials.

c. Do not mark on any metal surface with a graphite pencil or any type of sharp, pointed instrument. Temporary markings (defined as markings soluble in water or methyl chloroform) should be used for metal layout work or marking on the aircraft to indicate corroded areas.

d. Graphite should not be used as a lubricant for any component. Graphite is cathodic to all structural metals and will generate galvanic corrosion in the presence of moisture, especially if the graphite is applied in dry form.

e. Footwear and clothing should be inspected for metal chips, slivers, rivet cuttings, dirt, sand, etc., and all such material removed before walking or working on metal surfaces such as wings, stabilizers, fuel tanks, etc.

f. Do not abrade or scratch any surface unless it is an authorized procedure. If surfaces are accidentally scratched, the damage should be assessed and action taken to remove the scratch and treat the area.

g. Coated metal surfaces should not be polished for aesthetic purposes. Buffing would remove the protective coating and a brightly polished surface is normally not as corrosion resistant as a non-polished surface unless it is protected by wax or paint.

h. Protect surrounding areas when welding, grinding, or drilling, to prevent contamination with residue from these operations. In those areas where protective covering cannot be used, remove the residue by cleaning.

i. Severely corroded screws, bolts, and washers should be replaced. When a protective coating, such as a cadmium plating on bolts, or screws, is damaged, immediately apply an appropriate protective finish to prevent additional corrosion damage.

6-92.—6-112. [RESERVED.]

