

TURCO[®] 4008 **TURCO[®] 4008-3 & 4008-4**

JET ENGINE CLEANING COMPOUND

DESCRIPTION:

The TURCO 4008 compounds (4008, 4008-3 and 4008-4) are specialized chemical products for high temperature oxide and scale removal from jet engines, super alloys, and heat treated stainless steel. TURCO 4008-4 is the latest version and should be used as TURCO 4008-3.

TURCO 4008, TURCO 4008-3 and TURCO 4008-4 are highly alkaline liquids used to condition heavy oxide scale formed on high temperature and corrosion resistant alloys for more effective removal by subsequent chemical processing using TURCO 4338, TURCO 4338-C, or TURCO 4338 C RFU and TURCO ALKALINE RUST REMOVER (T-4181).

TURCO 4008-3 is officially approved to USAF Specification MIL-D-2649, Amd. 1.

USE INSTRUCTIONS:

Step 1:

Use material at full strength. Descale and condition jet engine parts for 30-60 minutes at the following temperatures:

TURCO 4008	132-135°C (270-275° F)
TURCO 4008-3	118-121°C (245-250° F)

Mechanical agitation (such as Turbulator[®] tanks) will generally reduce the process time. Stainless steel (#304, #316, #347) equipment should be used for containing Turco 4008(-n) solutions. U.S. Pats.: 2,960,991; 2,990,302; 3,233,773; 3,592,205.

Rinse thoroughly using agitated overflowing dip, pressure water spray or air/water pressure rinse guns. Complete rinsing of all Turco 4008(-n) from the porosity of the scale is necessary to obtain maximum penetration of the subsequent chemical solutions into the oxide scale.

Step 2:

Chemically condition the scale deposits by processing in TURCO 4338C or TURCO 4338 L solution for 30-60 minutes at 240 g/L at 85-95° C (2 lbs/gal at 190-200° F). Rinse with pressure water or agitated overflowing dip tanks.

Step 3:

Loosen and condition oxide scale by processing TURCO 4181 at 360 g/L at 85-95° C (3 lbs/gal at 190-200° F) solution for 15-30 minutes. Pressure rinse with air/water hand rinse gun to blast off the loosened oxide scale deposits.

CONTROL:

A laboratory test procedure is available upon request. To extend the tank life of TURCO 4008(-n) solution, preclean and delead parts in a solution of TURCO ALKALINE RUST REMOVER (T-4181) at 240 g/L at 85-95° C (2 lbs/gal at 190-200° F) is recommended, but not essential.

Operating temperatures of TURCO 4008(-n) compounds (118-135° C or 245-275° F) and solution levels should be continuously maintained by visual check every several hours.

Alkalinity and boiling points should be maintained by testing periodically, using the procedure called out in the Turco Jet Engine Cleaning brochure. The frequency of these tests will necessarily depend on the size and rate of operation.

Alternative descaling method

Where the degree of metal oxidation is not severe, or where it is not imperative that all of the oxide scale be removed, TURCO 4181 may be used as a somewhat less effective solution at 240-360 g/L (2-3 lbs/gal.) at 90° C (195° F), during 30-60 minutes, to replace the TURCO 4008 solution.

Advantages

Chemical descaling using the TURCO 4008(-n) – 4338C (or liquid version) Jet Engine Cleaning Process provides a production method that minimizes manhours for hand cleaning, reduces metal loss on critical high temperature components, and facilitates inspection and repair of intricate assemblies.

The chemical solutions in this cleaning process employ the lowest effective operating temperatures to eliminate the inherent dangers encountered with descaling processes using higher temperatures. This feature also minimizes installation and operational cost.

TURCO 4008-3 is covered by U.S. Patents: 2843509, 2992946, 2992995, 3053897 and 3095380.

DISPOSAL INFORMATION:

Dispose of spent solution per local, state and regional regulations. Refer to TURCO MATERIAL SAFETY DATA SHEET for additional disposal information.

CAUTION!

TURCO 4008 contains potassium hydroxide and phenolic bodies^(*) and operate at elevated temperatures. Such hot alkaline solutions will produce chemical burns on contact with skin or eyes. Avoid contact with eyes, skin and clothing. Do not take internally. Use with adequate (equivalent to outdoor) ventilation.

Protective clothing, such as a chemical face shield or goggles, gloves, boots and apron made from neoprene should be worn when handling and using this product.

Never dump large quantities of TURCO 4008 into water, since heat is liberated and local pockets of steam may be generated. Extreme caution must be exercised in adding water to solutions of TURCO 4008. Since they operate close to the boiling point of water, steam can be generated very rapidly, causing eruptions.

Before using this product refer to container label and TURCO MATERIAL SAFETY DATA SHEET for additional precautionary, handling and first aid information.

(* Phenolic bodies in T-4008, NOT in T-4008-3!

NOTICE:

The above information and recommendations concerning this product are based upon our laboratory tests and field use experience with this or similar products. However since conditions of actual use are beyond our control, any recommendations or suggestions are made without warranty, express or implied. Manufacturer's and seller's sole obligation shall be to replace that portion of the product shown to be defective. Neither shall be liable for any loss, damage or injury, direct or consequential, arising out of the use of this product.

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