

COATING WEIGHT-CHROMATE/ZINC DUST COMPLEX

Application

This procedure is designed to remove the Dacromet coating without attack of substrate to obtain the coating weight of Dacromet in mg.

Equipment Required

Analytical Balance

Convection Oven

Metal Shear

Crystallizing Dish

190 x 100 mm Pyrex brand #3140. Flat bottom and straight sides. VWR 25411-162 or equivalent.

Small Hair Brush

Chemicals

Concentrated HCl

Inhibitors

Activol #15900

Source: Harry S. Miller Company
4th and Bristol Streets
Philadelphia, PA 19140

or equivalent.

Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Date	Action	Revisions
2001 03 13	Revised	Editorial – no technical change A. Cockman
1992 06 17		

Printed copies are uncontrolled

Page 1 of 2

Copyright © 2001, Ford Global Technologies, Inc.

Procedure

1. Prepare the stripping solution by adding concentrated HCl to water to obtain a 25 % (by volume) solution of HCl. Add activol 15900 to obtain solution 1 % inhibitor (by volume) 750 mL of water, 250 mL of HCl acid, and 10 mL of inhibitor. The Activol inhibits the attack of the acid on the substrate. Stir the solution and cool to 23 +/- 2 °C.
2. Pour the stripping solution into the crystallizing dish.
3. Clean panels to be stripped with a spray rinse of reagent trichloroethylene followed by desiccation. Weigh the clean panel to be stripped on an analytical balance. Also determine the panel area in square inches. A size of 4 x 6 is recommended as 50 to 150 mg of coating will be removed.
4. Immerse the weighed panel into the solution. Make sure the panel is totally beneath the stripping solution. The exposure times will depend on the cure of the Dacromet and have been found to take 1 to 15 minutes.
5. Brush the weighed panel with the hair brush as it is stripping.
6. After the panel appears stripped, indicated by no further evolution of the H₂ and the panel appears bright and metallic color, remove from the bath and rinse with water. The water is added to the bath if analysis of the stripped coating is desired. Spray rinse the panel with methanol.
7. Dry the panel, preferably by air and heat (~100 °C) and reweigh.
8. Obtain the loss in weight and calculate the mg/sq ft coating weight.
$$\frac{(\text{Original wt of - wt of stripped})}{(\text{panel \& coating panel})} \times \frac{144 \text{ sq in (1 sq ft)}}{\text{area of panel (sq in)}} \times 1000 = \text{mg/sq ft of coating}$$

Example: $(109.6900 \text{ g} - 109.5700 \text{ g}) \times \frac{144 \text{ sq in}}{24 \text{ sq in}} \times 1000 = 720 \text{ mg/sq ft}$
9. If desired, the bath solution could be analyzed by atomic absorption for chromium and zinc after the proper dilution. Do not reuse acid solution.

Chemicals, materials, parts, and equipment referenced in this document must be used and handled properly. Each party is responsible for determining proper use and handling in its facilities.