

ACIS Verification Summary Report

Specification:	AXAF Observatory to Science Instrument ICD (IF1-20)
Requirement Number/Title:	3.3.1.1.1.5.1 ACIS PSMC Thermal Interfaces (VRSD 3.3.1.1.1.5.1-1)

Requirement Statement: The PSMC shall have an emittance of ≥ 0.84 on all sides, including the + X sides.

Verification Method: Test

Procedure Number: LMA Lab Ticket 96M0617 Emittance Measurements for PSMC Coupons

Configuration:

ACIS Instrument mounted in ISIM

Cycle Time: N/A

Verification Discussion/Results:

Coupons that were painted with Z306 at the same time as the PSMC side panels were measured at the LMA quality laboratory for IR normal emittance using a Gier Dunkle Reflectometer. The lab ticket with the measured emittance data is attached to this report. The Normal Emittance was measured to be between .91 and .93 as shown in attachment 1. The equivalent Hemispherical Emittance was calculated to range between .87 and .91 which is above the requirement of $\geq .84$. Therefore, the requirements of paragraph 3.3.1.1.1.5.1 have been satisfied and no further discussion is required.

Neil W. Jice
ACIS Cognizant Engineer

5/30/97
Date

Lab Job No. 1 **96M0617** Date 2 **11-1-96** Priority 3



FINISHES TEST REPORT

Charge No. 4 **203481** P.O. No. 5 **135200 Dept 3534**

QUALITY LABORATORIES

Description/Part No./Vendor 6
QV. Vendor 2306 Paint
Test Coupons
Need Emissivity
Measurements

Condition in Package 17
 Short Fill Skinning Livering
 Incompatibility Hard Setting
 Other _____
 Satisfactory Unsatisfactory

Package Consistency 18
 Krebs Stormer _____ No. 4 Ford Cup _____
 Gardner Bubble Vice _____ Zahn _____
 Brookfield _____
 Other _____

From 7 Spec No. 8 **Tape only**

Wt./Gal or SG 19
 lb/Gal _____
 Base _____ Hardener _____

Quantity 9 Batch No. 10

Application Properties 20
 Spray _____ Brush _____
 Dip _____ Other _____

Color and Number 11

Appearance When Dry 21 Satisfactory Unsatisfactory
 Application Time 22 _____

Data and Samples Checked by Ext 13 Stamp 14
Neil Tice 12 1-9089
 Tests Required 15
Emissance

Drying Time 23
 Set to Touch _____ Dust Free _____
 Dried Hard _____ Free from after Tack _____
 Dry through _____ Full Hard _____
 Tack Free _____
 Other _____

Specular Gloss Reading 24
 20 Degree _____
 60 Degree _____

Color 25 _____

Hardness 26 Shore A _____ Shore D _____

Total Nonvolatile Content 27 _____

Dielectric Strength 28 _____

Remarks/Special Instructions 16
 ϵ_N ϵ_H
849AC420033 #1 0.92
849AC420033 #2 0.92
849AC420034 #1 0.92
849AC420034 #2 0.93
849AC420036 #1 0.92
849AC420036 #2 0.92

Primer Thickness 29 _____

Top Coat Thickness 30 _____

Emissivity 31 _____

Absorptivity 32 _____

lb/cu ft 33 _____

Extend Shelf Life to 34 _____

Special Tests 35

Test Comments 37
 ϵ
849AC420031 #1 0.92
849AC420031 #2 0.91
849AC420032 MO10 #1 0.91
849AC420032 MO10 #2 0.91
849AC420032 MO09 0.91
Panel 2- No marks 0.91
 $\epsilon_H = .87 + 0.91$ Meets Spec (7.85)

36 Satis Unsatis
 Metal Anchorage
 Anchorage (Tape Test)
 Flexibility
 Salt Spray Resistance
 Dilution Stability
 Knife Test
 Workmanship

Results
 Meets Spec
 Does Not Meet Spec
 Information Only

NEW 9437038 11/4/96
 ATTACHMENT 1:
 VERIF REPORT 36-01520.032
 Chief of Laboratory **Steve Muller** 11/4/96