



NTS Labs, LLC Test Report for Environmental Testing of the Cabinet

Prepared For
Schroff, Inc. | 170 Commerce Dr. | Warwick, RI 02886

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Quality Assurance

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Revision History

Rev.	Description	Issue Date
0	Initial Release	04/26/2023



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1.0 Introduction

This document presents the test procedures used and the results obtained during the performance of an Environmental test program. The test program was conducted to assess the ability of the specified Equipment Under Test (EUT) to successfully satisfy the requirements listed in Section 2.0.

2.0 References

The following references listed below form a part of this document to the extent specified herein.

- Test Specification: MIL-STD-810H, *ENVIRONMENTAL ENGINEERING CONSIDERATIONS AND LABORATORY TESTS*, dated 01/31/2019
- Schroff, Inc. Purchase Order(s) 709876OS
- NTS Labs, LLC Quote(s) OP0625811, dated 09/14/2022
- ISO/IEC 17025:2017(E) *General Requirements for the Competence of Testing and Calibration Laboratories*, dated 11/1/2017
- ISO-9001:2015, *Quality Management Systems Requirements*

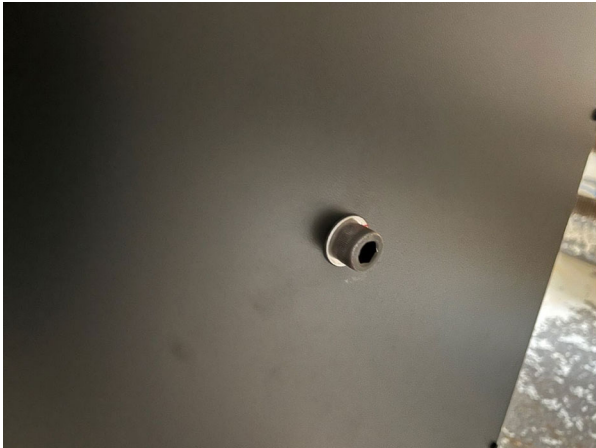
3.0 Product Selection and Description

Schroff, Inc. selected and provided the following test sample(s) to be used as the Equipment Under Test.

Table 3.0-1: Product Identification - Equipment Under Test (EUT)

Item	Qty.	Name/Description	Part Number	Serial Number
1	1	Cabinet	10630049	177363-002

3.0.1 Received EUT Photographs



Bolted Hole



EUT Opened



Receiving EUT



SN 177363-002





3.1 Security Classification

Non-classified

3.2 Source Inspection

NTS Labs, LLC QA

4.0 General Test Requirements

4.1 Test Equipment

The instrumentation used in the performance of these tests is periodically calibrated and standardized within manufacturer's rated accuracies and are traceable to the National Institute of Standards and Technology. The calibration procedures and practices are in accordance with ISO 17025:2017. Certification of calibration is on file subject to inspection by authorized personnel.

4.2 Standard Test Conditions

The EUT was configured using the method as described in MIL-STD-810H.

1. The EUT physical layout was performed by NTS Labs, LLC personnel with assistance from the customer's technical representative.
2. The EUT installation and operation were verified prior to start of testing by the customer's technical representative.
3. The customer's technical representative authorization was acquired prior to test commencement.



5.0 Test Descriptions and Results

Table 5.0-1: Summary of Test Information and Results

Section	Test	Specification	Test Facility	Test Date	Part #	Serial #	Notice of Deviation (NOD)	Test Result
5.1	Salt Fog	MIL-STD-810H	Huntsville, AL	04/10/2023 - 04/14/2023	10630049	177363-002	NOD 01	Final determination left to the customer



5.1 Salt Fog

5.1.1 Test Procedure

The EUT was tested to MIL-STD-810H.

5.1.2 Test Result

Test Result: Salt Fog testing per MIL-STD-810H was performed on the EUT. During testing, the EUT showed signs of corrosion, and a deviation was noted. For details, refer to Notice of Deviation (NOD) 01. Final determination of compliance is left to the customer.



5.1.2.1 Test Notice of Deviation (NOD)



NOTICE OF DEVIATION

ORIGINAL

Client: Schroff, Inc.	Job #: PR168728	NOD #: 01
P. O. #: 7098760S	Date of Deviation: 4/14/23	CAR #:
Notification Made To: Scott Barrett <i>(Client Contact)</i>	Notification Made By: Clint Edwards	
If notification was not made, provide justification:		
Date: 4/14/23	Via: Email	
Test: Salt Fog	Test Item: Cabinet	
Specification: MIL-STD-810H	Model or P/N: 10630049	
Revision/Date: Rev. 1	Serial Number: 177363-002	

REQUIREMENTS: (Reference paragraph or section of specification)

IAW MIL-STD-810H, method 509.7, 5% salt solution, 24-hour wet/24-hour dry/24-hour wet/24-hour dry cycle, pH 6.5 to 7.2, fallout rate of 1 to 3 ml/hr.

DESCRIPTION OF DEVIATION

Unit was found to have small amounts of corrosion due to testing.

DISPOSITIONS/COMMENTS/RECOMMENDATIONS:

The test was completed, and small amounts of corrosion were expected due to the nature of the test. Unit to be sent back to customer to confirm that corrosion does not affect functionality.

<u>Scott Barrett</u>	<u>4/24/2023</u>	<u>Clint Edwards</u>	<u>4-24-23</u>
Client Disposition Authorization	Date	NTS Quality Representative	Date
<u>Clint Edwards</u>	<u>4/24/23</u>		
NTS Project Manager	Date	Government QAR (if applicable)	Date

NOTE: IT IS THE CLIENT'S RESPONSIBILITY TO ANALYZE AND DISPOSITION DEVIATIONS ON CLIENT TEST PROGRAMS.

FOR NTS QA USE	Tracking Code: <u>5</u>
	Risk Level:

Tracking Codes:

1. Employee Error - Training	2. Employee Error - Process	3. Test Equipment Problem	4. Equipment Limitations	5. Customer Item Problem	6. Other
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Risk Levels:

Low	Medium	High
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5.1.3 Test Photographs



Pre Test 1





Pre Test 2



Pre Test 3



Salt Fog Wet Cycle



Second Wet Cycle



First Dry Cycle 1



First Dry Cycle 2



Post First Dry Cycle 1



Post First Dry Cycle 2



Post First Dry Cycle 3



Post First Dry Cycle 4



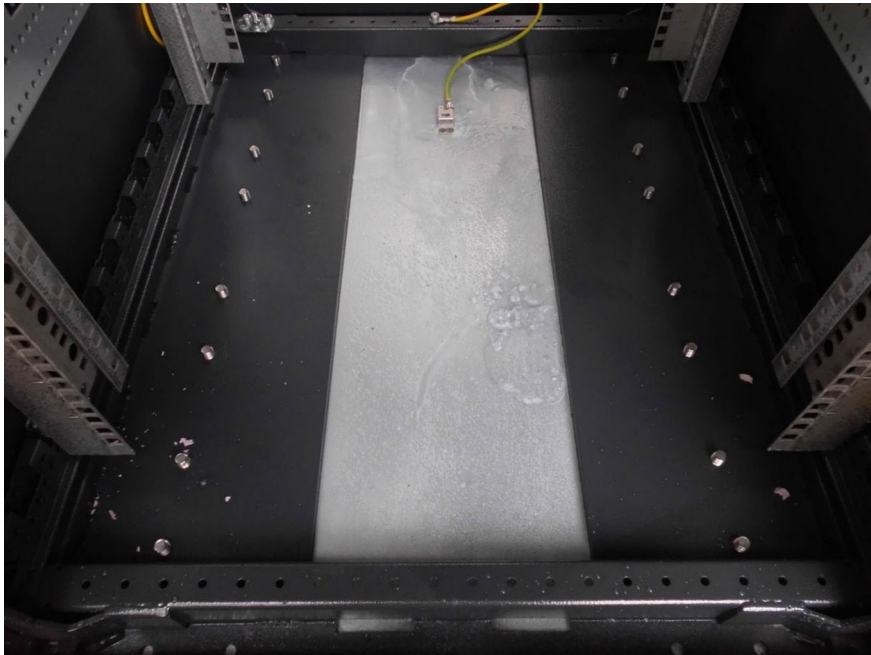
Post First Dry Cycle 5



Post First Wet Cycle



Post Test 1



Post Test 2



Post Test 3



Post Test 4



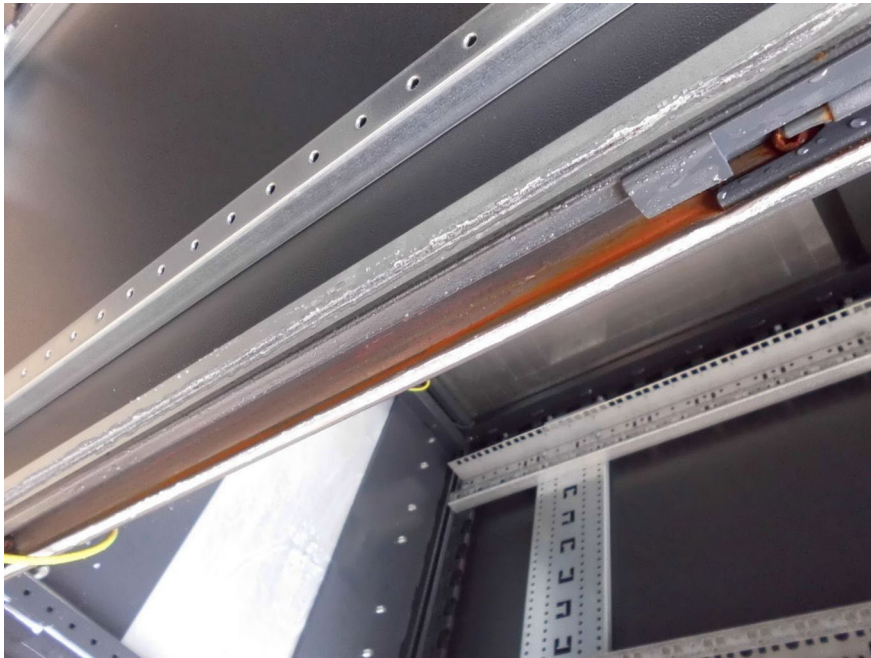
Post Test 5



Post Test 6



Post Test 7



Post Test 8



Post Test 9



Post Test 10



Post Test 11



Post Test 12



Post Test 13



Post Test 14



Post Test 15



Post Test 16



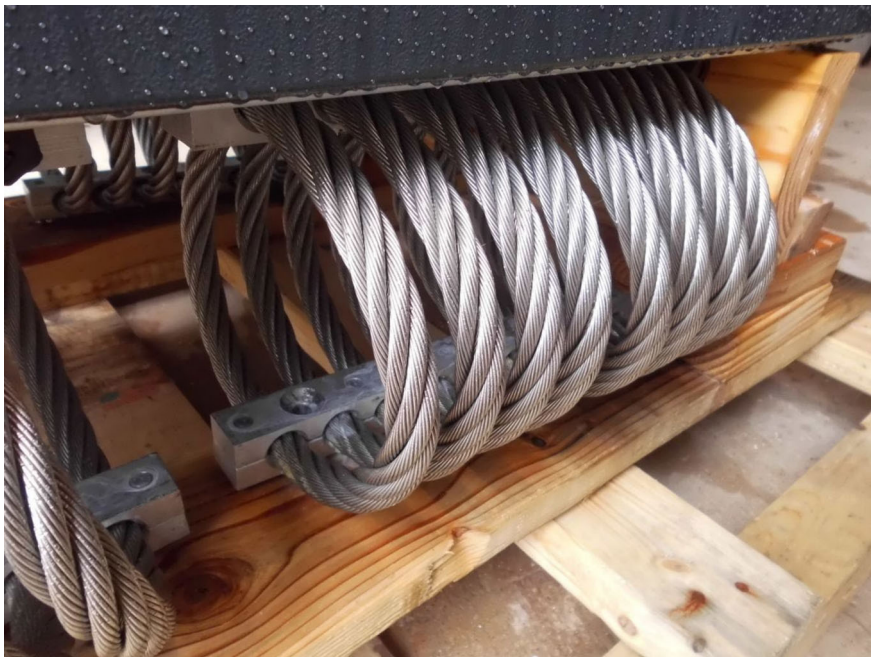
Post Test 17



Post Test 18



Post Test 19



Post Test 20



Post Test 21



Post Test 22



Post Test 23



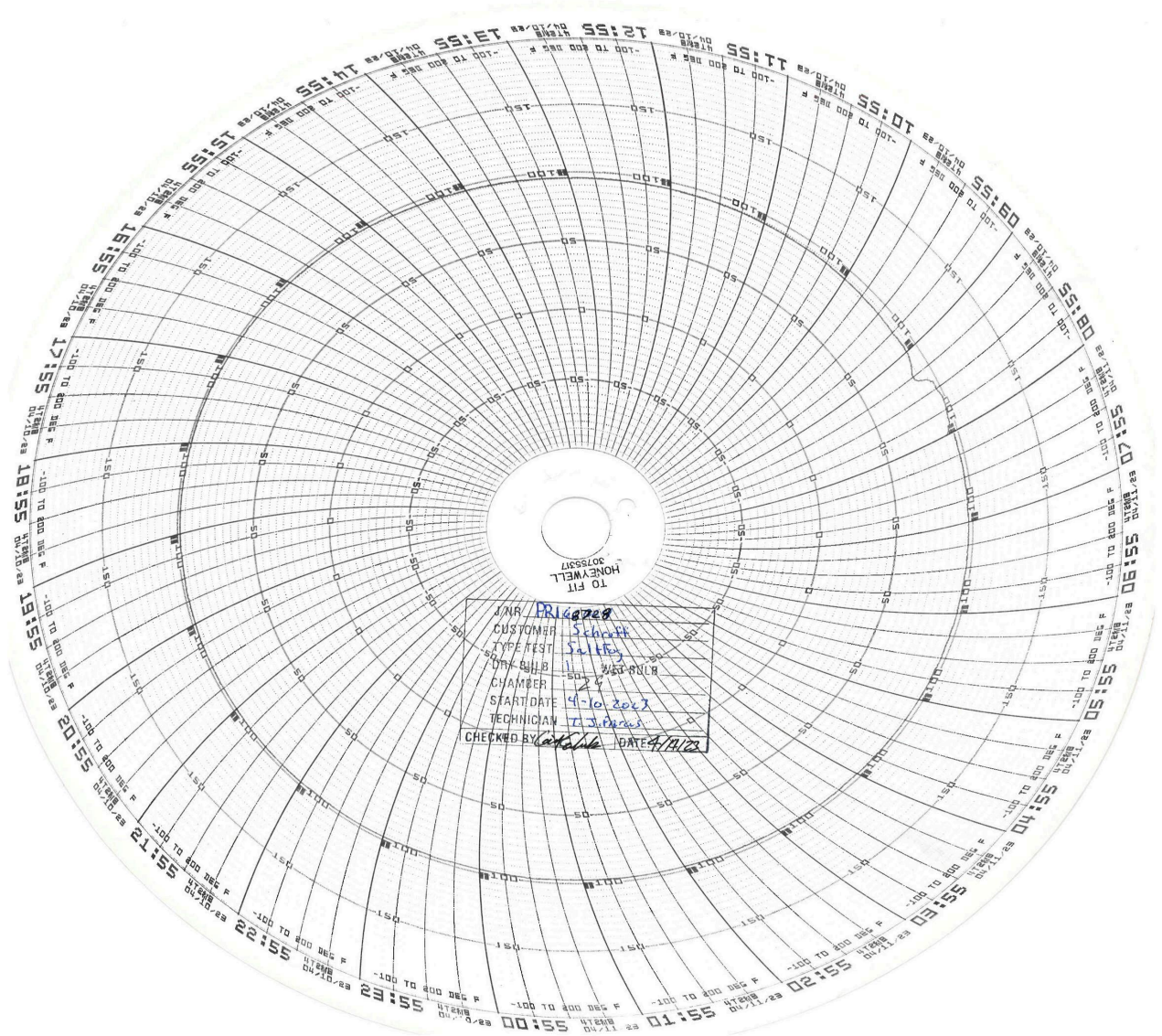
Post Test 24

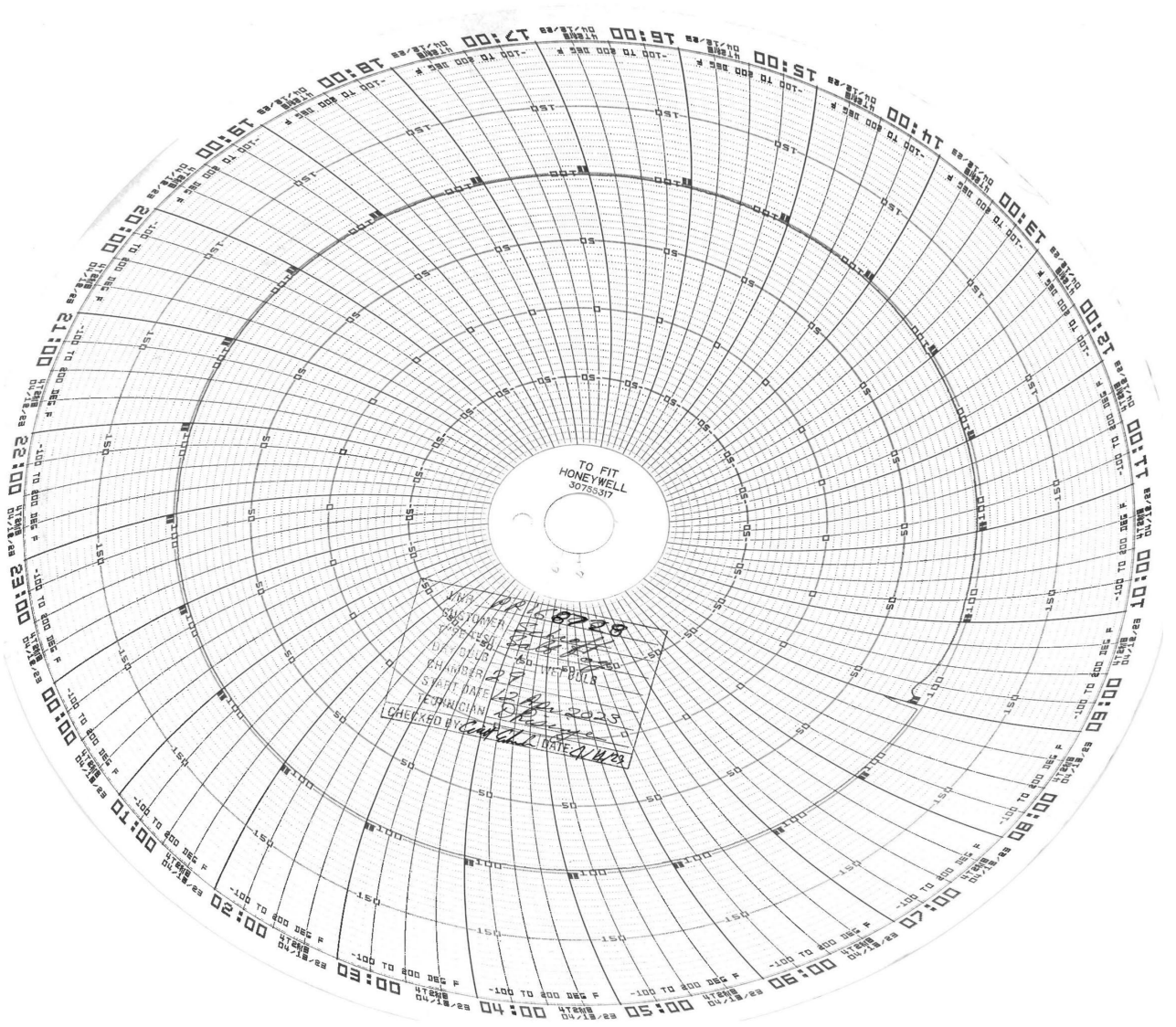


Post Test 25



5.1.5 Test Data







5.1.6 Test Equipment List

Table 5.1-1: Salt Fog Test Equipment List

Asset Number	Asset Type	Manufacturer	Model	Calibrated	Due
WC041599	Building (Storage)	National Technical Systems	NPN	NCR	NCR
WC048203	Controller (Temperature)	Watlow	SD4L	02/10/2023	02/10/2024
WC048796	Recorder (Chart)	Honeywell	DR450T	02/10/2023	02/10/2024
WC069699	Meter (PH)	Mettler Toledo	SEVEN2GO	03/27/2023	03/27/2024
WC069882	Meter (Densitometer)	Mettler Toledo	30PX	04/23/2019	04/23/2024

Calibration Abbreviations

CAL: Calibration

NCR: No Calibration Required



End of Test Report