

Certificate of Conformance SIFCO Process Solution

The solution identified below has been tested under controlled conditions and found to meet SIFCO Applied Surface Concepts specifications and Quality Assurance standards. This product does not contain, nor has it been contaminated with metallic mercury or mercury compounds. SIFCO ASC, LLC is a mercury free facility.

This product is free from all foreign materials that could result in foreign object damage to the equipment or process.

Capability of Meeting Specifications

This solution meets the requirements for: MIL-STD-865E, AMS2451/4D, ASTM B117-18, ASTM F519-18, BAC5854L, DPS9.89P & PS 13113F.

Product Code	2023	
Product Description	Cadmium No-Bake	
Batch Number	2001160	
Test Requirement	Actual Value	
Specimen Type	1a1 Notch Bars per ASTM F519 Lot # 92613 Sensitivity Pass Date: 12/18/2019 1a2 Notch Bars per ASTM F519 Lot # 90533T Sensitivity Pass Date: 04/06/2019 2a rings per ASTM F519 Lot # 88224 Sensitivity Pass Date: 07/19/2018	
pH	10.82	@ 20°C
Specific Gravity	1.162	@ 20°C
Metal Content	101.00	g/l
Hydrogen Embrittlement	CONFORMS	
200 Hour Fracture Test	Pass AMS2451/4, MIL-STD-865, PS13113 and BAC5854 Report Number # 20-64383	
168 Hour Fracture Test	Pass DPS 9.89	
250 Hour Salt Spray Test	ASTMB117 and AMS2451/4	Lab Report# 2001-24-1458
Solution Appearance	Clear	
Solution Manufacturing Date	January 22, 2020	
HE Certification Pass Date	February 1, 2020	
Date of Expiration	MIL-STD-865E and AMS2451/4 Expires: January 22, 2030 BAC 5854, DPS 9.89 and PS13113 Expires: February 1, 2021	



Quality Systems Engineer

02/14/2020
Date

"Specialists in Embrittlement Testing"

Date: February 03 2020

To: **SIFCO OH**
5708 Schaaf Road
INDEPENDENCE, OH 44131

Test Report: 20-64383

Reference P.O.: PO00006106
S/N 1,2,3,4

Test: **NOTCH TENSILE HYDROGEN EMBRITTLEMENT**

Sample Identification: SAMPLES A, B, C, D:

Job / SN: SOLUTION 2023, BATCH 2001160

Process: BRUSH CADMIUM PLATE

PO Specification: MIL-STD-865E, AMS 2451/4D, PS13113F

Test Method Scope: ASTM F519-18

Receive Date: Jan 24, 2020

Test Start Date: Jan 24, 2020

Test End Date: Feb 01, 2020

Sample Lot: 24F

Mfg.: GREEN

Notched Ultimate Tensile Load: 9345

Units: LBS

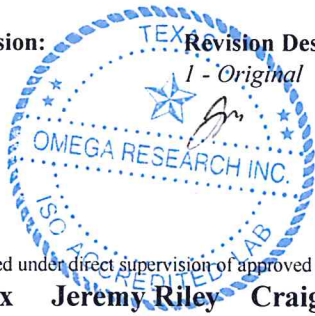
Test Load: 7009

Units: LBS

Results: Conforms

The above identified notched tensile samples were subjected to a 200-hour sustained load test at a load of 75% of the Notch Ultimate Tensile Load (NUTL). Results above are applicable to submitted purchase order specifications. Additionally, results apply to the samples as received. Variances as applicable are noted at bottom right of report:

Report Revision: 1
Revision Description: 1 - Original



Testing performed under direct supervision of approved signatories per QM-001 ISO 17025 Quality Manual PARA 7.8.2

Joshua Cox **Jeremy Riley** **Craig Willan**

Lab Mgr **Ops Mgr** **Chief Engr**

Report invalid unless color seal present. Page 1 of 1

APPROVED

8MB 2/10/2020



"Specialists in Embrittlement Testing"

Date: February 03 2020
To: **SIFCO OH**
5708 Schaaf Road
INDEPENDENCE, OH 44131

Test Report: 20-64383
Reference P.O.: PO00006106
S/N 435, 436
Test: **NOTCH TENSILE HYDROGEN EMBRITTLEMENT**
Sample Identification: SAMPLES A, B:
Job / SN: SOLUTION 2023, BATCH 2001160
Process: BRUSH CADMIUM PLATE 1A2
PO Specification: BAC 5854L

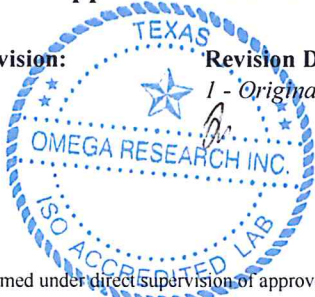
Test Method Scope: ASTM F519-18
Receive Date: Jan 24, 2020
Test Start Date: Jan 24, 2020
Test End Date: Feb 01, 2020

Sample Lot: 92E **Mfg.:** GREEN
Notched Ultimate Tensile Load: 15181 **Units:** LBS
Test Load: 11386 **Units:** LBS

Results: Conforms

The above identified notched tensile samples were subjected to a 200-hour sustained load test at a load of 75% of the Notch Ultimate Tensile Load (NUTL). Results above are applicable to submitted purchase order specifications. Additionally, results apply to the samples as received. Variances as applicable are noted at bottom right of report:

Report Revision: 1 **Revision Description:** 1 - Original



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Joshua Cox **Jeremy Riley** **Craig Willan**
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APPROVED

SMB 2/10/2020



A DIVISION OF J.T. ADAMS CO., INC.

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CLEVELAND, OHIO 44125
PHONE (216) 641-3290
FAX (216) 641-1223
www.tensile.com

CERTIFIED TEST REPORT

Sifco ASC
5708 E Schaaf Rd
Independence OH 44131

Job No.: 2001-24-1458
Date: 2-12-2020
Cust. PO#: PO00006107

Description: 1 sample Solution Code: 2023 Batch# 2001160

Material: Steel with Cadmium Plating with 3002 Conversion Coating

Spec: AMS 2451/4D

TEST RESULTS

250 Hour Salt Spray (ASTM B117-19)

Cust. Reqs.: No evidence of corrosion on significant surfaces after 250 hours ± 1 .

Test panel showed no corrosion products.

The above **Conforms** to requirements listed.


Authorized Agent

APPROVED

SMB 02/14/2020

