

## 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	<b>2023</b>
Product Description	<b>Cadmium No-Bake</b>
Batch Number	<b>2006161</b>
Test Requirement	Actual Value
Specimen Type	1a1 Notch Bars per ASTM F519 Lot # 93224 Sensitivity Pass Date: 02/17/2020 1a2 Notch Bars per ASTM F519 Lot # 92031T Sensitivity Pass Date: 11/05/2019 2a rings per ASTM F519 Lot # 88574 Sensitivity Pass Date: 06/08/2019
pH	10.97 @ 20°C
Specific Gravity	1.163 @ 20°C
Metal Content	101.40 g/l
Hydrogen Embrittlement	CONFORMS – Lab Report #20-65809
200 Hour Fracture Test	Pass AMS2451/4, PS13113 and BAC5854
168 Hour Fracture Test	Pass DPS 9.89
Solution Appearance	Clear
Solution Manufacturing Date	June 10, 2020
HE Certification Pass Date	June 25, 2020
Date of Expiration	MIL-STD-865D and AMS2451/4 Expires: June 10, 2030 BAC 5854, DPS 9.89 & PS 13113 Expires: June 25, 2021



\_\_\_\_\_  
 Quality Systems Engineer

06/29/2020  
 \_\_\_\_\_  
 Date

"Specialists in Embrittlement Testing"

**Date:** June 25 2020

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

**Test Report:** 20-65809

**Reference P.O.:** PO00006542  
S/N 1,2,3,4

**Test:** **NOTCH TENSILE HYDROGEN EMBRITTLEMENT**

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

**Job / SN:** SOLUTION CODE 2023 BATCH 2006161

**Process:** BRUSH CADMIUM PLATE

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

**Test Method Scope:** ASTM F519-18

**Receive Date:** Jun 16, 2020

**Test Start Date:** Jun 16, 2020

**Test End Date:** Jun 25, 2020

**Sample Lot:** 38F

**Notched Ultimate Tensile Load:** 8815

**Test Load:** 6611

**Mfg.:** GREEN

**Units:** LBS

**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.

**Jeremy Riley**   **Joshua Cox**   **Clint Williams**  
**Ops Mgr**   **Quality Mgr**   **Engr Tech**

Decision Rule: Per previously communicated and agreed, data has been supplied/reported as observed without accounting for measurement uncertainty.

Report invalid unless color seal present. Page 1 of 1

**APPROVED**  
*gmb 6/29/20*



"Specialists in Embrittlement Testing"

**Date:** June 25 2020  
**To:** SIFCO OH  
5708 Schaaf Road  
INDEPENDENCE, OH 44131  
**Test Report:** 20-65809  
**Reference P.O.:** PO00006542  
S/N 245, 246  
**Test:** NOTCH TENSILE HYDROGEN EMBRITTLEMENT  
**Sample Identification:** SAMPLES A, B:  
**Job / SN:** SOLUTION CODE 2023 BATCH 2006161  
**Process:** BRUSH CADMIUM PLATE 1A2  
**PO Specification:** BAC 5854M  
**Test Method Scope:** ASTM F519-18  
**Receive Date:** Jun 16, 2020  
**Test Start Date:** Jun 16, 2020  
**Test End Date:** Jun 25, 2020  
**Sample Lot:** 94E  
**Notched Ultimate Tensile Load:** 14770  
**Test Load:** 11078  
**Mfg.:** GREEN  
**Units:** LBS  
**Units:** LBS  
**Results:** Conforms

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APPROVED  
SMB 6/29/2020