

**SEMI F77-0915**

**Test Method for Electrochemical Critical Pitting Temperature Testing of Stainless  
Steel Surfaces used in Corrosive Gas Systems**

## **Test Report**

**Applicant Name: Linlin Xie**

**Product Name: 316L stainless steel products**



**BEIJING JU RUI ZHONG BANG HT-TECH CO.LTD**

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# Test Report

**Applicant Name:** Linlin Xie

**Applicant Address:** No.1261, Enterprise Development Service Center,  
Xiji Town, Tongzhou District, Beijing

**Manufacturer:** Precess (Beijing)Semiconductor Co.,Ltd.

**Product description:** 316L stainless steel products

**Product Number:** 1

**Trademark:** /

**Report Number:** MG20241230-25596-3

**Date of Issue:** 2024.12.31

**Evaluated by:**

**Reviewed by:**



Xiu hao Jiang

signature

2024.12.31

date

li xia jiang

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2024.12.31

date

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signature

date

## 1. Description of Test Samples

### 1.1 General Description of the Product

316L stainless steel products

### 1.2 Sample Photo



## 2. Measurement Conditions

### 2.1 List of Test and Measurement Instruments

Equipment	Equipment type	Equipment number	Calibration date/ Next Calibration date
Electrochemical workstation	CS350M	SA-385	2023.05.11/2024.05.11
Programmed temperature control low temperature constant temperature tank	TLDC-0510	SA-F215	TLDC-0510

### 2.2 Referenced Standards

Test Items	Reference standards
Critical Pitting Temperature	SEMI F77

## 2.3 Summary of Method

The test method measures the CPT by using a potentiostatic technique and a temperature scan. The test is performed in an electrochemical cell in a 1M NaCl aqueous electrolyte solution. The test specimen is polarized to a constant anodic potential, typically 700 mV for stainless steel, and the temperature scanned at a rate of 1°C/min, beginning at 0°C. The current is measured by means of a potentiostat/galvanostat instrument. The CPT is the temperature at which the current density increases above 100 $\mu$ A/cm<sup>2</sup> for 60 seconds. Pitting is confirmed by visual or microscopic observation of the specimen after testing.

## 2.4 Acquirsion parameters

Lot number: /

Specification grade per SEMI F19 or surface processing history(e.g., mechanical polish, electropolish, passivation): /

Welded specimens must be identified and the welding process specified: /

Test identification number: Mige03

Test date: 2024.12.29

Test cell type: G5 Type

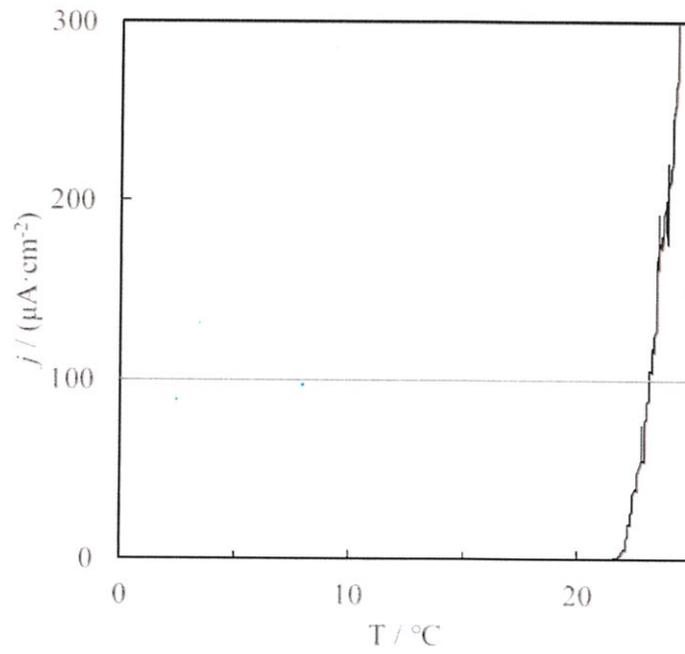
Test solution volume: 250mL

Test solution and concentration: 1mol/L NaCl

## 3. Test Result

### 3.1 CPT

Number of samples	Test solution	Loading potential	CPT	Whether crevice corrosion occurs
1#	1 mol/L NaCl	700 mV	23.1°C	No



**End of Test Report**