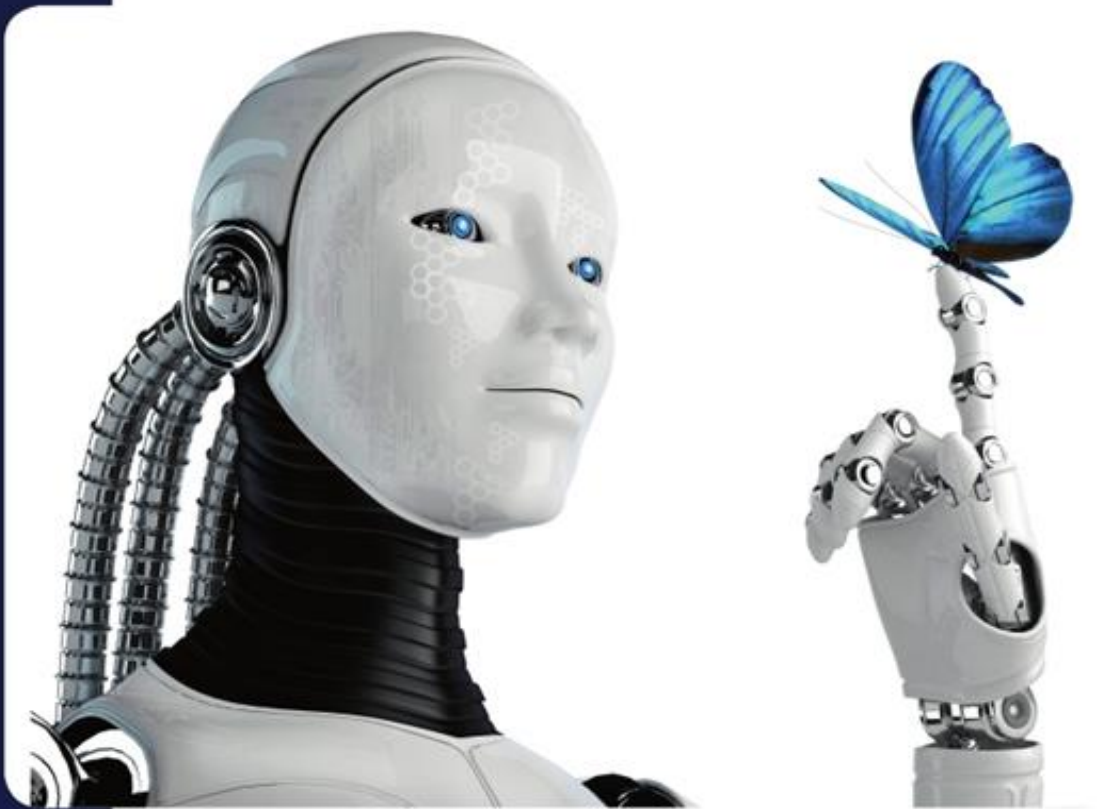


# Newsletter

## September, 2021



# ICR



# Hot Issue

1. SEMI Safety Standards Education 2021
2. ISO 37001 Anti-bribery management systems
3. Introduction of battery heater durability tester
4. Documents required for FCC Certification Application



# SEMI Safety Standards Education 2021



- ICR participated in 'SEMI Safety Standards Education 2021' to introduce the contents of standards and examples of evaluation to semiconductor manufacturers based on their expertise and technology in **SEMI Evaluation**.

## SEMI 안전표준교육 2021

2021.07.15(목) - 16(금) | 온라인 라이브

### 심화과정 - 7월 16일(금)

9:00 am -  
9:40 am

반도체 제조장비 배기평가 가이드라인 Part 1

9:40 am -  
9:50 am

ICR

Break

9:50 am -  
10:40 am

반도체 제조장비 배기평가 가이드라인 Part 2

10:40 am -  
10:50 am

Break

10:50 am -  
11:30 am

배기성능 평가 절차 및 사례 Part 1

11:30 am -  
11:40 am

ICR

Break

11:40 am -  
12:30 am

배기성능 평가 절차 및 사례 Part 2

# SEMI Safety Standards Education 2021



- ICR provided training on 'SEMI S6 - Safety Guidelines for Exhaust of Semiconductor Manufacturing Equipment and Exhaust Performance Evaluation Procedures and Cases' and focused on easy understanding of standards and test procedures.

**[SEMI S6]**  
반도체 제조장비 배기평가 가이드라인  
16/07/2021

### SEMI S6 성능 기준

- 작업자 노출 관리(Toxic Chemical)
- 합리적으로 예측 가능한 호흡영역이 인클로저 내부 공간이 포함되는 경우 배기를 통하여 인클로저 내부공간의 포개팅(유해물질이 축적되는 현상)을 방지해야 한다.

### SEMI S6 시험 절차

```

    graph LR
      A[사용 물질에 대한 MSDS 및 사용 유형에 대한 정보 수집] --> B[독성 / 인화성 물질 인지 확인 후 SEMI S6 평가 대상인지 결정]
      B --> C[장비의 기구도면 수령]
      C --> D[배기가 적용되는 Enclosure의 구조 확인]
      D --> E[방출 및 측정 시험 Point의 결정]
      E --> F[Tracer gas Test 진행]
  
```

### SEMI S6 Tracer gas Test

- Tracer gas(SF<sub>6</sub>)를 사용하는 이유
  - 인체에 무해함
  - 화재 위험성이 없음
  - 자연상태에서 분포하지 않거나 매우 미량 존재
  - 반응성이 낮아 화학적 반응이 일어나지 않음
  - ▶ 물리적인 회색 요인 외에는 농도변화가 존재하지 않음

### SEMI S6 현장 평가

역제 공발 Pool을 형성하는 경우

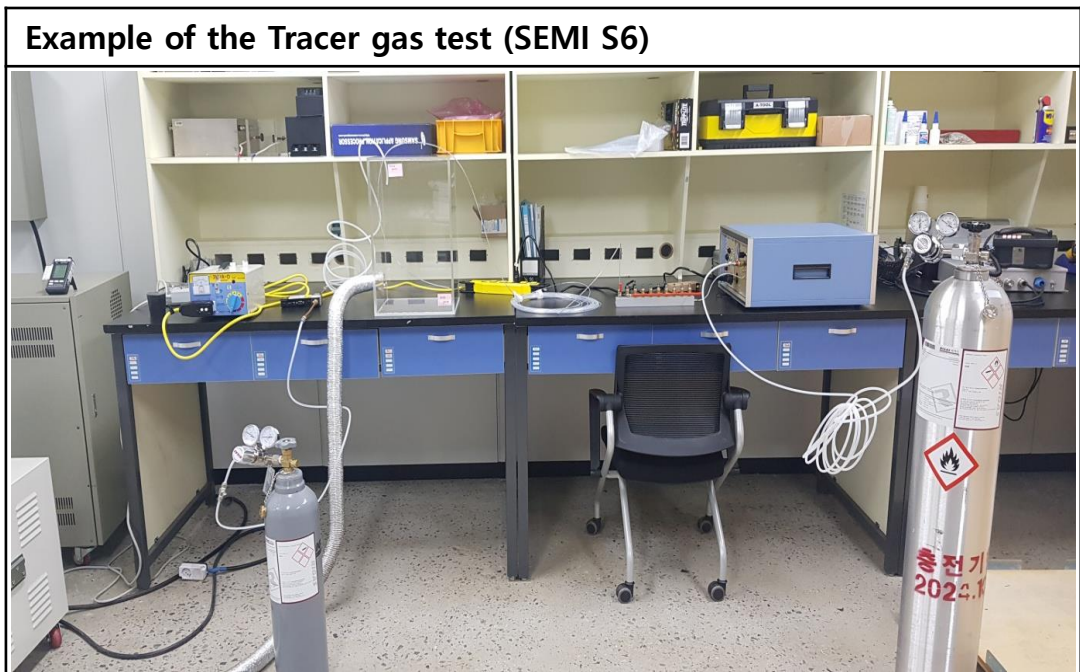
시험물질	LFL(ppm)
C3H8	17 000
C2H2	23 000
C2H4	24 000
H2	40 000

### SEMI S6 현장 평가

# SEMI Safety Standards Education 2021



- **Experienced engineers** at ICR provide services by conducting SEMI evaluation and testing <Tracer gas test (SEMI S6), Material use efficiency (SEMI S23), Voltage sag test (SEMI F47), Electrostatic test (SEMI E78), etc.> for semiconductor manufacturing equipment.
- **ICR Engineers (SEMI evaluation and testing)**
  - Hyunjun Park ([phj@icrqa.com](mailto:phj@icrqa.com)) ,
  - Seokho Lee ([seokho@icrqa.com](mailto:seokho@icrqa.com)),
  - Geunyeong Lim ([lgy@icrqa.com](mailto:lgy@icrqa.com))



**☎ Inquiries**

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T.02-6351-9001 / [yds@icrqa.com](mailto:yds@icrqa.com)

# ISO 37001 Anti-bribery management systems



## ■ Anti-bribery management systems?

ISO 37001:2016 is an international standard for anti-bribery management systems. The standard was established in 2016 to address the bribery in the public, private and not-for profit sectors.

## ■ Effect of the introduction of ISO 37001

Even if it is conform to anti-bribery management system requirements, the risk of bribery cannot be completely eliminated. However, introducing the standard is helpful to implement reasonable measures to prevent, detect, and respond to bribery.

## ■ Who needs?

As the demand for ESG grows, the ISO 37001, anti-bribery management systems can be considered as one of the ways to respond to corporate social responsibility and governance. Currently, it is being introduced by public organization, pharmaceutical organization, financial organization and organization that are commissioned to operate public projects.

## ■ Status of ICR

Currently, ICR has completed document assessment for accreditation scheme expansion from the Korea Accreditation Board(KAB) to provide the anti-bribery management system certification audit service. ICR is committed to providing the certification audit services within this year.

 **Inquiries**

System Certification Div. / Kim, Chae-Lin  
T.02-6351-9001 / [kcl@icrqa.com](mailto:kcl@icrqa.com)

# Introduction of battery heater durability tester



## ■ TRENDS

- Currently, most **electric vehicles use lithium-ion batteries**. The problem is that when the temperature drops in the middle of winter, electrolytes harden, which greatly shortens the driving distance of electric vehicles and takes a long time to charge them.
- To address this problem, a battery heater system is being developed that makes the battery at its optimal temperature.

## ■ Battery Heater Durability Tester

- In line with the customer's request, **ICR introduced the battery heater durability tester in June and has been operating the service since July.**



Specification	
1) Coolant temperature	(-30 ~ 90) °C (1.0°C/min)
2) Flow	5 ~ 120 LPM
3) Pressure measurement	(0 ~ 10) Bar(Inlet, Outlet Measure )
4) Environmental chamber	(-40 ~ 150) °C
ES related standard test possible (Multi-valve, COD heater, 20kw or less battery heater test, etc.)	

**Inquiries**

Mobility Center / Lee, Han-Kook  
T.010-5522-1825 / lhk9876@icrqa.com

# Documents required for FCC Certification Application



## ■ List of required information and documents when filing for FCC certification

1. Block Diagram
2. schematics
3. Part list(Bill of Material)
4. Manual
  - Warning statements and service center information must be included
5. Label sample & Location
  - Labels to be used on actual products and label placement locations.
  - Labels must include FCC ID.
6. Operating Description
  - Description of circuit and mechanical operation situation
7. External Photo
  - In order to be able to identify the size and shape, a photograph of the exterior from various angles and an auxiliary tool to know the size are required.
8. Internal Photo
  - Need a picture of the inside PCB and configuration as a way to know the size.
9. Test Setup Photo
  - The actual test site and setup state are expressed.



# Documents required for FCC Certification Application



## ■ List of required information and documents when filing for FCC certification

**10.** Agent Authorization Letter

**11.** Confidential Request Letter

- Since all data is disclosed in the FCC, the confidentiality period can be setup to 120 days when applying for the first certification.

**12.** Application

- Fill out an application under form 731 of the FCC application.

**13.** FCC ID & FRN number

- You can apply on the FCC site.

**14.** Information of the person in charge of the application company registered with the FCC

- When applying for FCC certification, it is necessary to fill out the information of the person in charge registered with the FCC.

 **Inquiries**

EMC&RF Test Center / Son, Min-Gi  
T.010-5522-2943 / thsalsrl@icrqa.com



[www.icrqa.com](http://www.icrqa.com)

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