

Your Company Name / Logo	EX EQUIPMENT INSPECTION SOP (IEC 60079-17)	Doc no: SOP EX 001	Rev: 0
Department: Instrumentation	Standard operating procedure	Date:	Page: see footer

1. Purpose

To keep equipment in hazardous areas safe by finding defects that could make it an ignition source.

2. Scope

Instruments, junction boxes, glands and electrical equipment in Zone 1 and Zone 2 gas areas.

3. References

- IEC 60079-17 inspection and maintenance
- IEC 60079-14 design and installation
- Area classification drawings and equipment certificates

4. Responsibilities

- Instrument technician: carries out the work and records results.
- Instrument engineer or supervisor: reviews and approves the records.
- Operations: grants the permit, isolates the process and returns the equipment to service.

5. Safety precautions

- Work only under a valid permit to work and follow the site isolation (lockout tagout) procedure.
- Wear the PPE required for the area: safety helmet, glasses, gloves and safety shoes as a minimum.
- In hazardous areas use certified or intrinsically safe test equipment, or obtain a gas free certificate and hot work permit.
- Inform the control room before starting, and before returning the instrument to service.
- Detailed inspection that opens enclosures needs isolation and a gas free certificate.
- Do not modify certified equipment.

6. Tools and equipment

- Inspection checklist
- Torch, mirror and feeler gauges
- Ex equipment register

7. Prerequisites

- Area classification and equipment register available.
- Inspector competent in Ex inspection.

8. Procedure

8.1 Plan

- 8.1.1 Select inspection grade: visual, close or detailed, and sample size per the site plan.

8.2 General checks

- 8.2.1 Equipment suitable for the zone, gas group and temperature class on the drawings.
- 8.2.2 Labels legible; no unauthorised modifications.
- 8.2.3 Enclosure, glass and seals undamaged; earthing and bonding secure.

8.3 Protection specific checks

- 8.3.1 Ex d: all bolts present and tight, flame paths clean and undamaged, certified glands and stopping plugs.
- 8.3.2 Ex e: terminals tight, no unused openings, correct glands and IP rating.
- 8.3.3 Ex i: correct barriers or isolators, IS cables identified and separated, entity documentation current.

8.4 Record and act

- 8.4.1 Record each item; classify defects by urgency.
- 8.4.2 Isolate equipment with serious defects and raise work orders.

9. Acceptance criteria

- All equipment inspected per plan with records.
- Serious defects isolated and corrective actions raised.

10. Records

- Ex inspection checklist (free template: instrumentationblog.in/downloads/templates/ex-inspection-checklist/)
- Instrument maintenance log (free template: instrumentationblog.in/downloads/templates/instrument-maintenance-log/)

11. Approval

	Prepared by	Reviewed by	Approved by
Name			
Signature			
Date			

This procedure is a generic template. Adapt it to your site permit system, the manufacturer instructions and your quality system before use.