Mock Document 1 — NFPA 99 Excerpt (DEMO USE ONLY)

Title: Excerpt — Fire and Smoke Control Devices: Dampers and Inspection Requirements

Document status: MOCKED excerpt for training/demo purposes. Not a verbatim copy of any standards body publication. Use only for demonstration and testing of AI workflows.

Scope: This excerpt covers definitions, required inspection frequencies, test procedures, documentation and recordkeeping for *fire dampers* and *smoke dampers* within healthcare facilities. It is formatted to mimic regulatory language and cross-references so that trainees can practice extraction and compliance synthesis when using an AI assistant.

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1. Definitions

1.1 Fire damper. A device installed in ducts and air transfer openings that is designed to resist the passage of fire and maintain the integrity of a rated fire barrier by automatically closing upon detection of heat or fire.

1.2 Smoke damper. A device installed in ducts, smoke barriers, and smoke partitions intended to control the movement of smoke by closing upon signal from a fire alarm/smoke detection system or actuating mechanism.

1.3 Operational test. A functional verification performed by a qualified technician to confirm that a damper actuates, returns to its normal position, and provides the expected closure performance.

1.4 Full-stroke test. A visual, measured, or witnessed operation of the damper from fully open to fully closed and back, including measurement of travel time where required.

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2. General Requirements (Mock regulatory language)

2.1 Where installed in accordance with the building's fire protection strategy, fire and smoke dampers shall be maintained and tested to ensure they perform as intended for the life of the building.

2.2 All testing and maintenance shall be performed by persons trained and qualified in accordance with the facility's maintenance program and the manufacturer's published instructions.

2.3 Frequency of testing and inspection shall be established to ensure continued performance, and shall include: initial acceptance testing, periodic operational testing, after any construction or modification that affects the damper or its associated damper assembly, and after any event that may affect its function (e.g., fire, water intrusion, severe impact).

3. Inspection & Test Frequencies (demo-oriented specifics)

3.1 Fire Dampers (Duct Penetrations through Fire-Rated Barriers)

- **Initial Acceptance:** Upon installation, each fire damper shall receive an acceptance test (full-stroke) and record of results retained in the asset file.
- **Routine Operational Test:** Perform an operational full-stroke test at **installation + 1 year**, then at **intervals not exceeding 4 years** thereafter for dampers installed in non-clinical spaces. For dampers located in critical patient-care zones (operating rooms, NICU, ICU), perform operational testing at **installation + 1 year**, then **every 2 years** thereafter.
- **Visual Inspection:** Annually, each fire damper's access door, actuator, and fusible link shall be visually inspected for corrosion, obstruction, or obvious damage. Visual inspection does not substitute for a full-stroke operation but is required annually.

3.2 Smoke Dampers (Ducts Crossing Smoke Barriers or Serving Smoke Control Systems)

- **Initial Acceptance:** Functional test and auto-reset verification at commissioning.
- **Routine Operational Test:** Smoke dampers shall be operationally tested **annually** by initiating the fire alarm or local actuator and verifying full closure and re-open function where automatic reset is required.
- **Partial/Functional Check:** Quarterly visual/indicator checks on actuators and position indicators; record condition and any observed anomalies.

3.3 Additional Circumstances Requiring Test

- After any HVAC work or duct modification that could affect damper operation.
- After any activation of the fire alarm system that involved the damper zone.
- After a fire or other event potentially affecting the damper.

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4. Test Procedures (Operational Guidance)

4.1 Pre-Test Controls & Safety

- Verify isolation of HVAC systems as needed to perform full-stroke testing safely without disrupting critical services. Coordinate with clinical leadership before taking systems offline.
- Notify building occupants and security; post signage.

- Ensure permit or hot-work authorizations if required.

4.2 Full-Stroke Test (Fire Damper)

1. Unlock and open access door/panel; inspect interior for debris or obstructions.
2. Manually override actuator (if manufacturer permits) or energize actuator remotely to initiate full closure.
3. Observe damper blades close fully and latch; note travel time and whether closure is smooth without binding.
4. Return damper to normal (open) position and verify actuator returns correctly.
5. Re-install access panel, secure, and sign-off.
6. Record: date, damper ID, technician name, actuator model/serial, travel time (seconds), condition (OK/fail), corrective actions taken.

4.3 Functional Test (Smoke Damper)

1. Initiate smoke signal (or use actuator test switch) per manufacturer instructions.
2. Verify damper closes and any smoke control sequencing occurs as designed.
3. Confirm re-open behavior if automatic reset required or perform manual reset where appropriate.
4. Record same metadata as fire damper tests.

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5. Documentation & Records

5.1 All test records shall be retained in the facility compliance file and associated with the asset in the CMMS.

5.2 Minimum record fields: - Asset ID / Location - Date of test - Technician (name, certification level) - Test type (acceptance, routine, post-work) - Result (pass/fail) - Observed issues / corrective action - Reference to manufacturer manual and serial number

5.3 Where an item fails inspection, a corrective action work order shall be generated within 48 hours, with priority assigned based on risk to patient care and egress.

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6. Sample Code References (DEMO PLACEHOLDERS)

- **NFPA-99, Section 6.x.x — Fire and Smoke Control Devices (DEMO placeholder)**
- **NFPA-99, Section 6.x.y — Inspection, Testing, and Maintenance of Dampers (DEMO placeholder)**

(These section numbers are placeholders in this mock excerpt; the intent is to provide realistic structure for AI extraction exercises.)

7. Annex: Sample Inspection Form (Short)

Damper Inspection Quick Form

- Facility: _____ Asset ID: _____ Location: _____
- Type: [ ] Fire Damper [ ] Smoke Damper
- Manufacturer: _____ Model: _____ Serial: _____
- Date: _____ Technician: _____
- Test Performed: [ ] Full-Stroke [ ] Functional [ ] Visual
- Result: [ ] Pass [ ] Fail; If Fail, describe: _____
- Corrective Action WO#: _____