RUSKIN®

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OPERATION & MAINTENANCE INSTRUCTIONS

While required frequency of periodic operation and testing varies by local jurisdiction, most local municipalities' reference one of two national standards. NFPA 80 covers the requirements for fire dampers and NFPA 105 covers the requirements for smoke dampers. Both documents contain the frequency requirements for periodic operational testing:

In addition, NFPA 72 and NFPA 92 describe the periodic testing requirements for smoke control systems. Dampers that are part of a smoke control system shall be cycled as part of this testing. When possible, the dampers should be operated under normal air flow conditions.

NFPA 105

a. After damper installation is completed, an operational test shall be conducted.
b. Each damper shall be tested and inspected 1 year after installation.
c. In buildings not containing a hospital, each damper shall be tested and inspected every 4 years.
d. In buildings containing a hospital, each damper shall be tested and inspected every 6 years.
e. The test shall be conducted with normal HVAC airflow.
f. All inspections and testing shall be documented indicating the location of the damper, date of inspection, name of inspector, and deficiencies discovered. The documentation shall have a space to indicate when and how the deficiencies were corrected.
g. All documentation shall be maintained by the property owner and available for review by the AHJ

OPERATIONAL TESTING SMOKE AND FIRE/SMOKE DAMPERS

Dampers with Position Indication

1. Use the signal from the damper's position indication device as an inspection to ensure the damper is in the fully open position.
2. Remove electrical power (or air pressure) from the actuator allowing the actuator to spring to the fail position.
3. Use the signal from the damper's position indication device as an inspection to ensure the damper reaches the fully closed position.
4. Reapply electrical power (or air pressure) to open the damper.
5. Use the signal from the damper's position indication device as an inspection to ensure the damper reaches the fully opened position.

Dampers without Position Indication

1. Visually confirm that the damper is in the fully opened position.
2. Ensure that all obstructions are out of the path of the damper blades and then remove electrical power (or air pressure) from the actuator allowing the actuator to spring to the fully closed position.
3. Visually confirm that the damper has fully closed.
4. Reapply electrical power (or air pressure) to open the damper.
5. Visually confirm that the damper returns to the open position.

MAINTENANCE

Although regular physical inspections are not required by ICC or NFPA, the local authority having jurisdictions may require periodic maintenance. When maintenance is preformed the following check list should be followed.

- Check actuator and tighten the linkage or coupling as necessary.
- Clean the damper blades and other working parts as necessary.
- Lubricate linkage, bearings, and other moveable parts with a silicone or graphite lubricant. **Do not use petroleum-based products as they could cause excessive dust buildup.**
- Cycle the damper/actuator following the instructions above.
- Consult Ruskin if problems are encountered.

PERIODIC PERFORMANCE TESTING FOR (D)IBD, (D)FD AND CFD DAMPERS

The recommended procedure for performing the periodic operational testing on fusible link operated dampers is described below.

- With the damper in the fully opened position, remove the fusible link. Care should be taken to ensure that there are no obstructions, including hands, in the path of the damper blades before the fusible link is removed.
- Once the fusible link is removed, ensure that the damper closes completely without assistance. If the damper is designed with a latch to hold in the fully closed position, confirm that the damper latches properly.
- Return the damper to the fully opened position and replace the fusible link. If the link appears damaged, replace with a functionally equivalent link.

NFPA 80

a. After damper installation is completed, an operational test shall be conducted.
b. Each damper shall be tested and inspected 1 year after installation.
c. In buildings not containing a hospital, each damper shall be tested and inspected every 4 years.
d. In buildings containing a hospital, each damper shall be tested and inspected every 6 years.
e. The test shall be conducted with normal HVAC airflow.
f. All inspections and testing shall be documented indicating the location of the damper, date of inspection, name of inspector, and deficiencies discovered. The documentation shall have a space to indicate when and how the deficiencies were corrected.
g. All documentation shall be maintained by the property owner and available for review by the AHJ.

MAINTENANCE

When maintenance is performed the following checklist should be followed.

- Check closure springs. If damaged or defective, repair or replace.
- Clean the damper blades and other working parts as necessary.
- Lubricate linkage, bearings, and other moveable parts with a silicone or graphite lubricant. **Do not use petroleum-based products as they could cause excessive dust buildup.**
- Cycle the damper/actuator following the instructions above.
- Consult Ruskin if problems are encountered.

Note:

Due to their construction (including size) and/or accessibility, dynamic curtain type fire dampers may be very difficult and in some cases impossible to test (close and re-open). If the damper is determined to be impossible to test, Ruskin recommends a thorough examination to ensure nothing exists which would prohibit the damper from closing. The examination should include the damper square-ness and blade channel is free of any obstructions.

! Warning

If the damper(s) have closure springs, caution needs to be taken to ensure injury does not occur.

! Warning

Ensure that the fan is off.

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