

HVAC AND SMOKE MANAGEMENT SYSTEMS

Inspection, testing, and maintenance of HVAC and smoke management systems shall be performed in accordance with the manufacturer's instructions, NFPA 101 (latest edition), 90A (latest edition), and 92 (latest edition). The following list highlights minimum requirements for the essential care of HVAC and smoke management systems. This list, however, is not meant to replace manufacturer's instructions and updated code requirements. This data is based on the 2012 editions of NFPA 101, NFPA 90A and NFPA 92.

Summary of General HVAC Systems Inspection, Testing, and Maintenance

ITEM	FREQUENCY	REFERENCE
Inspection		
Electrical equipment of automatic filters (check motors and relays)	Semiannually	90A:B.3.5
Check belt alignment	Quarterly	90A:B.8.2
Determine the amount of dust and waste material in ducts, plenums, ceiling cavities, and raised floors. Clean if necessary	Quarterly or as required	90A:B.4.1, B.5.2
Inspect cooling and heating coils, clean if necessary	Quarterly or as required	90A:B.4.3
Inspect apparatus casing and air-handling unit plenums, clean if necessary	Monthly or as required	90A:B.5.1
Testing		
Operate all fire dampers to verify they fully close and latch (if provided)	Every 4 years	80:19.4.1.1
Filters (replace or clean when resistance to airflow increases to no more than twice the original resistance or reaches mfg. recommended value for replacement)	Per manufacturer's requirements	90A:B.3.1
Electrical equipment of automatic filters (check motors and relays)	Semiannually	90A:B.3.5
Examine fan controls and activate to assure operable condition	Annually	90A:B.9
Maintenance		
Lubricate moving parts of fire dampers if necessary	Every 4 years	80:19.4.1.1

**Summary of General HVAC Systems
Inspection, Testing, and Maintenance**

ITEM	FREQUENCY	REFERENCE
Filters (replace or clean when resistance to airflow increases to no more than twice the original resistance or reaches mfg. recommended value for replacement)	Per manufacturer's requirements	90A:B.3.1
Clean and lubricate fans and motors	Quarterly	90A:B.8.1
Determine amount of dust and waste material in ducts, plenums, ceiling cavities, and raised floors. Clean if necessary.	Quarterly or as required	90A:B.5.2
Inspect cooling and heating coils, clean if necessary	Quarterly or as required	90A:B.4.3
Inspect apparatus casing and air-handling unit plenums, clean if necessary	Monthly or as required	90A:B.5.1

**Summary of Dedicated Smoke Control & Evacuation Systems
Inspection, Testing, and Maintenance**

ITEM	FREQUENCY	REFERENCE
Testing		
Operate each smoke control system control sequence to verify that all system parts and controls are operational ¹	Semiannually ²	92:8.6
Operate the smoke control system to verify airflow quantities and pressure differentials across smoke barriers, at make-up air supplies and at smoke exhaust equipment are within design tolerances. Tests conducted under normal power and standby power, if applicable ¹	Semiannually ²	92:8.6

¹ Notify OSHEM 2 weeks prior to these tests.

² Frequency for operational testing for dedicated and non-dedicated smoke control systems increased from annually to semiannually due to their complexity, including dependency on multiple building systems.

**Summary of Dedicated Smoke Control & Evacuation Systems
Inspection, Testing, and Maintenance**

ITEM	FREQUENCY	REFERENCE
Activate smoke dampers by smoke detectors and all other inputs per system design. Replace electromechanical squibs.	Annually	72:14.3.2

**Summary of Non-Dedicated Smoke Control & Evacuation Systems
Inspection, Testing, and Maintenance**

ITEM	FREQUENCY	REFERENCE
<u>Testing</u>		
Operate each smoke control system control sequence to verify that all system parts and controls are operational	Annually	92:8.6
Operate the smoke control system to verify airflow quantities and pressure differentials across smoke barriers, at make-up air supplies and at smoke exhaust equipment are within design tolerances. Tests conducted under normal power and standby power, if applicable	Annually	92:8.6
Activate smoke dampers by smoke detectors and all other inputs per system design. Replace electromechanical squibs.	Annually	72:14.3.2

**Summary of Stair Pressurization Systems
Inspection, Testing, and Maintenance**

ITEM	FREQUENCY	REFERENCE
<u>Testing</u>		
Operate each stair pressurization system control sequence to verify that all system parts and controls are operational ¹	Semiannually ²	92:8.6

**Summary of Stair Pressurization Systems
Inspection, Testing, and Maintenance**

ITEM	FREQUENCY	REFERENCE
Operate stair pressurization system to verify pressure differentials and forces to operate stair doors are within design tolerances. Tests conducted under normal power and standby power. ¹	Semiannually ²	92:8.6