READY TO INSPECT — FIELD CHECKLIST

Smoke control fan annual maintenance checklist

The annual smoke control fan service is the deep pass: the measurements, cleanings and tests a quarterly round doesn't reach. This checklist keeps the full service on record with the photos that make it defensible later. Work is commonly verified against NFPA 92, IMC (mechanical code). Confirm the edition your authority having jurisdiction has adopted.

Who runs it: The mechanical service lead inspects and documents; the licensed tech runs and documents the annual dedicated test with the AHJ witnessing. When: Once a year, scheduled around the dedicated test so the fan, dampers and controls are already clean and verified before the AHJ walk.

Notice and lockout

- [ ] Owner, occupants and monitoring told before the annual service
  Monitoring company told of test signals, owner told which zones are impaired under the impairment procedure, occupants warned stair doors may pull hard, panels put in test by the qualified tech.
  No photo required
- [ ] Lock and tag on every source before the fan is opened
  Disconnect, any drive or bypass feed and the standby feed locked and tagged; each powered check runs guards on, people clear, locks off by whoever hung them, re-locked before hands go back in.
  1 photo required

Deep clean and mechanical

- [ ] Wheel, housing and dampers cleaned and fasteners re-torqued
  Blades clean to bare surface, housing sound, mounting and curb hardware torque-verified and re-torqued only where found loose, curb flashing and sealant intact.
  2 photos required
- [ ] Belt set or coupling serviced for the drive type
  Belts replaced as a matched set where worn or due on the manufacturer's schedule and tensioned, or the direct coupling checked for alignment and insert wear.
  1 photo required
- [ ] Bearings serviced for a fan that idles until smoke mode calls it
  Shaft turned by hand to feel for drag or a flat spot from months standing idle, then bearings greased to the manufacturer's type and amount without overpacking, or noted as sealed.
  No photo required
- [ ] Isolators and duct connections at the fan inspected
  Isolators level and neither bottomed out nor seized, flexible connectors free of tears or brittle fabric that would leak at smoke-mode pressure.
  1 photo required
- [ ] Motor insulation resistance read against last year's value
  Motor locked out and its leads disconnected from any drive before the test, insulation resistance read by a qualified electrical tech and compared with the prior reading, any drop reported.
  1 photo required
- [ ] Motor and drive inspected under load
  Running smoothly under load with amps balanced and no heat at terminations seen by IR under the energized-work procedure; windings left to the locked-out checks.
  1 photo required

Performance

- [ ] Airflow or stair pressure difference read against the baseline
  Fan airflow, or the pressure difference across closed stair doors for a pressurization fan, read on the meter and compared with the commissioning baseline.
  1 photo required
- [ ] Running amps on each phase compared with the nameplate
  Current on each phase read under the site's energized-work procedure and PPE, compared with the nameplate full-load amps and last year's values, imbalance noted.
  1 photo required

- [ ] Fan failure reported at the smoke control panel
  Tech simulates a fan failure by the method in the sequence of operations, the panel shows the failure, then the fan restarts and proves running again.
  1 photo required

Damper actuation

- [ ] Each control and smoke damper actuator exercised to both positions
  Actuator drives fully open and fully closed, spring return works on loss of signal, end switches prove the position.
  2 photos required

Test support and documentation

- [ ] Condition documented for the tech's dedicated test
  As-found condition, cleaning and any repairs photographed and logged; readings taken by the tech recorded against the fan's design intent.
  1 photo required
- [ ] Panels restored, switches in auto and monitoring told
  Smoke control and fire alarm panels normal with no fault standing, fan switches in auto, and the monitoring company and owner told the system is back in service.
  1 photo required