Isolation Room Ventilation Standards: FGI & ASHRAE 170 AII Airflow, Pressure, Alarms & Anterooms

Field Sheet — Coordinated FGI Guidelines + ASHRAE 170 Requirements for Airborne Infection Isolation Rooms

Direct Answer (Practitioner Reference): Coordinated FGI Guidelines and ANSI/ASHRAE/ASHE Standard 170 require Airborne Infection Isolation (AII) rooms to maintain negative pressure of at least -0.01 in. w.g. (-2.5 Pa) relative to adjacent corridors or anterooms (facilities often target -0.02 to -0.03 in. w.g. for door-opening margin), 12 total ACH for new/renovated rooms (6 total ACH for existing) with at least 2 outdoor ACH, 100% direct outdoor exhaust, and a permanently installed continuous differential pressure monitor with local visual indication and audible/visual alarms. Anterooms are optional for standard AII unless required by ICRA/state code, but combination AII/PE rooms require dual pressure monitors.

Parameter	FGI + ASHRAE 170 Requirement	Operational / Commissioning Note	Governing Authority
Pressure Differential	Minimum -0.01 in. w.g. (-2.5 Pa) negative to corridor/anteroom	Facilities commonly target -0.02 to -0.03 in. w.g. for door-swing buffer	ASHRAE 170; FGI; CDC
Air Changes per Hour (ACH)	12 total ACH (new/renovated); 6 total ACH (existing); >= 2 outdoor ACH	Supply & exhaust must sweep clean air across patient toward exhaust	ASHRAE 170 Table 7-1
Monitoring & Alarms	Permanent continuous pressure monitor + local visual status + alarm on loss	Mount indicator at room entrance; set BAS delay to avoid door-trip nuisance	ASHRAE 170; FGI
Anteroom Specifics	Optional for standard AII unless ICRA/state code requires; Corridor -> Anteroom -> AII	Combo AII/PE rooms require TWO permanent monitors (ante-to-room & ante-to-corridor)	ASHRAE 170; FGI
Exhaust Discharge	100% direct outdoor exhaust from AII, anteroom & toilet; vertical away from intakes	2021/2025 conditional general-exhaust exception requires HEPA & backflow safeguards	ASHRAE 170; FGI

Daily Clinical & Survey Readiness Checklist for All Rooms

Check	Verification Step	Frequency / Owner
1. Visual Monitor	[ ] Confirm local differential pressure gauge reads <= -0.01 in. w.g. (-2.5 Pa) before patient placement	Prior to occupancy & daily / Nursing
2. Alarm Function	[ ] Test local visual/audible alarm and BAS notification on door-open timeout or pressure loss	Preventive maintenance / Engineering
3. Door & Envelope Seal	[ ] Inspect self-closing door hardware, sweeps, gaskets, and ceiling/utility penetrations	Quarterly & pre-survey / Facilities
4. TAB & ACH Verification	[ ] Verify 12 total ACH (or 6 existing) and >= 2 outdoor ACH in current Testing, Adjusting & Balancing report	Annual / TAB & Engineering

Practitioner prep/reference tool based on FGI Guidelines for Design and Construction of Hospitals, ANSI/ASHRAE/ASHE Standard 170, and CDC EICG. Verify state-adopted FGI/ASHRAE edition for local AHJ enforcement.