

## Cleanroom Design Guidelines

SI	ISO 14644-1	ROOM CLASS	Maximum allowable count per cubic foot of air.				
			0.1p	0.2p	0.3p	0.5p	5p
	Class 1						
M1	Class 2	0					
M1.5	Class 3	1	35	7.5	3	1	
M2.5	Class 4	10	350	75	30	10	
M3.5	Class 5	100		750	300	100	
M4.5	Class 6	1,000				1000	7
M5.5	Class 7	10,000				10000	70
M6.5	Class 8	100,000				100000	700

All Guidelines and Criteria are approximates.

CRITERIA	CLASS 10 M2.5 ISO 4	CLASS 100 M3.5 ISO 5	CLASS 1,000 M4.5 ISO 6	CLASS 10,000 M5.5 ISO 7	CLASS 100,000 M5.5 ISO 8
Air Changes Per Hr / Min	Per Hour/Per Minute 500-600/8-10	300 To 480 5 To 8	180/3	60/1	30/.5
Filter Coverage %	90 to 100	50 to 70	20 to 30	7 to 15	4 to 5
CFM Per Square Foot	85 to 90	36 to 65	18 to 32	9 to 16	4 to 8
Filter Efficiency	99.9997 (5-9s ULPA's)	99.997 (4-9s HEPAs)	99.997 (4-9s HEPAs)	99.997 (4-9s HEPAs)	99.97 (3-9s HEPAs)
Type of Ceiling	2" Aluminum Painted Grid	2" Aluminum Painted Grid	2" Aluminum Painted Grid	1 1/2" T-Bar Conventional	1 1/2" T-Bar Conventional
Light Fixture Type	Tear Drop or Flow Thru	Tear Drop or 2'x4' C/R Fixture	2' X 4' Cleanroom Fixture	2' X 4' Cleanroom Fixture	2' X 4' STD Fixture Field Sealed
Ceiling Panels	FRP or Epoxy Painted	FRP, Vinylrock or Mylar	Vinylrock or Mylar	Vinylrock or Mylar	Vinylrock or Mylar
Wall System	Modular	Modular	Modular	Modular or Drywall	Modular or Drywall
Floor Covering	Heat Weld Vinyl or Poured	Heat Welded Sheet Vinyl	Solvent Welded Sheet	Sheet Vinyl or VCT	Sheet Vinyl or VCT

	Epoxy		Vinyl		
Flooring Base	2" to 6' Cove	Cove or Aluminum Base Channel	Cove or Aluminum Base Channel	Cove or Aluminum Base Channel	Cove or Aluminum Base Channel
Air Returns	Raised Floor or Center Returns	Low Wall on Long Axis	Low Wall at Perimeter	Low Wall	Low Wall or Ceiling