

Classifications

Cleanroom

The international standard ISO 14644-1 has superseded the General Services Administration (GSA) standard FED-STD-209E to determine the amount of acceptable particles for a cleanroom. The new ISO standard uses new designations, a metric measure of air volume and adds 3 additional classes.

The main differences between Federal Standard 209E and ISO 14644-1 (Testing Standards) are:

ISO Establishes 0.1um as the “Standard” Diameter

ISO Creates 3 New Cleanliness Classes-

- 2 “Cleaner” classes (ISO class 1 and ISO class 2) than Federal Standard 209E
- 1 “Dirtier” Class (ISO Class 9) which is allows more particulate than Fed Standard 209E class 100,000

Allows for discarding of “Outliers” – Federal Standard 209E did not.

FS 209E	ISO 14644-1
N/A	1
N/A	2
1	3
10	4
100	5
1,000	6
10,000	7
100,000	8
N/A	9

ISO Class	ISO 14644-1 - Table					
	1					Max.
	Concentration (p/m ³) > or = size shown					
N	0.1 um	0.2 um	0.3 um	0.5 um	1.0 um	5.0 um
1	10	2				
2	10	24	10	4		
3	1,000	237	102	35	8	
4	10,000	2,370	1,020	352	83	
5	100,000	23,700	10,200	3,530	832	29
6	1,000,000	237,000	102,000	35,200	8,320	293
7				352,000	83,200	2,930
8				3,520,000	832,000	29,300
9				35,200,000	8,320,000	293,000