

Table 1 : Comparison of general ventilation air filter test standards

Filter Performance									
ANSI / ASHRAE 52.2				ASHRAE 52.1		EN779 : 2002		EN1822 : 1998	
MERV	Average Particle Size Efficiency (@ um.),%			Average Arrestance, %	Average Dust-Spot Efficiency, %	Class	Average 0.4 um. Particle Size Efficiency, %	Class	MPPS Efficiency, %
	E1	E2	E3						
	0.3-1.0	1.0-3.0	3.0-10.0						
1	-	-	<20	<65	<20	G1	-	-	-
2	-	-	<20	65-70	<20	G2	-	-	-
3	-	-	<20	70-75	<20	G2	-	-	-
4	-	-	<20	75-80	<20	G2	-	-	-
5	-	-	20-35	80-85	<20	G3	-	-	-
6	-	-	35-50	85-90	<20	G3	-	-	-
7	-	-	50-70	>90	25-30	G4	-	-	-
8	-	-	>70	>90	30-35	G4	-	-	-
9	-	<50	>85	>90	40-45	G4	-	-	-
10	-	50-65	>85	>95	50-55	F5	40-60	-	-
11	-	65-80	>85	>95	60-65	F6	60-80	-	-
12	-	>80	>90	>95	70-75	F6	60-80	-	-
13	<75	>90	>90	>98	80-90	F7	80-90	-	-
14	75-85	>90	>90	>98	90-95	F8	90-95	-	-
15	85-95	>90	>90	-	>95	F9	>95	-	-
16	>95	>95	>95	-	-	-	-	H10	85
N/A				-	-	-	-	H11	95
N/A				-	-	-	-	H12	99.5
N/A				-	-	-	-	H13	99.95
N/A				-	-	-	-	H14	99.995
N/A								U15	99.9995
N/A								U16	99.99995
N/A								U17	99.999995

Table 2 : Federal Standard 209 Class Limits.

Class	Particles / ft ³				
	≥ 0.1 um	≥ 0.2 um	≥ 0.3 um	≥ 0.5 um	≥ 5.0 um
1	35	7.5	3	1	NA
10	350	75	30	10	NA
100	NA	750	300	100	NA
1,000	NA	NA	NA	1,000	7
10,000	NA	NA	NA	10,000	70
100,000	NA	NA	NA	100,000	700

Table 3 : Airborne Classification in the EU - CGMP(1998)

Grade	Maximum permitted number of particles / m ³ equal to or above (a)			
	at rest (b)		in operation (b)	
	0.5 um (d)	5 um	0.5 um (d)	5 um
A @	3500	1 (e)	3500	1 (e)
B @	3500	1 (e)	350000	2000
C @	350000	2000	3500000	20000
D @	3500000	20000	not defined (f)	not defined (f)

Table 4 : Selected ISO 14644-1 Airborne Particulate Cleanliness Classes for Cleanrooms and Clean zones

ISO Classification Number	Maximum concentration limits (particles / m ³ of air) for particles equal to and larger than the considered sized shown below.					
	≥0.1 um.	≥0.2 um.	≥0.3 um.	≥0.5 um.	≥1.0 um.	≥5.0 um.
ISO Class 1	10	2				
ISO Class 2	100	24	10	4		
ISO Class 3	1000	237	102	35	8	
ISO Class 4	10000	2370	1020	352	83	
ISO Class 5	100000	23700	10200	3520	832	29
ISO Class 6	1000000	237000	102000	35200	8320	293
ISO Class 7				352000	83200	2930
ISO Class 8				3520000	832000	29300
ISO Class 9				35200000	8320000	293000

