

# AIR FILTERS AND EFFICIENCY

TABLE 1.1

CLASSIFICATION	Arrestance or Dust Spot Efficiency	US ASHRAE 52.2	European Union EN779 Class		Typical Controlled Contaminant	Application	MAYAIR Range of Products
PRE Filter (G Class)	AFI <65 %	MERV 1	G1	Am < 65%	Particle bigger than 10.0µm  (Pollen) (Spanish moss) (Dust mites) (Sanding dust) (Spray paint dust) (Textile fibers)	Gross filter, domestic and commercial	M-NET  M-WASH  ROLL MEDIA
	AFI 65%-70%	MERV 2					
	AFI 70%-75%	MERV 3	G2	65% ≤ Am < 80%			
	AFI 75%-80%	MERV 4					
	AFI 80%-85%	MERV 5	G3	80% ≤ Am < 90%	Particle size within 3.0µm-10.0µm  (Mold) (Spores) (Hair spray) (Cement dust) (Snuff) (Powdered milk)	Commercial, industrial, paint shop	M-NET  M-WASH  M-DP  ROLL MEDIA
	AFI 85%-90%	MERV 6					
	NBS 25%-30%	MERV 7	G4	90% ≤ Am			
	NBS 30%-35%	MERV 8					
MEDIUM Filter (F Class)	NBS 40%-45%	MERV 9	F5	40% ≤ Em < 60%	Particle Size within 1.0µm-3.0µm  (Lead dust) (Milled flour) (Coal dust) (Auto emissions) (Nebulizer drop) (Welding fumes)	IAQ concerned commercial & industrial, medical	M-PACK  M-BOX  M-MI, M-MII  M-MV
	NBS 50%-55%	MERV 10					
	NBS 60%-65%	MERV 11	F6	60% ≤ Em < 80%			
	NBS 70%-75%	MERV 12					
	NBS 80%-85%	MERV 13	F7	80% ≤ Em < 90%	Particle size within 0.3µm-1.0µm  (All bacteria) ( cooking oil ) (Most smoke) (Copier toner) (Most face powder) (Most paint pigments)	IAQ concerned commercial, industrial, medical, food etc.	M-PACK  M-BOX  M-MI, M-MII  M-MV
	NBS 90%-95%	MERV 14	F8	90% ≤ Em < 95%			
	NBS >95%	MERV 15	F9	95% ≤ Em			
MERV 16							

Note:

1. AFI : American Filter Institute
2. NBS : National Bureau of Standards
3. ASHRAE : American Society of Heating Refrigerating & Air-conditioning Engineers
4. MERV: Minimum Efficiency Reporting Value
5. MPPS : Most Penetrating Particle Size
6. HEPA: High Efficiency Particulate Air Filter
7. ULPA : Ultra Low Penetration Air Filter
8. Am : Average Arrestance Efficiency for Coarse Filters
9. Em : Average Efficiency for Fine Filters
10. IEST : Institute of Environmental Sciences and Technology



MayAir Manufacturing (M) Sdn Bhd (650453-W)

No 41, Jalan Anggerik Mokara 31/64,  
Kota Kemuning, Seksyen 31,  
40460 Shah Alam,  
Selangor Darul Ehsan, Malaysia

Tel: +603-5121 2908  
Fax: +603-5121 2948  
Email: info@mavair.com.my

# AIR FILTERS AND EFFICIENCY

TABLE 1.2

CLASSIFICATION	Mean Fractional Efficiency	IEST RP-CC001.3	European Union EN1822 Class		Typical Controlled Contaminant	Application	MAYAIR Range of Products	
HEPA Filter (H Class)	≤95% at 0.3μm	n/a	H10	≤85% at MPPS	Particle size bigger than 0.3μm (Virus [unattached]) (Carbon dust) (Sea salt) (All combustion smoke) (Radon progeny)	All types of cleanrooms	M-HI	
	≤98% at 0.3μm		H11	≤95% at MPPS			M-HI	
	≤99.97% at 0.3μm	TYPE A		≤99.5% at MPPS			M-CFCN	
	≤99.99% at 0.3μm	TYPE C		H12			≤99.5% at MPPS	M-CAM
	≤99.995% at 0.3μm			H13			≤99.95% at MPPS	M-TMI
	≤99.999% at 0.3μm	TYPE D	H14	≤99.995% at MPPS			M-FFU	
ULPA Filter (U Class)	≤99.9995% at 0.12μm	TYPE F	U15	≤99.9995% at MPPS	Particle size bigger than 0.12μm	Super cleanroom	M-HV & M-CAM	
	≤99.99995% at 0.12μm		U16	≤99.99995% at MPPS			M-CFCN	
	≤99.999995% at 0.12μm		U17	≤99.999995% at MPPS			M-FFU	

Note:

1. AFI : American Filter Institute
2. NBS : National Bureau of Standards
3. ASHRAE : American Society of Heating Refrigerating & Air-conditioning Engineers
4. MERV: Minimum Efficiency Reporting Value
5. MPPS : Most Penetrating Particle Size
6. HEPA: High Efficiency Particulate Air Filter
7. ULPA : Ultra Low Penetration Air Filter
8. Am : Average Arrestance Efficiency for Coarse Filters
9. Em : Average Efficiency for Fine Filters
10. IEST : Institute of Environmental Sciences and Technology



**MayAir Manufacturing (M) Sdn Bhd (650453-W)**

No 41, Jalan Anggerik Mokara 31/64,  
Kota Kemuning, Seksyen 31,  
40460 Shah Alam,  
Selangor Darul Ehsan, Malaysia

Tel: +603-5121 2908  
Fax: +603-5121 2948  
Email: info@mavair.com.my