

TECHNICAL DATA

FILTER EFFICIENCY / APPLICATION GUIDELINES

Filter Efficiency Ratings			Application Guidelines		
MERV Rating (ASHRAE Std. 52.2)	Dust Spot Efficiency (ASHRAE Std. 52.1)	Arrestance (ASHRAE Std. 52.1)	Typical Contaminant	Typical Applications	Typical Air Filter
1	<20%	<65%	>10.0 µm Particle Size Pollen Spanish moss Dust mites Sanding dust Spray paint dust Textile fibers Carpet fibers	Minimum filtration Residential Window air conditioners	Throwaway - Disposable fiberglass or synthetic panel filters Washable - Aluminum mesh, latex coated animal hair, or foam panel filters Electrostatic - Self charging (passive) woven polycarbonate panel filter
2	<20%	65-70%			
3	<20%	70-75%			
4	<20%	75-80%			
5	<20%	80-85%	3.0-10.0 µm Particle Size Mold Spores Hair spray Fabric protector Dusting aids Cement dust Pudding mix Snuff Powdered milk	Commercial buildings Better residential Industrial workplaces Paint booth inlet air	Pleated Filters - Disposable, extended surface, 25 to 125 mm (1 to 5 in.) thick with cotton-polyester blend media, cardboard frame. Cartridge Filters - Graded density viscous coated cube or pocket filters, synthetic media Throwaway - Disposable fiberglass or synthetic panel filters
6	<20%	85-90%			
7	25-30%	>90%			
8	30-35%	>90%			
9	40-45%	>90%	1.0-3.0 µm Particle Size Legionella Humidifier dust Lead dust Milled flour Coal dust Auto emissions Nebulizer drops Welding fumes	Superior residential Better commercial buildings Hospital laboratories	Bag Filters - Nonsupported (flexible) microfine fiberglass or synthetic media. 300 to 900 mm (12 to 36 in.) deep, 6 to 12 pockets. Box Filters - Rigid style cartridge filters 150 to 300 mm (6 to 12 in.) deep may use lofted (air laid) or paper (wet laid) media.
10	50-55%	>95%			
11	60-65%	>95%			
12	70-75%	>95%			
13	80-90%	>98%	0.30-1.0 µm Particle Size All bacteria Droplet nuclei (sneeze) Cooking oil Most smoke Insecticide dust Copier toner Most face powder Most paint pigments	Hospital inpatient care General Surgery Smoking lounges Superior commercial buildings	Bag Filters - Nonsupported (flexible) microfine fiberglass or synthetic media. 300 to 900 mm (12 to 36 in.) deep, 6 to 12 pockets. Box Filters - Rigid style cartridge filters 150 to 300 mm (6 to 12 in.) deep may use lofted (air laid) or paper (wet laid) media.
14	90-95%	>98%			
15	>95%	n/a			
16	n/a	n/a			
n/a	n/a	n/a	≤0.30 µm Particle Size Virus (unattached) Carbon dust Sea salt All combustion smoke Radon progeny	Cleanrooms Radioactive materials Pharmaceutical manufacturing Carcinogenic materials Orthopedic surgery	HEPA/ULPA Filters ≥99.97% efficiency on 0.30 µm particles, IEST Type A ≥99.99% efficiency on 0.30 µm particles, IEST Type C ≥99.999% efficiency on 0.30 µm particles, IEST Type D ≥99.999% efficiency on 0.10-0.20 µm particles, IEST Type F
n/a	n/a	n/a			
n/a	n/a	n/a			
n/a	n/a	n/a			

Source: ASHRAE Standard 52.2 - 1999