

AIR FILTERS EFFICIENCY

| CLASSIFICATION | Arrestance or Dust Spot Efficiency | US ASHRAE 52.2 | European Union EN779 Class | | Typical Controlled Contaminant | Application | | |
|-------------------------|------------------------------------|-----------------|-----------------------------|--------------------|--|---|---|--|
| 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 | | |
| | AFI 65%-70% | MERV 2 | G2 | 65% Am < 80% | | | | |
| | AFI 70%-75% | MERV 3 | | | | | | |
| | 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 | | |
| | 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 |
| | 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 | | |
| | NBS 90%-95% | MERV 14 | F8 | 90% Em < 95% | | | | |
| | NBS > 95% | MERV 15 | F9 | 95% Em | | | | |
| | | MERV 16 | | | | | | |
| CLASSIFICATION | Mean Fractional Efficiency | IEST RP-CC001.3 | European Union EN1822 Class | | Typical Controlled Contaminant | Application | | |
| 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 | | |
| | 98% at 0.3µm | | H11 | 95% at MPPS | | | | |
| | 99.97% at 0.3µm | TYPE A | H12 | 99.5% at MPPS | | | | |
| | 99.99% at 0.3µm | TYPE C | | | | | | |
| | 99.995% at 0.3µm | TYPE D | H13 | 99.95% at MPPS | | | | |
| | 99.999% at 0.3µm | | H14 | 99.995% at MPPS | | | | |
| ULPA Filter (U Class) | 99.9995% at 0.12µm | TYPE F | U15 | 99.9995% at MPPS | Particle size bigger than 0.12µm | super cleanroom | | |
| | 99.99995% at 0.12µm | | U16 | 99.99995% at MPPS | | | | |
| | 99.999995% at 0.12µm | | U17 | 99.999995% at MPPS | | | | |

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