



Clean Air Filter // *Quality Tested. Performance Proven.*

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MERV 16

The Minimum Efficiency Reporting Value (MERV) is a label that the heating & air conditioning industry (ASHRAE) created. The ASHRAE MERV Standard is a gravimetrically based efficiency testing, correlating filters with HVAC flow rates. MERV 16 is ASHRAE's highest filter rating. There used to be higher ratings claiming (MERV 17-20) HEPA, but these ratings were removed a couple of years ago as it conflicted with HEPA standards.

The Current MERV 16 testing allows a new filter, at the start of their testing, to have a minimum efficiency of only 80% at 0.3 μ m. After adding a specific amount of dust, the filter as to be at an efficiency of at least 95% at 0.3 to 1.0 μ m in order to classify as MERV 16.

This rating makes sense for HVAC because ASHRAE is in the industry of heating and air conditioning. In order to make their HVAC systems work in homes, etc., they needed high airflow across the coils (The higher the air flows, the more comfortable it feels).

When you put a filter in line with an HVAC unit, it slows the air down dramatically. As the filter collects dust, it gets more restrictive until the airflow does not allow the HVAC unit to keep you comfortable. So, users need filters with great airflow, which results in low-efficiency filters. On mechanical filters, the higher the efficiencies, the greater the restriction.

So how does one make a standard look good? Rate the filter at its dust-loaded efficiency and not its off-the-self efficiency and use that as the resting. Where HEPA filters are rated is based on the initial fractional efficiency.

Considering that MERV 16 starts at 80% at 0.3 μ m, how much will a person inhale by the time it dust loads to that minimum of 95% at 0.3 to 1.0 μ m? Field test data shows that you would get exposed to as many particles on the first day using MERV 16 as you would in over six months with a CAF 48R filter.

The range of MERV 16 is 80% at 0.3 μ m to 99.969% at 0.3 to 1.0 μ m. This basically makes it ineffective as a filter standard for high-efficiency filters. All CAF measurements are taken at 0.3 μ m.