

ASHRAE 52.2 Revised Again

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Since ASHRAE introduced us to MERV in 1999, there have now been three revisions, the latest published in June 2013 ASHRAE 52.2-2012 is now the current test standard for defining an HVAC filter's MERV. This could not have come at a better time as there are some industry trends that were expressly addressed in this revision of the test standard. Here are the highlights:

Electronic Air Cleaners:

There is a section where ASHRAE discusses electronic air cleaners, also known as Active Field and Electrostatic Precipitators (ESPs). ASHRAE notes that 52.2 is not applicable to these types of filtration devices – which means no MERV can be assigned to them. They go on to note that the efficiency of these devices decline over time and are dependent on the conductivity of the dust they collect. In the industry there are a few manufacturers pushing this technology, it is typically very expensive and with ASHRAE's concerns noted in this revision of 52.2 there should be extreme due diligence on your part as a building manager when considering this technology.

Appendix J and Synthetic Media Filters:

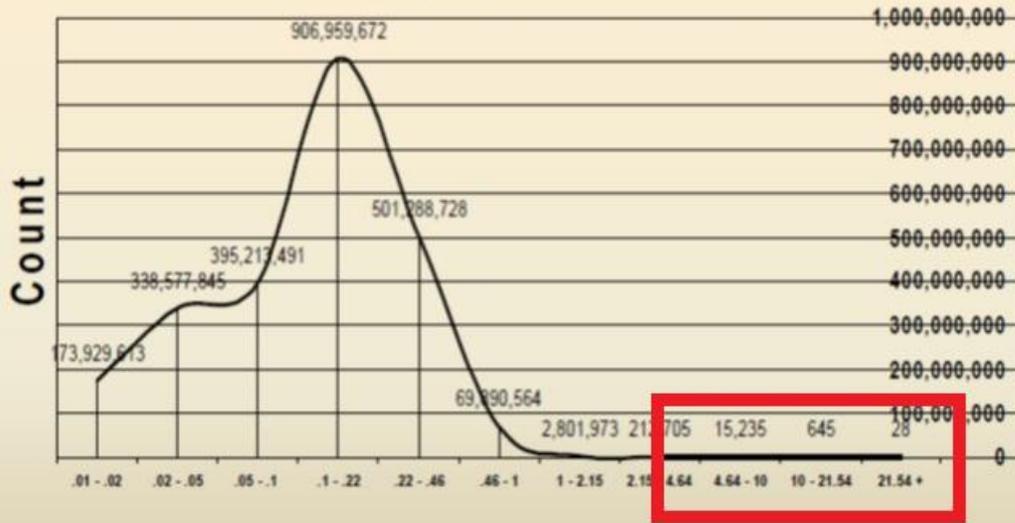
Appendix J was the big addition to the 2007 revision of 52.2 and ASHRAE now expands on this topic while also making the Appendix J portion of the test standard mandatory, the 2007 revision listed Appendix J as optional. ASHRAE states on page 3 that synthetic media filters drop in efficiency during actual use and even with Appendix J may still test at a higher MERV than what will be achieved during actual use. Synthetic air filter media became and remains popular with air filter manufacturers because it is cheap to make and under the old test standard tested very high – with this publication by ASHRAE some air filter manufacturers now are trying to hide or just no mention what type of media they use.

Test Dust:

Outdoor/Ambient air was AHSRAE's first choice for the test dust used to determine a filter's efficiency; however because of the test standard including particle sizes up to 10 microns ambient air was passed over because "it lacks a statistically significant quantity of particles larger than 3 microns." Below is a chart of the particle size distribution of ambient air – the box illustrates what a MERV-8 filter catches. It is because of the high amounts of smaller particles many air filtration organizations, LEED, and the EPA all recommend MERV-13 as what should be the standard.

Particles by Count

Typical Atmospheric Air Sample
69 micrograms per Cubic Meter



Particle Size in Micrometers



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