ASHRAE Thailand Chapter

ACAT

ASHRAE
Technical Seminar #4/2023-24

8th MAY 2024
8.30AM - 4.00PM
Ubonchard Swissotel Bangkok-Ratchada

Chandet Sirimaha
Strategic Business Manager
Camfil (Thailand) Limited

GUEST SPEAKER
Zimmer, Tobias (Germany)
Vice President Global Product Management and International Standards

01 **ASHRAE 52.2 VS ISO16890: Filter Testing Standards that are similar but different. (Thai)**

02 **ASHRAE 241 - impact on air filtration recommendations (English)**

Agendars:

08.30-09.00	Registration
09.00-09.15	Opening Speech: President, ASHRAE Thailand
09.15-10.45	ASHRAE 52 Historical ASHRAE 52.2:2017 Procedure details and report
10.45-11.00	Coffee break
11.00-12.00	ASHRAE 52.2:2017 Procedure details and report ASHRAE 52.2:2017 Appendix J SO16890 procedure
12.00-13.00	Lunch time
13.00-14.15	ASHRAE 52.2:2017 vs ISO 16890 ASHRAE 241 Control of Infectious Aerosols in Public Building
14:15-14:45	Coffee break
14.45-15.45	CAMTester with different filter
15.45-16.15	Q & A
16.15-16.30	Closing Speech: President, Air Conditioning Engineering Association of Thailand

Fee:
- Member ASHRAE Thailand /ACAT 2,100 Baht.
- Public 2,400 Baht.

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ASHRAE 52.2 VS ISO16890:
Filter Testing Standards that are similar but different.

The quality of indoor air is paramount for maintaining optimal health and comfort in residential, commercial, and industrial spaces. Air filters play a crucial role in removing contaminants and particulate matter from the air, thus ensuring a cleaner and healthier indoor environment. To assess the performance of air filters accurately, various testing standards have been established, with ASHRAE 52.2-2017 and ISO 16890 standing out as prominent benchmarks in the industry.

ASHRAE 52.2-2017, developed by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), is widely recognized in North America, beyond, and specifically in the Asia Pacific region. It provides a comprehensive methodology for testing the efficiency of air filters based on their ability to capture airborne particles of varying sizes, measured by Minimum Efficiency Reporting Value (MERV) ratings.

In contrast, ISO 16890, formulated by the International Organization for Standardization (ISO), has gained global traction as a harmonized standard for evaluating air filter performance. Introduced in 2016, ISO 16890 offers a modern approach to testing, focusing on particulate matter (PM) size distribution and efficiency, categorized into coarse (PM10), fine (PM2.5), and ultrafine (PM1) particles.

This comparative analysis aims to delve into the key differences and similarities between ASHRAE 52.2-2017 and ISO 16890, exploring their testing methodologies, performance metrics, and applicability across diverse air filtration systems. By understanding the nuances of these standards, stakeholders can make informed decisions regarding air filter selection, installation, and maintenance to uphold indoor air quality standards effectively. However, it's important to note that these two standards specifically focus on air filter manufacturing testing at their respective factories.

ASHRAE 241 - impact on air filtration recommendations

During the years of the COVID pandemic, ASHRAE published two new standards, that both affect the requirements on Indoor Air Quality and the associated air filter recommendations: ASHRAE 62.1-2022 (Ventilation and Acceptable Indoor air Quality) and ASHRAE 241-2023 (Control of Infectious Aerosols). While ASHRAE 62.1-2022 is just an update of the former ASHRAE 62.1-2019 and defines the bare minimum requirements for "Acceptable Indoor Air Quality", the ASHRAE 241-2023 gives guidance, how to reduce and control the spread of infectious aerosols within a building. The ASHRAE 241-2023 was developed in 2022/2023 on request of the White House to provide guidance on operating buildings to reduce the airborne infection risk.

In terms of air filtration requirements both new standards do not only refer to ASHRAE 52.2 MERV ratings but also to ISO 16890 ratings for air filters. ASHRAE 241 goes even one step further in requiring MERV-A ratings (or alternatively ISO 16890 ratings) from January 2025. What makes ASHRAE 241 groundbreaking in a number of ways is that the requirements for air filter and air cleaner testing go well beyond what is found in former standards (including ASHRAE 62.1) and that this standard introduces a new metric, Equivalent Clean Airflow (ECAi) for infection risk mitigation, for measuring the pathogen reduction capability of various air cleaning technologies. By creating a special operating mode for use when conditions warrant (IRMM), it introduces also the concept of resilience into indoor air quality standards. A similar approach could be taken to develop requirements for systems to mitigate wildfire smoke (haze).