

A Comparison of ISO 16890 and EN 779: 2012 Filter Efficiency Classification



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Standards are used to define the filtration efficiency of air filters used in general ventilation for indoor air. There are substantial differences between the old EN 779:2012 and the new ISO16890 standards in terms of:

- Test method
- Filter classification



Test Method

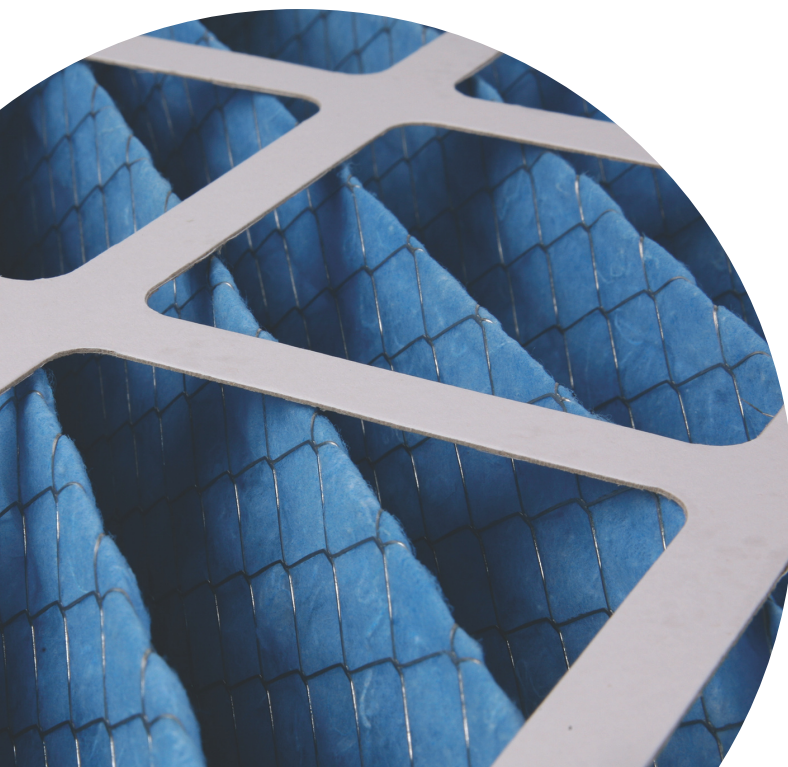
ISO 16890 testing procedures more realistically reflect real operating conditions than the old EN 779. EN 779 tested arrestance of only one filter size - 0.4µm. ISO 16890, on the other hand, evaluates a filter's performance by its arrestance of particles from size 0.3 to 10 µm.

Filter Classification

The EN 779:2012 used a classification system of filter classes (G1-F9). The new ISO 16890 standard, however, uses a classification system based on particulate groups PM1, PM2.5 and PM10. These same particulate categories are used by the World Health Organization (WHO) to evaluate environmental air quality.

For this reason, ISO 16890 and EN 779 cannot be directly compared or converted.

**HVDS air filters
are tested and classified
according ISO 16890**

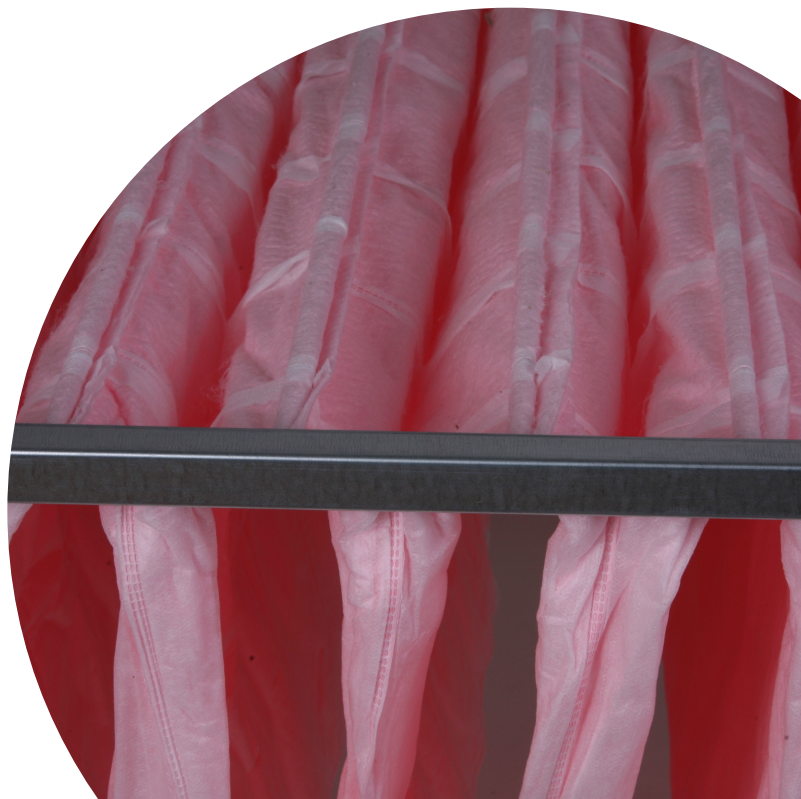


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The table below shows the particulate sizes for each of the ISO 16890 filter groups and the minimum efficiency a filter must achieve to qualify for each particulate group.

Filter Group	Particulate Size (µm)	Efficiency
ISO ePM1	0.3 - 1	Minimum 50 %
ISO ePM2.5	0.3 - 2.5	Minimum 50 %
ISO ePM10	0.3 - 10	Minimum 50 %
ISO Coarse	10 or larger	Less than 50 %

*ePM = efficiency Particulate Matter



Although a direct comparison between the EN779 and ISO 16890 is not possible, the table below gives an indicative comparison, which is a general overview of how both classifications correspond to each other.

EN 779:2012	ISO 16890 - measured average efficiency ranges		
Filter Class	ePM1	ePM2.5	ePM10
M5	5% - 35%	10% - 45%	40% - 70%
M6	10% - 40%	20% - 50%	60% - 80%
F7	40% - 65%	65% - 75%	80% - 90%
F8	65% - 90%	75% - 95%	90% - 100%
F9	80% - 90%	85% - 95%	90% - 100%



For more information
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