

▶ EN 779:2011 ▶▶

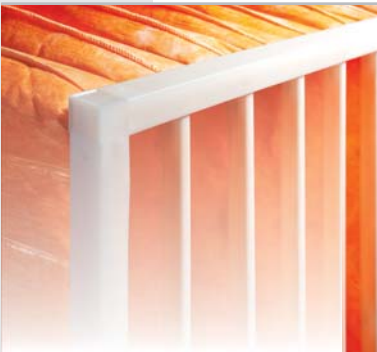
The new European standard for
particulate air filters

EN 779 in practice

EN 779:2011 was developed by the CEN/TC 195 „Air Filters for General Air Cleaning“ Technical Committee. It replaces EN 779:2002. Representatives of TROX were members of the standards committee. EN 779 describes the testing method and test rig for measuring the filter performance. Particulate air filters are tested using two synthetic aerosols. With a fine aerosol, the efficiency is measured depending on the particle size.

The particles with a size of 0.4 μm are the basis for the classification. The use of a standardised test dust provides information on arrestance and, in the case of coarse dust filters, the efficiency of the filter. Particulate air filters are classified according to their efficiency. The standard applies to air filters that are tested with a volume flow rate in a range from 0.24 m^3/s (850 m^3/h) to 1.5 m^3/s (5,400 m^3/h) and whose initial efficiency for particles of 0.4 μm is lower than 98%.

The new filter group M (medium filters) with filter classes M5 and M6 replaces the previous filter classes F5 and F6.



No minimum efficiency is defined for the previous filter classes F5 and F6. To clarify this difference from filter classes F7, F8, and F9 within the classification system, the new filter group M has been created. The classification basis for average efficiency remains unchanged.

Group	Filter class	Final pressure differential	Average efficiency (E_m) for particle size 0,4 μm	Minimum efficiency for particle size 0,4 μm
		Pa	%	%
Medium	M5	450	$40 \leq E_m < 60$	—
	M6	450	$60 \leq E_m < 80$	—
Fine	F7	450	$80 \leq E_m < 90$	35
	F8	450	$90 \leq E_m < 95$	55
	F9	450	$95 \leq E_m$	70

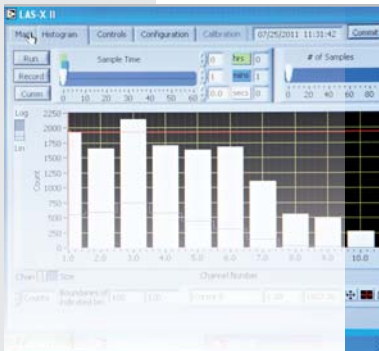
With the introduction of a minimum efficiency, the new EN 779:2011 standard provides more transparency and safety in filter group F.



The minimum efficiency of a fine dust filter is the lowest value measured during the test according to EN 779. Already in EN 779:2002, this value was determined and noted in the test report. Up until now the minimum efficiency has not been part of the classification.

The new EN 779:2011 standard now requires specific minimum efficiencies for filter classes F7 through F9. This provides more clarity in the market place.

Filters made of synthetic materials whose efficiency drastically reduces within a short period of time are no longer part of filter classes F7, F8, and F9.

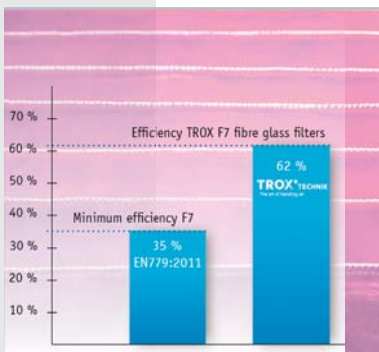


Most synthetic filters are electrostatically charged when new to improve the level of arrestance. Only in this way do they achieve sufficiently high efficiencies for the classification under laboratory conditions.

During operation, however, synthetic filters discharge within a short period of time, hence their efficiency drastically drops to a lower level. The air-cleaning effect of some synthetic filters thus only exists on paper.

Synthetic filters are also tested when discharged as required by EN 779. The filter medium is discharged by immersion in isopropyl. In the case of synthetic filters, the efficiency when discharged is generally the lowest measured value and is thus considered to be the minimum efficiency.

The minimum efficiencies of TROX air filters have been well above standard for years.



TROX fine dust filters of classes F7 through F9 are very good with particularly high minimum efficiencies. They are manufactured in Germany. They are particularly energy-efficient and fulfil the highest quality standards.

TROX fibre glass filters have a constantly high filter performance. Initially, the efficiency amounts to about 60% and rises constantly during operation. At the same time, TROX fibre glass filters provide a very high energy efficiency. This results in highest air quality at lowest energy costs.

TROX sets standards



TROX has been producing air filters since 1968. To guarantee its own high production quality standards in a measurable manner, TROX already set up its first filter test rig in 1969. Since then, the company has been significantly involved in the development of manufacturer-independent quality standards and standardised test methods. At the instigation of TROX, the first independent testing institute for filter media in Germany was set up in the grounds of the Materials Testing Office in Dortmund in 1980. TROX provided the test rig and set up the testing building.

In standards committees, experts of TROX were heavily involved in the development of the national and international classification system. In 1993, EN 779 evolved from DIN 24185. At present, TROX is lobbying for the European standards to be established worldwide in an ISO standard.

Made in Germany



TROX produces all filter unit components in house, from the casing and filter elements to the diffusers, in highly modern production facilities in Germany. Customers of TROX are advised in detail by competent field sales representatives. The Easy Product Finder, an intelligent selection programme will shortly be available to customers.

Air is life



We do not need anything as much as we need air to live. Air is life. Pure, clean air increases wellbeing and performance.

On the other hand, contamination of the air we breath may trigger severe illnesses. This particularly applies to fine dust particles. Air filtration in air conditioning systems has a direct influence on the health of the people who live and work in these air-conditioned spaces.

Modern air filters of TROX provide not only clean air in air-conditioned spaces, they provide an environmentally friendly CO₂ balance thanks to extremely high energy efficiency. For clean air, inside and out.

TROX[®] TECHNIK
The art of handling air

TROX GmbH

Heinrich-Trox-Platz
47504 Neukirchen-Vluyn, Germany
Telephone +49 (0) 28 45 / 2 02-0
Telefax +49 (0) 28 45 / 2 02-2 65
trox@trox.de