

EN 1822:2009

Classification: EPA, HEPA and ULPA air filters



The filter class description are:

EPA 10 - EPA 12:

Efficiency Particulate Air Filters

HEPA 13 - HEPA 14:

High Efficiency Particulate Air Filters

ULPA 15 - ULPA 17:

Ultra Low Penetration Air Filters

High Efficiency Air Filters (EPA, HEPA and ULPA)

EN 1822:2009

This new European standard is based on particle counting methods that actually cover most needs for different applications. EN 1822:2009 differs from its previous edition (EN 1822:1998) by including the following:

- An alternative method for leakage testing of Group H filters with shapes other than panels
- An alternative test method for using a solid, instead of a liquid, test aerosol
- A method for testing and classifying of filters made out of membrane-type media
- A method for testing and classifying filters made out of synthetic fibre media

The main difference is related to the classification for the filter classes H10 - H12, which has now been changed to E10 - E12.

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Firm is the leading manufacturer of clean air solutions and a member of committees for European and international filtration standards.



To give you a brief overview of the main changes in EN 1822:2009, please see the following tables:

Old classification

Filter Group	Integral value
Filter Class	Efficiency (%)
H10	≥ 85
H11	≥ 95
H12	≥ 99,5
H13	> 99,95

E10	≥ 85
E11	≥ 95
E12	≥ 99,5

New classification

Filter Group	Integral value		Local value ^{a b}	
	Efficiency (%)	Penetration (%)	Efficiency (%)	Penetration (%)
E10	≥ 85	≤ 15	... ^c	... ^c
E11	≥ 95	≤ 5	... ^c	... ^c
E12	≥ 99,5	≤ 0,5	... ^c	... ^c
H13	≥ 99,95	≤ 0,05	≥ 99,75	≤ 0,25
H14	≥ 99,995	≤ 0,005	≥ 99,975	≤ 0,025
U15	≥ 99,9995	≤ 0,0005	≥ 99,9975	≤ 0,0025
U16	≥ 99,99995	≤ 0,00005	≥ 99,99975	≤ 0,00025
U17	≥ 99,999995	≤ 0,0000005	≥ 99,9999	≤ 0,0001

^aSee 7.5.2 and EN 1822-4

^bLocal penetration values lower than those given in the table may be agreed between supplier and purchaser.

^cGroup E filters (Classes E10, E11 and E12) cannot, and shall not, be leak-tested for classification purposes.

These filter have to be verified at least with statistical methods (EN1822-5:2009).