



Commercial Mid-Performance HVAC Filter

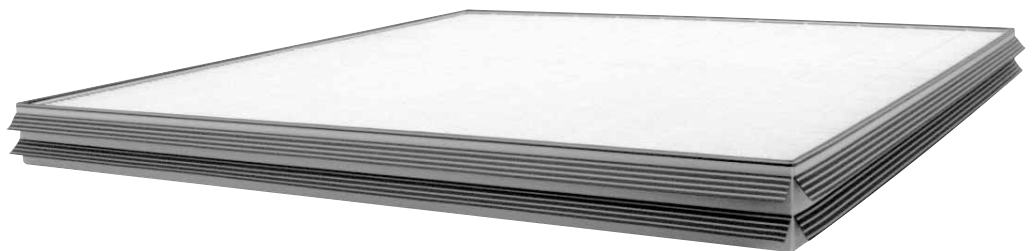


Physical Characteristics

- 2" deep mini-pleat design
- 100% synthetic media - resists moisture and common chemicals
- 100% synthetic frame - lightweight, resists moisture
- Integral gaskets - provide an effective seal
- High durability - no special handling required
- Continuous pleat spacing glue bead
- Electrostatically charged media
(refer to Performance Data on next page)

Performance Notes

- Typical initial resistance: 0.26 inches of water (64 Pa) @ 492 fpm
- UL 900, Class 1 flammability rating (US)
- UL 900, Class 2 flammability rating (Canada)
- Operating temperature range: 122°F (50°C), -22°F (-30°C)



Performance Data

IMPORTANT NOTICE:

Efficiency During Use:

Particle capture efficiency of electrostatically charged filters has been shown to decrease during actual use. The timeframe and the extent to which this decrease occurs depend on particle size and loading conditions as shown in the graph and table below. This effect has been observed in as little as one week to six weeks of actual use. Actual particle efficiencies during use may be lower than those shown below, also depending on particle size and loading conditions.

Service Life: Filter should be replaced before reaching a final resistance of 1.4 inches (3.6 cm) of water (350 Pa) to maintain design performance of the filter. Certain system designs may require filter replacement at lower resistances.

Independent Laboratory

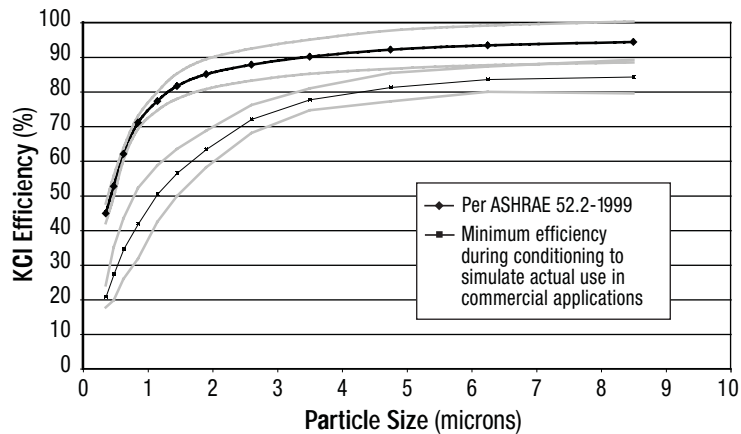
Testing: Filtrete™ Commercial High Performance Filters have been tested by an independent laboratory in accordance with ASHRAE or EN779-2002 standards. Performance ratings are based on testing of new filters with a +/- 95% confidence interval of the average.

Filtrete™ Commercial Mid-Performance HVAC Filter

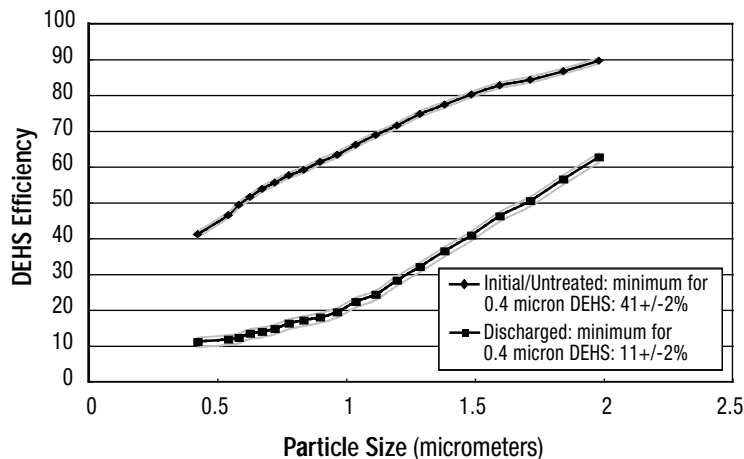
Air Velocity for ASHRAE Testing	492 fpm (1968 cfm for 24" x 24" filter)
Air Velocity for EN779 Testing	2.5 m/s (3400 m ³ /hr for 0.6m x 0.6m filter)
Initial Resistance	0.26 +/- 0.01 inches of water (64 +/- 3 Pa)
Recommended Final Resistance	1.4 inches of water (350 Pa)
Average Dust Spot Efficiency per ASHRAE 52.1-1992	60-65%
Initial Efficiency per ASHRAE 52.2-1999 ¹	MERV-11
Minimum Efficiency Rating After Conditioning to Simulate Actual Use in Commercial Applications	Corresponds to MERV-8
Filter Class per EN779-2002	F5
Average Efficiency per EN779-2002	52 +/- 3 %
Average Dust Holding Capacity at 1.4 inches of water	90 +/- 15 g
Average Arrestance at 1.4 inches of water	95 +/- 2 %

¹Basis for MERV rating per ASHRAE 52.2-1999.

Filter Efficiency vs. Particle Size at 492 fpm (2.5 m/s)



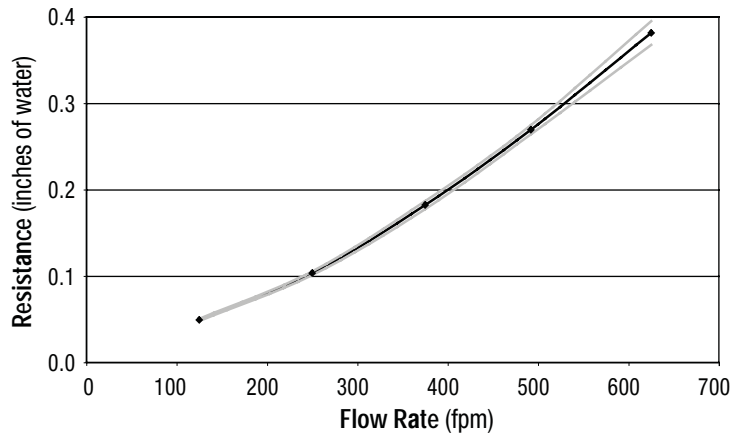
Efficiency vs. Particle Size per EN779-2002 (3400 m³/hr)



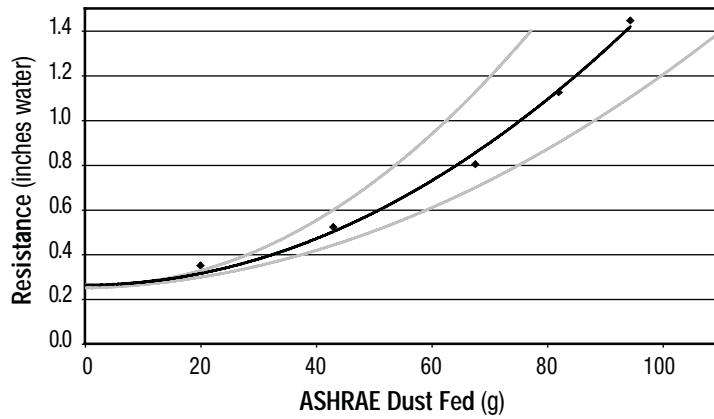
■ Performance Data
(continued)

Particle Size Range	Average Particle Efficiencies (492 fpm)	
	Minimum efficiency per ASHRAE 52.2-1999	Minimum efficiency after conditioning to simulate actual use in commercial applications
0.3-1.0 μm	$58 \pm 2\%$	$31 \pm 7\%$
1.0-3.0 μm	$83 \pm 4\%$	$60 \pm 6\%$
3.0-10 μm	$92 \pm 6\%$	$81 \pm 4\%$

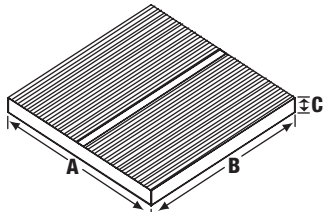
Initial Resistance vs. Air Velocity



Resistance vs. Dust Loading @ 492 fpm (2.5 m/s)



Filter Measurements



Product No.	Stock No.	Nominal Dimensions inches (mm)	Width "A" inches (mm)	Height "B", inches (mm)	Depth "C" inches (mm)
E276	70-0712-4438-1	10 x 10 x 2 (254 x 254 x 51)	9 3/8 (238)	9 3/8 (238)	1 7/8 (48)
E277	70-0712-4439-9	10 x 20 x 2 (254 x 508 x 51)	9 3/8 (238)	19 3/8 (492)	1 7/8 (48)
E278	70-0712-4440-7	12 x 20 x 2 (305 x 508 x 51)	11 3/8 (289)	19 3/8 (492)	1 7/8 (48)
E279	70-0712-4441-5	12 x 24 x 2 (305 x 610 x 51)	11 3/8 (289)	23 3/8 (594)	1 7/8 (48)
E280	70-0712-4442-3	14 x 20 x 2 (356 x 508 x 51)	13 3/8 (340)	19 3/8 (492)	1 7/8 (48)
E281	70-0712-4443-1	14 x 25 x 2 (356 x 635 x 51)	13 3/8 (340)	24 3/8 (619)	1 7/8 (48)
E282	70-0712-4444-9	15 x 20 x 2 (381 x 508 x 51)	14 3/8 (365)	19 3/8 (492)	1 7/8 (48)
E283	70-0712-4445-6	16 x 16 x 2 (406 x 406 x 51)	15 3/8 (391)	15 3/8 (391)	1 7/8 (48)
E284	70-0712-4446-4	16 x 20 x 2 (406 x 508 x 51)	15 3/8 (391)	19 3/8 (492)	1 7/8 (48)
E285	70-0712-4447-2	16 x 24 x 2 (406 x 610 x 51)	15 3/8 (391)	23 3/8 (594)	1 7/8 (48)
E286	70-0712-4448-0	16 x 25 x 2 (406 x 635 x 51)	15 3/8 (391)	24 3/8 (619)	1 7/8 (48)
E287	70-0712-4449-8	18 x 20 x 2 (457 x 508 x 51)	17 3/8 (441)	19 3/8 (492)	1 7/8 (48)
E288	70-0712-4450-6	18 x 24 x 2 (457 x 610 x 51)	17 3/8 (441)	23 3/8 (594)	1 7/8 (48)
E289	70-0712-4451-4	18 x 25 x 2 (457 x 635 x 51)	17 3/8 (441)	24 3/8 (619)	1 7/8 (48)
E290	70-0712-4452-2	20 x 20 x 2 (508 x 508 x 51)	19 3/8 (492)	19 3/8 (492)	1 7/8 (48)
E291	70-0712-4453-0	20 x 24 x 2 (508 x 610 x 51)	19 3/8 (492)	23 3/8 (594)	1 7/8 (48)
E292	70-0712-4454-8	20 x 25 x 2 (508 x 635 x 51)	19 3/8 (492)	24 3/8 (619)	1 7/8 (48)
E293	70-0712-4455-5	20 x 30 x 2 (508 x 762 x 51)	19 3/8 (492)	29 3/8 (746)	1 7/8 (48)
E294	70-0712-4456-3	24 x 24 x 2 (610 x 610 x 51)	23 3/8 (594)	23 3/8 (594)	1 7/8 (48)
E295	70-0712-4457-1	25 x 25 x 2 (635 x 635 x 51)	24 3/8 (619)	24 3/8 (619)	1 7/8 (48)

Additional Information

For questions or to place an order in the U.S., contact your local 3M Filtration distributor or 3M Customer Service at 1-800-648-3550 or 651-737-2433.

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CAUTION: USED FILTERS MAY CONTAIN CONTAMINANTS FROM OPERATION OF THE HVAC SYSTEM. FOR PROPER HANDLING OF USED FILTERS, CONSULT APPLICABLE HEALTH AND SAFETY STANDARDS OR CONTACT AN INDUSTRIAL HYGIENIST. TO REDUCE RISK OF ILLNESS OR INJURY, ALWAYS USE APPROPRIATE RESPIRATORY PROTECTION AND PROTECTIVE CLOTHING WHEN REMOVING OR HANDLING USED FILTERS. DISPOSE OF USED FILTERS ONLY IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.

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Filtration

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