

## Air Filtration - 30/30® Panel Filter Lasts Longer

### The 30/30 Extended Life Provides Manufacturer Significant Savings in Annual Filter Costs

#### Company Profile:

One of the world's largest computer hardware manufacturer with over \$56 billion in sales and 65,000 employees.

#### The Situation:

Due to this manufacturer being an extremely high profile company and a large user of air filters at its corporate campus, air filtration companies frequently called on the account claiming to have the best product, price, and service. The company decided to put an end to the speculation and test multiple products in real use to determine the best economic value, and not just "first cost" comparison.

#### The Action:

Similar air handling units (airflow of 1,444 cfm per filter, 80% percent return air) were selected to test multiple filters including Purolator® Mark 80D, Fiberbond Dustlok®, Flanders Precisionaire® PP40 standard and high capacity product, and Camfil Farr Aeropleat® III and 30/30. Filters were tested over a three-month period with pressure drop monitored and recorded for each product every one to two weeks. The company then compiled all the data to analyze.

#### The Result:

The Facility's Supervisor summarized the bottom line results of the filter test in the following quote: "Net results are that the radial pleat 30/30, with its cotton and synthetic material, loads more evenly which allows for more run time between filter changes. Upon completing the application study, we concluded that even though



the MERV 7 30/30 costs more compared to the MERV 8 high-capacity filter, the savings are in the extended life of the 30/30. With no consideration to the labor cost, the 30/30 saved the company \$34,786 annually compared to the MERV 6 filters we had been using and changing monthly."



"The extended life of the 30/30 saved the company \$34,786 annually, and also reduced labor costs significantly."

### The Proof:

After 44 days of testing, all filter products (except for the 30/30®) were visibly loaded showing signs of frame failure and air bypass. The 30/30 was the only exception, which at 65 days was still evenly loading and was estimated to run 90 days or more. Subsequent pressure drop monitoring shows 30/30 final pressure drop of 0.65" w.g. at 90 days.

Total pressure drop test for the Camfil Farr 30/30 compared to other products tested, loaded slower without significant increases in pressure drop like the competitive products demonstrated.

The 30/30 at the end of ten weeks in test was still in service and not ready for change.

While the 30/30 costs 60% more than the nearest performing competitive filter, the company saved 21% in total filter cost due to the life of the 30/30 in service and in addition would save a significant amount in energy operating costs.

### Analysis of Top Three Best Choices

	Camfil Farr Aeropleat III	Camfil Farr 30/30	Fiberbond Dustlok®
Average Pressure Drop During Operation	0.27	0.24	0.59
Filter Life In Hours	800	2200	800
Energy Cost Per Year	\$396	\$342	\$855
Total Life Cycle Cost/Year	\$810	\$603	\$1,305

### 30/30 Test

	Purolator® Mark 80D	Fiber- bond Dustlok	Flanders PP40 SC	Flanders PP40 HC	Camfil Farr Aero- pleat III	Camfil Farr 30/30
Media Area (Sq. Ft.)	17.6	4	8.2	17.6	9.1	17.6
Initial Pressure Drop	0.14"	0.31"	0.22"	0.15"	0.17"	0.20"
Pressure Drop After 35 Days	0.21"	0.70"	0.65"	0.38	0.34"	0.19"
Pressure Drop After 44 Days	0.42" frame failure	0.76" bleed through	1.90" frame failure	0.81" frame failure	1.25" frame intact; high pressure	0.21"
Pressure Drop After 65 Days	NA	NA	NA	NA	NA	.39"
Pressure Drop After 90 Days	NA	NA	NA	NA	NA	.65" frame intact
Required Filter Changes/Yr	8	11	11	11	11	4
\$/AHU/Yr.	\$582.40	\$485.76	\$568.32	\$658.56	\$589.44	\$345.92

At the 44-day mark, the 30/30 pressure drop increased by 5%. By comparison, the next closest competitor increased in pressure drop by 34% in just 30 days. Additionally, between the 30 and 44 day mark, some filters began to fail or show signs of bypass. The importance of the 30/30 frame and welded wire grid became even clearer under the heavy dirt loading conditions during the test. The 30/30 is always the last filter standing, no matter how tough the job may be.