Dustlok® 3-Ply Panel - Link Filters

- **Improves Indoor Air Quality**
- **Inhibits Growth of Mold, Mildew,Algae, Bacteria**
- **Reduces Maintenance and Housekeeping Costs**
- **Increases Life of Expensive Downstream Filters**

Description

Dustlok 3-Ply Panels and Links combine Fiberbond Dual-Ply Dustlok media with an open structure air entering media to provide true multi-density depth loading. The media are securely sealed around a heavy 9 gauge internal grid with two support cross wires. Four parallel seals lock the media around the cross wires.

Self-Sealing Design

The overlap salvage media edge provides a tight pressure fit into the holding frame. This eliminates any possible by-pass common with chipboard frame type filters. For side access housings the use of Panel Links, a series of panels formed into a continuous link, provides both a 100% self-seal design and total effective face area.

Dustlok ® Adhesive

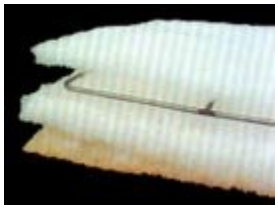
Fiberbond Dustlok Adhesive uniformly coats the fibers in the downstream panel/link layer during the actual media manufacturing process. Dustlok will not dry out or migrate. Dustlok renews its effectiveness by absorbing dust particles into the adhesive, trapping them on the surface of individual fibers. There is no drop off in performance.

Spor-Ax® Antimicrobial

Standard with Dustlok Panels and Links is Spor-Ax, a biocide that effectively controls growth of mold, mildew, algae and fungi on the filter. Fiberbond filters with Spor-Ax do not support microbial growth. Spor-Ax will not off gas, migrate or leach into the airstream.

Performance

Independent laboratory testing using ASHRAE 52.2 - 1999 showed Dual-Ply Dustlok as MERV 8. Exceeds 65% efficiency on 3 micron particles.



An economical, quality, two layer poly panel designed for general purpose use.

Fiberbond Poly Panels are constructed from two layers of polyester media, securely heat sealed around an internal support grid with two cross wires. The downstream media has an adhesive throughout the entire blue layer to enhance dust retention.

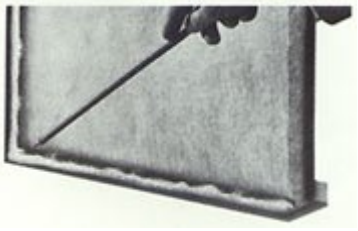
Poly Panels are available in 12 standard sizes along with custom sizes for special applications. A "Master Link" consisting of 36 of the same size panel can be cut off at length needed for use in side access housing. The continuous panel link provides 100% effective face area and eliminates dirt by-pass which can be a problem when using pads, throwaways, or pleats.

SELF-SEALING FEATURE

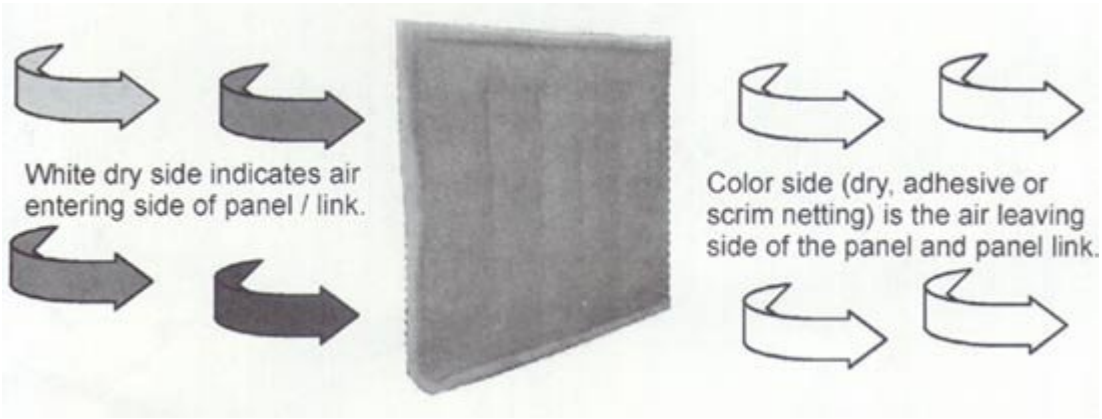
A common problem with conventional cardboard-framed filters is by-passing of unfiltered air and dirt between the filter and the supporting frame.

Our panel filters solve this problem with a positive self-sealing edge. The overlapping media is furled against the frame, acting as a gasket, by the sturdy ring in a snug compression fit. Air must go through the filter itself; there are no gaps at the edge through which air (and dirt) can find a bypass route.

Front Access



Side Access Panel Filter Installation



For Panel Links: Grasp the first panel of the link, fold the top and bottom edge toward the upstream direction of track. Insert the first panel into the track and pull the link by using the first panel while aligning each subsequent panel as they are inserted. If access is not possible from the both sides, use a pole or rod to push the leading panel down the track.

COMPARED TO PLEATS

1. Dirt by-pass is eliminated with the self-sealing design of the Dustlok Panel and Link. Pleat filters are manufactured 5/8 inch undersize, allowing for by-pass and dirt build-up between the filter and framework.

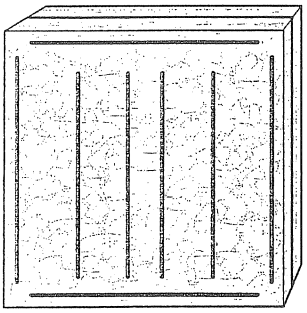
2. Dirt is trapped within the Dustlok Panel. Multi-layers of polyester media combine to form a vast matrix of intermingled fibers for depth loading of high concentrations of airborne contaminants. Pleat media, being only .2" thick, forms a surface cake which can block off air and cause premature filter change out.

3. Dirt retention is improved with the Dustlok Panel. The Dustlok Panel adhesive absorbs dust particles and locks them against the fiber's surface. Pleat media is dry and dust sifting will occur from turbulence within the air handler.

4. Increases the available face area for dirt entrapment with 100% effective area. Typical pleat frames provide only 65-70% open, effective area.

5. Extends the life of primary filters when used in a pre-filter application. Dust trapped within the Dustlok Panel prolongs the service life of the more expensive downstream filters.

DUSTLOK PANEL



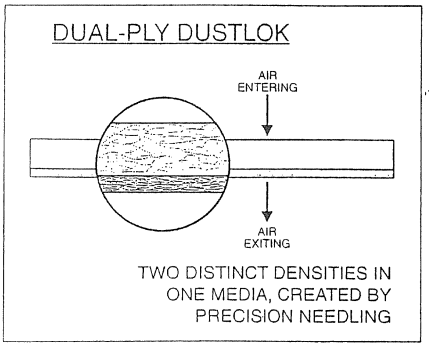
The Dustlok Panel combines Fiberbond Dual-Ply Dustlok media with a more open-structured air entering media to form a multi-layer heat sealed panel unsurpassed in performance, strength and quality.

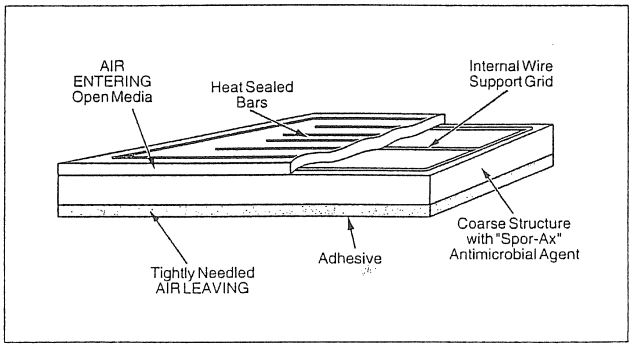
Fiberbond Spor-Ax™ antimicrobial agent provides a broad range of control for a number of mold, algae, mildew and a whole list of gram-positive bacteria.

Available in 12 standard sizes along with custom sizes to meet every need.

Fiberbond Dual-Ply Dustlok media with its distinct dual density construction is the heart of the Dustlok Panel. High dust holding is obtained by depth loading into the coarse white matrix. The orange tightly needled layer is deeply impregnated with adhesive, providing both exceptional dust retention and high efficiencies in the ASHRAE test standard and particle size evaluations.

The adhesive is a non-drying, integral part of the entire orange layer. Tests at velocities of 900 FPM show no migration. The adhesive works by absorbing dust particles into the adhesive and locking them onto the fiber surface. Dustlok Panels do not drop off in performance, but continue to increase in efficiency as the panel becomes loaded with dust throughout its service life.





COMPARED TO PADS AND FRAMES

1. Dirt by-pass is eliminated with the self-sealing design of the Dustlok Panel and Link.

2. Vastly increases the surface area available for dust collection. Typical pad holding frames have inside dimensions 2 full inches under the nominal size of the filter cell opening.

3. Clean, quick, efficient filter change out. Changing filter pads is a messy job. As the pads are removed from the frames, collected dirt falls into the air handler unit.

4. Multiple layers of progressive density media give higher efficiency and improved dust holding.

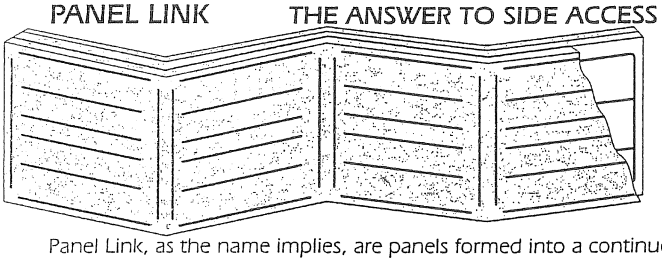
COMPARED TO OTHER PANEL FILTERS

1. Consistent quality and performance. Fiberbond manufactures its own media under strict quality control guidelines and controls production from fiber to fabricated filter.

2. The Dustlok Panel adhesive cannot migrate downstream. The entire orange layer contains the adhesive as an integral part of the web formation, not a post application of sprayed-on wet adhesive on the surface.

3. Tested to be 90% effective down to 10 micron particles. Keeps coils cleaner longer.

PANEL LINK THE ANSWER TO SIDE ACCESS HOUSINGS



All panel links are fabricated using internal grids with two cross wires in the "push" direction for ease of installation.

Panel Link, as the name implies, are panels formed into a continuous link. They provide both a 100% self-seal design and total effective face area.

As an example, a 24"x120" track using 5 pleated filters 24"x24" has 4 openings between filters, with a total of 3-1/8" between the frames. The panel link is made from continuous media. It has no openings. This eliminates all chance of dirt by-pass. Since there are no open areas, air-borne contaminants must enter the panel link.

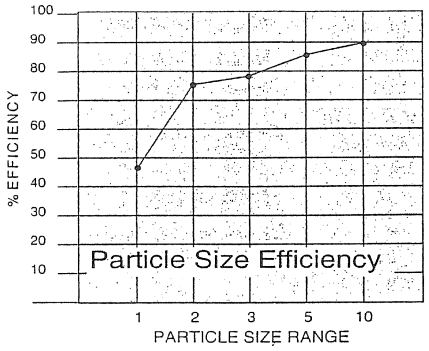
The Dustlok Panel Master Link consists of 24 panels in a continuous link. In addition, the Dustlok Panel is available in a wide range of custom link sizes.

BENEFITS–FEATURES OF DUSTLOK PANEL • PANEL LINK

- SPOR-AX ANTIMICROBIAL TREATMENT
- SELF-SEALING DESIGN
- 100% EFFECTIVE FACE AREA
- NO DIRT BY-PASS
- HEAT SEAL CONSTRUCTION
- NO DROP OFF IN PERFORMANCE
- UNAFFECTED BY MOISTURE
- MINIMUM OF 50% RECYCLED FIBERS
- SAFE TO HANDLE
- NO GLASS FIBERS
- U.L. CLASS 2 RATED
- 100% POLYESTER MEDIA
- DEPTH LOADING MEDIA
- HIGH DUST RETENTION

DUSTLOK PANEL

NOMINAL SIZE		AIRFLOW		RESISTANCE	
INCHES	mm	CFM	M³/h	IN. W.G.	PA
10x20	254x508	420	714	.25	62
12x24	305x610	600	1,020	.25	62
15x20	381x508	625	1,063	.25	62
16x20	406x508	670	1,139	.25	62
16x25	406x635	840	1,428	.25	62
18x24	457x610	900	1,530	.25	62
20x20	508x508	840	1,428	.25	62
20x24	508x610	1,000	1,700	.25	62
20x25	508x635	1,050	1,785	.25	62
24x24	610x610	1,200	2,040	.25	62
25x25	635x635	1,300	2,210	.25	62
20x50	508x1270	2,100	3,570	.25	62



Data obtained from tests using a particle measuring systems model ULPC 500 laser particle counter.

DUSTLOK PANEL LINK

PANEL LINK SIZE		NUMBER OF PANELS	PANEL SIZE	
INCHES	mm x M		INCHES	mm
12x576	305x14.63	24	12x24	305x610
16x480	406x12.19	24	16x20	406x508
16x600	406x15.23	24	16x25	406x635
20x384	508x9.75	24	20x16	508x406
20x480	508x12.19	24	20x20	508x508
20x576	508x14.63	24	20x24	508x610
20x600	508x15.23	24	20x25	508x635
24x480	610x12.19	24	24x20	610x508
24x576	610x14.63	24	24x24	610x610
25x384	635x9.75	24	25x16	635x406
25x480	635x12.19	24	25x20	635x508

SUGGESTED SPECIFICATIONS

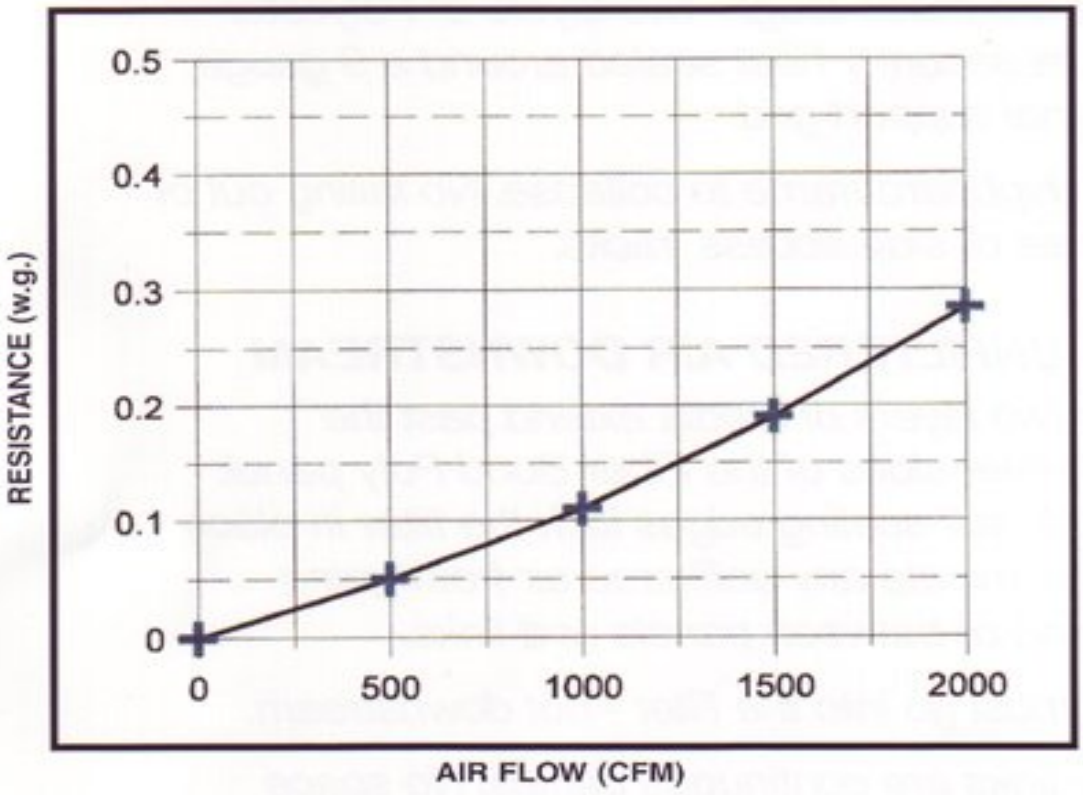
Filters shall be Dustlok Panels as manufactured by the Fiberbond Corporation. Construction shall be from multi-layers of air laid polyester media securely heat sealed around an internal wire support grid. Four parallel internal seal bars are to prevent media fluttering. The media shall uniformly extend beyond the periphery of the internal grid forming a positive self-sealing fit.

The medias shall provide three distinct progressive densities for dust entrapment. The final stage shall be tightly needled and shall include a non-migratory, non-drying adhesive throughout the entire final layer.

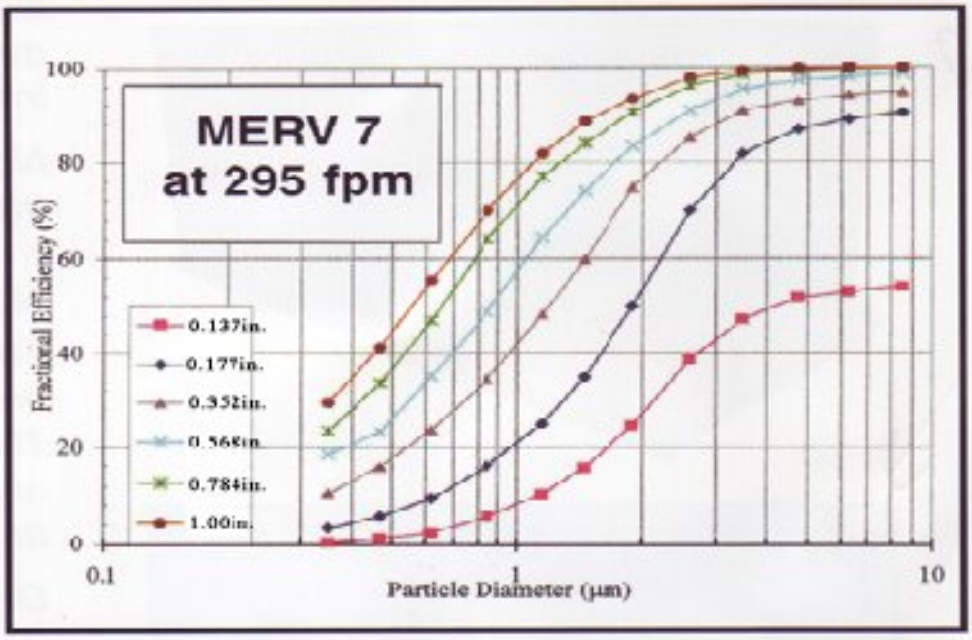
The Panel shall contain Spor-Ax antimicrobial agent that provides a broad range of control for a number of mold, algae, mildew and a whole list of gram-positive bacteria.

The filters shall be U.L. listed as Class 2. Panels shall provide a minimum ASHRAE efficiency of 23% and be 90% effective down to 10 micron particles.

RESISTANCE VS AIRFLOW

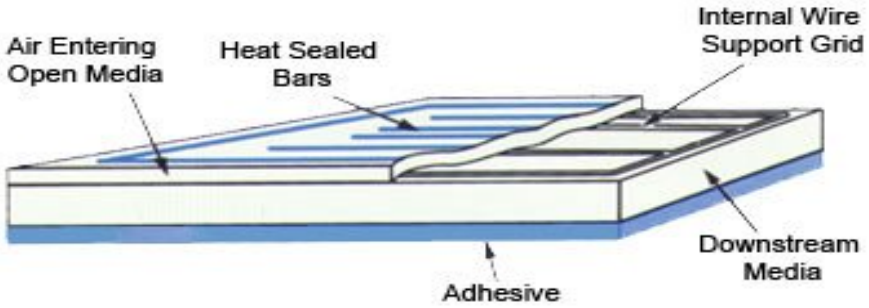


REMOVAL EFFICIENCY VS PARTICLE SIZE

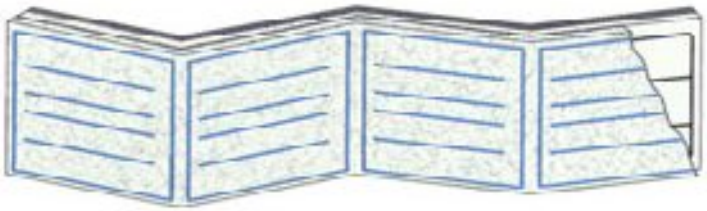


Particle Size Removal Efficiency Conducted by LMS Technologies. (December 2006)

PANEL



PANEL LINK



All panel links are fabricated using internal grids with two cross wires in the "push" direction for ease of installation.

POLY PANEL

Nominal Size*		Air Flow		Resistance	
Inches	mm	CFM	M^3/h	In.W.G.	PA
12x12	305 x 305	300	509	0.15"	37
12x24	305 x 610	600	1,020	0.15"	37
16x16	406 x 508	530	900	0.15"	37
16x20	406 x 610	670	1,138	0.15"	37
16x24	406 x 635	800	1,358	0.15"	37
16x25	406 x 635	840	1,426	0.15"	37
20x20	508 x 508	840	1,426	0.15"	37
20x24	508 x 610	1,000	1,698	0.15"	37
20x25	508 x 635	1,050	1,783	0.15"	37
20x50	508 x 1270	2,100	3,565	0.15"	37
24x24	610 x 610	1,200	2,037	0.15"	37
25x25	635 x 635	1,300	2,207	0.15"	37

Master Link

Nominal Size*		Number of Panels	Panel Size	
Inches	mm x M		Inches	mm
12x864	305 x 21.9	36	12 x 24	305 x 610
16x720	405 x 18.3	36	16 x 20	406 x 508
16x900	405 x 22.9	36	16 x 25	406 x 635
20x576	508 x 14.6	36	20 x 16	508 x 406
20x720	508 x 18.3	36	20 x 20	508 x 508
20x864	508 x 21.9	36	20 x 24	508 x 610
20x900	508 x 22.9	36	20 x 25	508 x 635
24x432	610 x 610	36	24 x 12	610 x 305
24x720	610 x 18.3	36	24 x 20	610 x 508
24x864	610 x21.9	36	24 x 24	610 x 610
25x576	635 x 14.6	36	25 x 16	635 x 406
25x720	635 x 18.3	36	25 x 20	635 x 508
25x450	635 x 11.4	18	25 x25	635 x 635