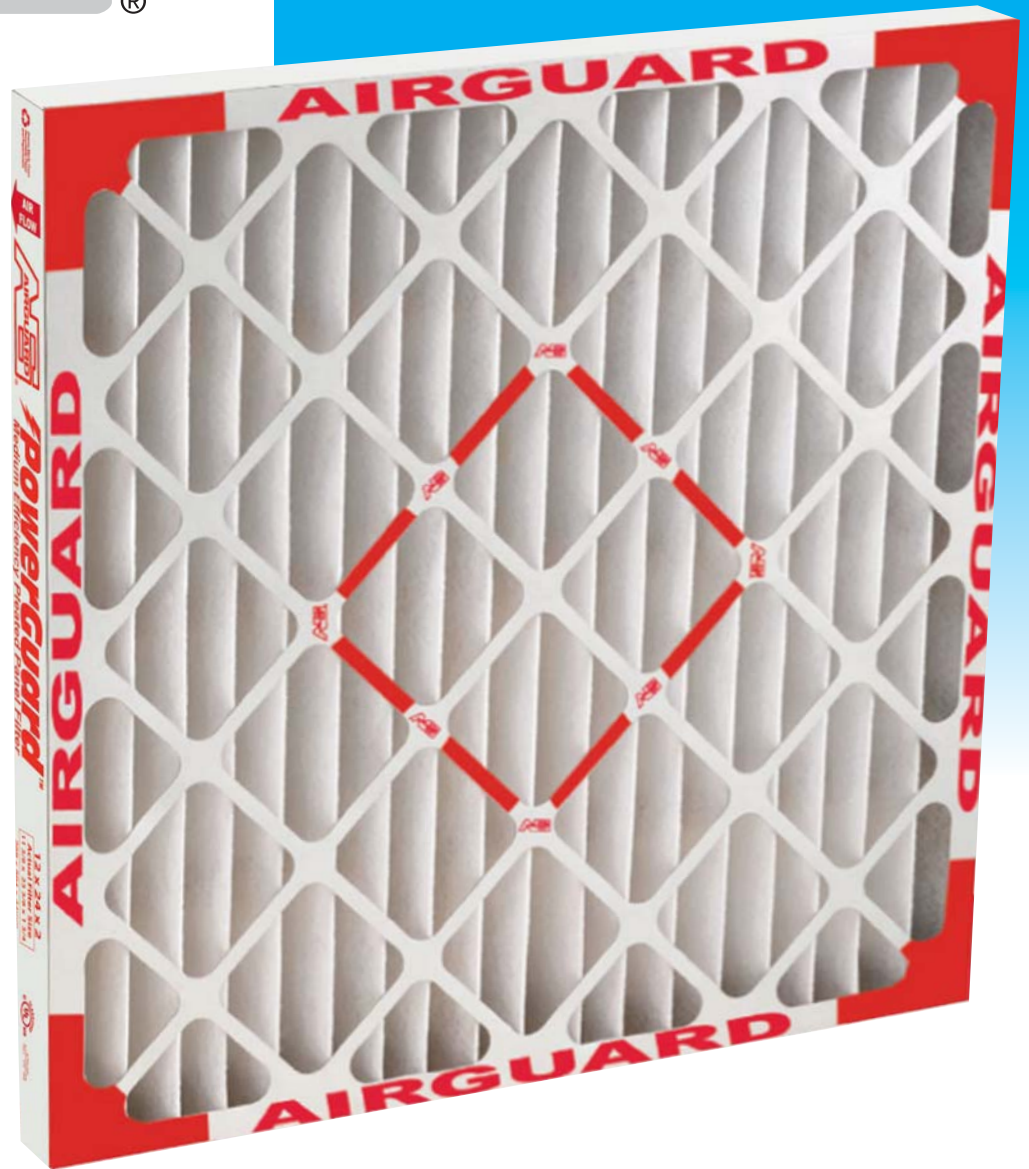




**PowerGuard™**  
Supercharged Pleated Panel Filters

For additional information on industry specifications, log on to our web site at [www.airguard.com](http://www.airguard.com). Click on the "Technical Library" button.



- **Electrostatically enhanced, needed media**
- **MERV 11**

#### **PowerGuard Exceeds Current Industry Specifications for Prefilters**

- Exceeds ASHRAE Standard 62 air cleaning specifications for filters installed upstream of cooling coils.
- Exceeds American Institute of Architects guidelines for hospital filtration - Bed No. 1
- Exceeds ASHRAE specifications for hospital filter efficiencies - Bed No. 1
- Exceeds NAFA recommendations for prefilters for carbon filters

# PowerGuard™

Supercharged Pleated Panel Filters



PowerGuard Media



Other Synthetic Media



Cotton/Poly Media

See how the entangled, crinkled fibers of the needled PowerGuard media (left) enhances the filters ability to capture particulate. Competitive synthetic media (center) and cotton/poly media (right) have a more linear dimension with less ability to grab airborne dirt particles

## Unique New Media Design Provides Higher Efficiency on Fine Particulate

Only PowerGuard filters are made with a totally new concept in media design consisting of 100% synthetic fibers that are needled, then electrostatically charged. The combined effect of these two processes sets a new standard in pleated filter performance with 70% minimum efficiency on 1 - 3 micron particles. PowerGuard filters are ideally suited for applications requiring higher efficiency on fine particulate compared to standard pleated filters.

**Needled Fibers** - The needling process thoroughly entangles the fibers throughout the entire depth of the media creating a dense mat that produces higher mechanical efficiency. The intertwined fibers maximize mechanical efficiency at lower resistance than other pleated filters designed for higher MERV performance. Depth loading provides high dust holding capacity.

**Electrostatically Charged** - After the media has been needled it is exposed to an extremely high voltage which supercharges the fibers throughout the entire depth of the media. The charged fibers attract fine particulate like dust on a TV screen.

## Electrostatic Charge Enhances Efficiency on Fine Particulate - MERV-11

To qualify for an MERV-11 performance per ASHRAE Standard 52.2, the filter must achieve between 65 and 80% efficiency on 1 - 3 micron particles and greater than 85% on 3 - 10 micron particles. PowerGuard



filters exceed these values; other filters fall short. The reason PowerGuard filters excel in efficiency on fine particulate is the unique media design - 100% synthetic fibers, needled, then supercharged.

ASHRAE initial and average dust spot efficiencies are also excellent.

## Minimum Efficiency Test Results ASHRAE Standard 52.2

Particle Size (Microns)	Minimum Efficiency (Clean Filter @500 FPM)	Particle Size (Microns)	Minimum Efficiency (Clean Filter @500 FPM)
0.30 - 0.40	11.0%	1.60 - 2.20	73.7%
0.40 - 0.55	30.0%	2.20 - 3.00	80.8%
0.55 - 0.70	41.0%	3.00 - 4.00	84.9%
0.70 - 1.00	50.3%	4.00 - 5.50	85.9%
1.00 - 1.30	59.7%	5.50 - 7.00	88.9%
1.30 - 1.60	63.9%	7.00 - 10.0	90.0%

*Consistent Pleat Alignment and Rigid Construction Assure Dependable Operation*

### **Uniform Pleat Shape Enhances Dust Holding Capacity**

PowerGuard pleats are formed by an expanded metal grid made of rust resistant galvanized steel laminated to the air leaving side of the supercharged media. The metal grid maintains pleat shape and prevents fluttering. Pleat stability in operation prevents dirt particles from shaking loose and blowing down stream. Consistent pleat shape also assures maximum air flow with minimum resistance and high dirt loading characteristics throughout the life of the filter.

### **Pleat Stabilizers**

The 4" deep filters are equipped with individual die cut fingers that separate and stabilize each pleat. Consistent pleat alignment enhances dust holding capacity for longer service life.



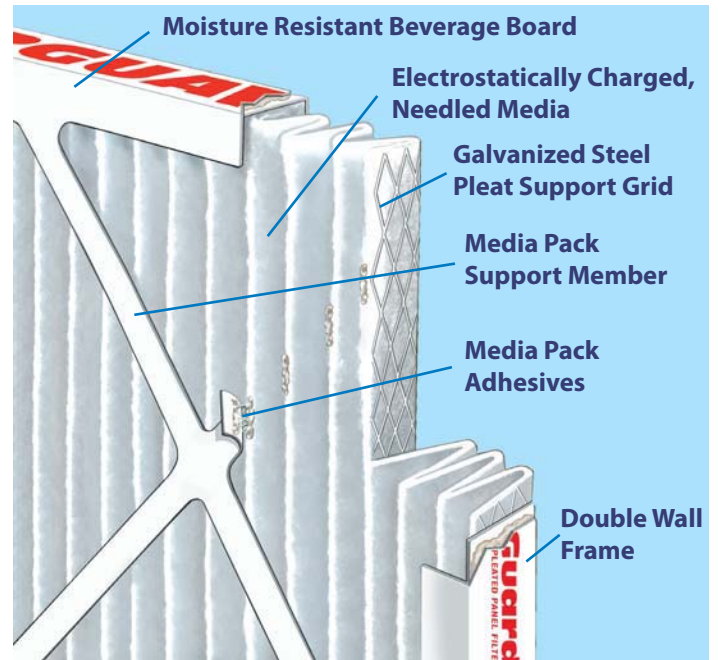
### **Bonded Media Pack Prevents Bypass**

The PowerGuard frame is made from two mating pieces of die cut beverage board that form a double wall around the entire perimeter of the filter. The entire inside surface of both pieces of the frame are coated with adhesive to bond with the media pack at all points of contact. This forms a totally unitized construction and prevents bypass.

The PowerGuard filters are unusually strong and rigid and will not rack, warp or bend under normal handling or operating conditions. Media pack support members on both sides of the filter add rigidity and help hold pleat shape as the dirt load builds and resistance rises. These cross construction are an integral part of the die cut frame construction.

### **Side Access Model**

For side access systems requiring a header style filter, PowerGuard SA filters are available.



Two mating pieces of die cut beverage board form a double wall frame around all four edges of the filter. PowerGuard filters will not rack or warp under normal operating conditions.