

MEGAcel® II ME

MINI-PLEAT EXPANDED ULPA FILTERS

Benefits

- Provides ultra-high efficiency with the lowest pressure drop
- High resistance to corrosive environments (acids, alkalis, and organic substances)
- Lowest offgassing properties available
- High tensile strength media, more resistant to rough handling in transportation and installation
- Meets I300I specifications and is UL 900 and ULC S111 classified



State-of-the Art Filtration Media

MEGAcel® II ePTFE is the ideal choice for use in microelectronic applications. The combination of ULPA/SULPA efficiencies (U15 to U17), the absence of boron and silicon, the damage-resistant media, and corrosion resistance makes the MEGAcel II ePTFE filter perfect for semiconductor applications. Filters made with ePTFE have 20 years of proven reliability. Compared to microfiberglass media, ePTFE media provides superior benefits, including inert chemical properties, more uniform fiber distribution, and smaller fibers, which reduce resistance and provide higher filtration performance to achieve substantial energy savings.

Microfiberglass cracks when folded, which substantially decreases its tensile strength. AAF ePTFE media is not altered when folded, leading to a stronger, more robust pack.

MEGAcel® II ePTFE U15/U16/U17 Initial Resistance vs. Filter Face Velocity

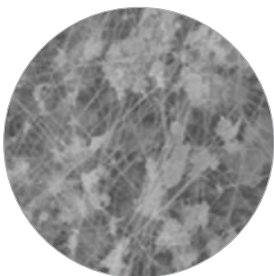
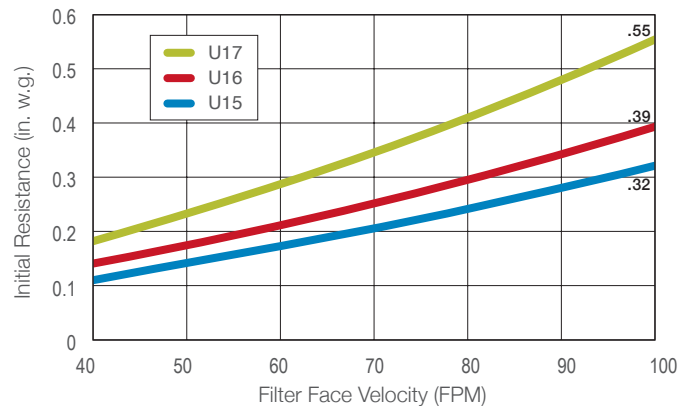


Figure A (10,000x)

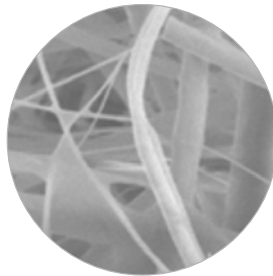


Figure B (10,000x)

Photographed at 10,000x magnification, these images illustrate the finer fiber diameter and more consistent composition of ePTFE Filtration Technology media (Figure A), when compared with microglass media (Figure B).

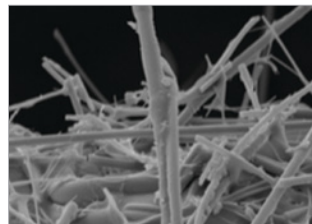


Figure C (5,000x)

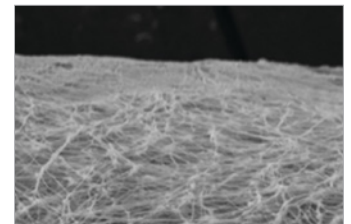


Figure D (5,000x)

Examining the structure under the microscope clearly shows the broken glass fibers at the pleat edge (Figure C), while the fold of the ePTFE Filtration Technology media (Figure D) is intact.

Style Code System

17 F 89 H 2 U 2 T 0 A A
 (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11)

(1) SIZE	(2) MEDIA	(3) FRAME	(4) PACK DEPTH	(5) SEALANT	(6) GASKET	(7) GASKET LOCATION	(8) ACCEPTANCE LEVEL	(9) FACEGUARD	(10) FACEGUARD MATERIAL	(11) CENTER DIVIDER
(1) Size (in): for overall filter depth see (3) below 13 - 12 x 12 24 - 23.625 x 47.625 41 - 23.375 x 23.375 51 - 30 x 30 14 - 24 x 24 26 - 23.625 x 23.625 43 - 24 x 12 52 - 30 x 36 17 - 24 x 48 27 - 21.625 x 19.875 45 - 24 x 30 53 - 30 x 48 18 - 24 x 72 28 - 21.625 x 43.875 46 - 24 x 36 54 - 30 x 60 29 - Special Size 47 - 24 x 60 55 - 30 x 72						(7) Gasket Location: 0 - No gaskets 1 - Upstream only (85 reverse gel seal frames, urethane gel in trough) 2 - Downstream only 3 - Both Sides				
(2) Media: expanded Polytetrafluoroethylene (ePTFE) F - U16 ULPA - 99.99995% on MPPS						(8) Acceptance Level: T - 99.99995% autoscanned with PSL (U16)				
(3) Frame: (anodized extruded aluminum) 40 Series - Gasket Seal - 5.875" depth 80 Series 85 - Reverse gel seal - 2.54" depth 87 - 3/4" Knife-edge - 3.25" depth 89 - Gasket seal - 2.75" depth						(9) Faceguard: White painted expanded flattened steel 0 - No faceguard 1 - Faceguard upstream 2 - Faceguard downstream 3 - Faceguard both sides				
(4) Pack Depth: H - 35mm						(10) Faceguard Material: A - None E - Perforated Anodized Aluminum B - Expanded Steel Painted White F - Expanded 316 Stainless Steel C - Expanded 304 Stainless Steel G - Perforated 316 Stainless Steel D - Perforated 304 Stainless Steel				
(5) Sealant: 2 - Polyurethane						(11) Center Divider: A - No Center Divider B - Center Divider C - Center Divider with 1 Test Port D - Center Divider with 2 Test Ports Note: Center dividers run parallel to the filter height.				
(6) Gasket: .25" thick x .75" wide P = None B = Urethane gel (85 reverse gel seal frames only) U = Poron® (Urethane sponge) Note: Poron® is a registered trademark of Rogers Corp.										

MEGAcel® II ME Specifications

1.0 Scope

- 1.1 Filters shall be expanded polytetrafluoroethylene (ePTFE) mini-pleat ULPA filters manufactured by AAF.
- 1.2 Sizes shall be noted on drawings, schedules, or other supporting documents.

2.0 Construction

- 2.1 The media shall be ePTFE Media Technology and shall be produced by the filter manufacturer and shall consist of an ePTFE membrane layer supported on each side with spun bonded synthetic scrim to eliminate media damage and shall be boron-free. Glass fiber media is not allowed. The pleats shall be equally spaced using polyamide hot-melt glue beads. Media pack shall be 35 mm in depth.
- 2.2 The filter frame shall be clear anodized extruded aluminum and shall be designed for use in gasket, gel, or knife-edge seal systems.
 - 2.2.1 Gasket filters shall have a .25" thick x .75" wide dovetailed urethane sponge gasket and shall be factory installed on the upstream, downstream, or both sides of the filter.
 - 2.2.2 Gel filters shall have an integral gel trough on the downstream side of the filter frame. Trough shall be factory filled with a silicone-free urethane gel.
 - 2.2.3 Knife-edge filters shall have an integral .75" long x .0625" wide knife-edge on the downstream perimeter of the filter face. The mitered corners of the knife-edge shall be sealed with an elastomeric caulk to prevent leaks in the miter.
- 2.3 The media pack shall be sealed on all sides with a solid, fire-retardant, phosphorus-free polyurethane sealant to form a leak-free bond between the media pack and the filter frame. Polyurethane sealant shall be off white in color to closely match the color of the filtration media.

2.4 If required, a white powder paint-coated steel flattened, expanded faceguard with a minimum open area of 62% shall be installed on the upstream, downstream, or both sides of the filter.

2.5 Manufacturing shall take place in an ISO 7 cleanroom. Packaging shall be in an ISO 6 cleanroom.

3.0 Performance

- 3.1 Each filter shall have a minimum overall efficiency of 99.9995% (U15), 99.99995% (U16), or 99.999995% (U17) on the most penetrating particle size (MPPS) particles; shall be tested and constructed in accordance with IEST-RP-CC007; and shall be scanned to 0.0025%.
- 3.2 Nominal initial (clean) pressure drop shall be 0.33 in. w.g. (U15), 0.40 in. w.g. (U16) or 0.55 in. w.g. (U17) at 100 FPM based on the net filter face area for a 35 mm deep media pack.
- 3.3 Filters shall be Underwriters Laboratories (UL) Standard 900 classified.
- 3.4 Each filter shall have test data listed on the filter's nameplate and shall include the volumetric test airflow, serial number, tested efficiency, and pressure drop. An accompanying label will also indicate date of manufacture.



AAF International has a policy of continuous product research and improvement. We reserve the right to change design and specifications without notice.