

Conwed Square Netting

Advanced Materials & Structures

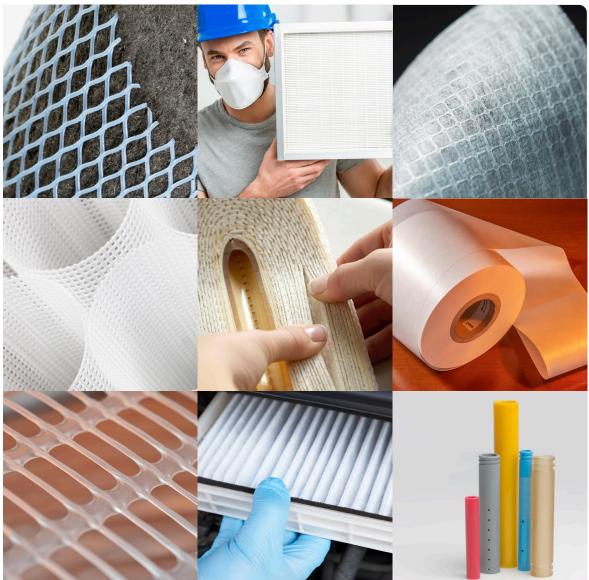


Delstar.

Naltex. Diamond Netting



Revonex. Membrane Backing Paper



Advanced Materials for Filtration

SWM International – Your Filtration Materials Partner

SWM[™] manufactures a broad and diverse portfolio of highly engineered netting, apertured films, nonwoven media and machined parts for a variety of filtration applications that demand superior performance. With more than 70 years of experience developing and manufacturing customized products for the filtration industry, our global team of experienced engineers, knowledgeable polymer scientists and dedicated technical sales managers work closely with customers around the world to develop industry-leading products that keep pace with expanding industry demands.

Learn more at www.swmintl.com or contact us at ams@swmintl.com today to learn how you can partner with SWM to start innovating **essential** solutions for your applications.

Key Filtration Advanced Materials

Water Filtration

- Feed spacer
- Center tubes
- Element inter-connectors
- Membrane backing paper

Liquid Filtration

- Pleat support
- Cartridge sleeving
- Filtration media
- Drainage layer

Air Filtration

- Filter media
- Cores & cages
- Pleat support
- Screening layers

Our Media and Support Products

SWM Filtration Solutions	Water	Liquid	Air
Naltex [™] Diamond Netting - Customizable netting used to separate and pleat filter media to achieve specific performance requirements	×	Ł	٤
Conwed[™] Square Netting - Adds integrity to media whether used as a pleat support or as a pre-filter in normal flow applications	Ł	Ł	Ł
Delnet [™] Apertured Film - Extruded apertured film offers the thinnest pleat support in high efficiency liquid filters	L	Ł	Ł
Coretec™ Machined Parts - Extruded parts provide strength and rigidity to protect delicate filtration media and netting	٤	Ł	
Delpore [™] Meltblown Media - Nonwoven media manufactured trusted in many filtration applications	Ł	Ł	Ł
Delpore [™] Electrostatic & Thermal Bond Media - These unique nonwovens excel in air filtration applications ranging from MERV 4 through MERV 16			Ł
Delstar [™] Composite Media - Multi-layer nonwoven that provide high dirt holding capacity and long life		٤	
Revonex [™] Wetlaid Media - Membrane backing paper that features a unique set of properties designed to improve runnability	٤	Ł	
Naltex [™] Rigid Tubes - Extruded tubes used to support, contain and separate		Ł	٨

Technology for a World of Filtration Industries



Aerospace

Extruded netting and meltblown media specially developed for use in petroleum-based fuel and lubrication filters



Automotive

Extruded netting, tubes and cores, as well as meltblown media that provide pleat support and high efficiency filtration



Energy - Oil & Gas Heavy-duty nylon 6,6 and Hytrel filter support netting capable of withstanding high pressure filter backwash and elevated temperatures



Food & Beverage FDA grades of extruded netting and meltblown media ensure compatibility with food or beverage filter elements



HVAC Nonwoven media ranging from MERV 4-16, as well as

pleat support netting



Pharmaceutical & Medical Wide range of low volatile resins for high performance filters that require FDA and NSF approval



Reverse Osmosis (RO)/Water Filtration Feed spacer and spiral wound element components that improve pressure drop and flow to support RO elements



Semiconductor Specialty resins safe for use in ultra high purity filtration applications requiring clean materials and high chemical compatibility

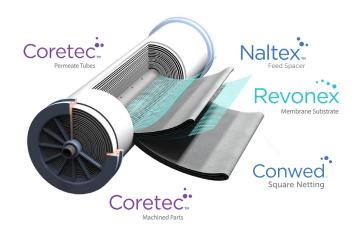
Water Filtration Solutions



SWM supports the global water filtration industry by providing a full range of products including innovative feed spacers, membrane backing paper, permeate core tubes and custom CNC-machined parts.

Producers of spiral wound elements trust SWM to provide high quality specialty materials for reverse osmosis (RO) and other water filtration applications. SWM is experienced producing products that support element NSF requirements. You can count on SWM to provide you with high-quality and trusted products for your water filtration needs.

Water Filtration Product Line	NSF
Conwed - Square Netting	L
Coretec - Machined Parts & Permeate Tubes	٤
Naltex - Feed Spacers	Ł
Revonex - Membrane Backing Paper	٨



Featured Products:





Naltex Feed Spacers provide value in nearly all Thin Film Composite (TFC) membrane filtration applications, including Home Reverse Osmosis (HRO), municipal water and industrial process filtration. Filtration manufacturers around the world seeking high performance feed spacers turn to our line of fully customizable diamond netting with varying geometries, specialty resins and optimal flow characteristics.

Revonex Membrane Backing Paper is highly engineered, wet laid synthetic support for casted TFC membranes. Each roll has a lay flat, smooth surface that is resistant to curling and does not contain pin holes. We stringently test each roll to ensure a high level of consistency, leading to excellent adhesion and overall superior runnability.



Coretec Permeate Tubes, Protective Sleeves & Machined Parts are manufactured for high-performance that can be used in a variety of filtration applications. Our custom machining capabilities, combined with our extensive experience, makes us an ideal and trusted partner for many design engineers.

Liquid Filtration Solution



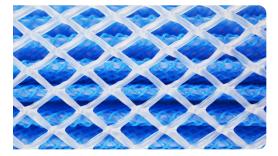
SWM offers high-quality netting, nonwovens, sleeves and rigid tubes to provide a complete solution to its global liquid filtration customers. Liquid filtration encompasses anything from beverage filtration to oil filters for large machinery.

At SWM, we consider every detail for our liquid filtration customers to ensure we can meet defined criteria. Once made, each product is tested and measured against its own individual standards. We are experienced producing products to support liquid filtration filters that require FDA & NSF (food & beverage), USP VI (medical), CFR21 (pharmaceutical) and ISO 10993-5 (medical) certifications.

Liquid Filtration Product Line	Certifications
Conwed - Square Netting	FDA, NSF, USP VI, CFR 21
Delnet - Apertured Film	FDA, NSF, USP VI, CFR 21 & ISO 10993-5
Delpore - Meltblown Media	FDA, NSF, USP VI, CFR 21
Delstar - Composite Media	FDA, NSF, USP VI, CFR 21
Naltex - Diamond Netting	FDA, NSF, USP VI, CFR 21
Naltex - Rigid Tube	FDA, NSF, USP VI, CFR 21



Featured Products:



Naltex Diamond Netting acts as a pleat support within cartridge liquid filters. Featuring specialized, engineering-grade resins, our nets have unmatched performance in high-end aerospace and vehicle oil, hydraulic, and fuel filtration systems. Available in configurations that provide pleatability at ambient temperatures with low-melt medias.



Delstar High-Capacity Composite Media feature a multilayer design that includes various nonwoven and support technologies. In combination, these composite structures are capable of holding up to 4x more dirt than standard nonwovens. Plus, this new media also provides longer life that is valued in oil and fuel filters in the automotive industry.

Air Filtration Solutions

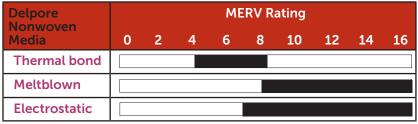


From cabin air to HVAC filters, there are multiple types of nonwoven filter media that help keep our air clean. Bacteria, pollen, and dust can all affect the way we breathe, so it's important that the air filter media we use to minimize the impact of these harmful toxins works well.

Virtually all of the essential filtration components manufactured at SWM are developed with a specific end product in mind. We consider every detail for our air filtration customers to ensure we can meet defined criteria. Once made, each product is tested and measured against its own individual

standard to match required levels of performance.





Featured Products:



Naltex Diamond Netting is added to filters to allow for the use of more media within a confined area. In many cases, the media must be supported to meet the pressure requirements of the filter application. Naltex netting is a recyclable and incinerable material that does not pose the injury risks of traditional metal support materials.



Delpore Electrostatic Media is an advanced air filter media designed to maximize two filtration mechanisms to capture and retain particles. The electrostatic action acts like a magnet, attracting both positively and negatively charged particles. As these particles begin to build up, they increase the media's mechanical filtration effects. It exhibits high dust loading capacity with low pressure drop.

Support Materials

Naltex. Diamond Netting

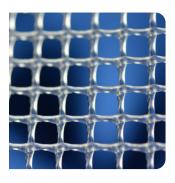
Thickness: 0.006 - 0.200" Roll Width: up to 102" Hole Size: +100 microns Strand Density: up to 100/in Resins: PP, PP/PE, PBT, Nylon, LDPE, HDPE, PPS, Nylon 6,6, PVDF, Hytrel Approvals: FDA, USP VI & NSF



Media Materials

Delpore. Nonwoven Media

Basis Weight: 4-400 gsm Width: up to 90" Fiber Diameter: 0.5-10 microns Permeability: up to 750 CFM Resins: PP, PA, PBT, PA 6,6 Approvals: FDA, USP VI & NSF





Basis Weight: 90 - 1200 gsm Roll Width: up to 83" Strand Density: up to 32/in Resins: PP, PE, PA6,6, TPU, EVA Approvals: FDA, USP VI & NSF



Delpore. Electrostatic & Thermal Bond Media

Basis Weight: 20-600 gsm Width: up to 90" Resins: PP, PE, PET Liquid grades: 0.5 MP - 20 MP Air grades: MERV 8 -16 ASHRAE grades: 65%, 75%, 85% & 95% efficiency



Delnet

Basis Weight: 10 - 100 gsm Thickness: 0.002 - 0.012" Width: up to 85" Hole Size: 50-1400 micron Resins: PP, PE, HDPE, PLV Low Volatile, ECTFE, Metallocene, Gamma stable Approvals: FDA, USP VI & NSF



Delstar.

Composite Media Thickness: 1-20 micron Resins: PP, PA



Coretec

Machined Parts & Tubing

Diameter: 1.8 to 16" Length: 12 to 60" Tolerance (plastic): ± 0.001" Tolerance (metal): ± 0.0001" Materials: ABS, PVC, PSU, PPO, CVPC, S/S grades Approvals: NSF



Revonex. Membrane Backing Paper

Basis Weight: 50-100 gsm Thickness: 60-120 microns Permeability: 0.5-240 cc/cm2/s Smoothness: 10-30 Bekk Resins: 100% PET Approvals: FDA, NSF58, NSF61

Our Facilities





The SWM global infrastructure spans four continents and provides strategically placed experts and facilities to respond quickly and efficiently to rapidly evolving market needs. Our diverse product lines are recognized worldwide for their superior performance in a variety of consumer applications. Our ISO 9001, ISO 14001, ISO 50001 and OHSAS 18001 certified facilities located in Middletown, DE, USA; Wilson, NC, USA; Gilberdyke, United Kingdom; Genk, Belgium; Strykow, Poland; and Suzhou, China; are focused on improving products for filtration through advanced materials and technologies.



SWM locations shown (from top to bottom) Gilberdyke, United Kingdom, Middletown, DE, USA and Strykow, Poland

About SWM

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SWM is a leading global performance materials company. We use natural fibers, resins, and polymers to provide essential solutions that enhance product performance and help our customers win in a variety of industries and applications. For further information, please visit our web site at www.swmintl.com.

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