Advanced Materials for Filtration

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swmintl.com
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

<table>
<thead>
<tr>
<th>SWM Filtration Solutions</th>
<th>Water</th>
<th>Liquid</th>
<th>Air</th>
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<tbody>
<tr>
<td>Naltex™ Diamond Netting</td>
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<tr>
<td>Conwed™ Square Netting</td>
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<td>Delpore™ Meltblown Media</td>
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<td>Revonex™ Membrane Backing Paper</td>
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<td>Naltex™ Rigid Tubing</td>
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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

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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.

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 Tubing, 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.
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 Solution**

<table>
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<tr>
<th>Liquid Filtration Product Line</th>
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**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.

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<tr>
<th>Delpore Nonwoven Media</th>
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<tr>
<td>Thermal bond</td>
<td>0 2 4 6 8 10 12 14 16</td>
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<tr>
<td>Meltblown</td>
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<td>Electrostatic</td>
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#### 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

**Conwed**
Square Netting
- **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

**Delnet**
Apertured Film
- **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

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

**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

**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
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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

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 website at www.swmintl.com.