

Naltex™ Diamond Netting

SWM International - Your Essential Material Partner

Naltex™ Diamond Netting is an extruded, diamond, bi-planar mesh netting with bonded strand intersections, widely utilized in many industries. For filtration, it is used as a membrane feed spacer, filter pleat support and for cartridge sleeving. Specialized grades of Naltex Netting serve as wound care components in the medical industry. Many industrial applications benefit from the diverse customization options. Naltex Diamond Netting can also be used for packaging, containment, construction and parts protection.

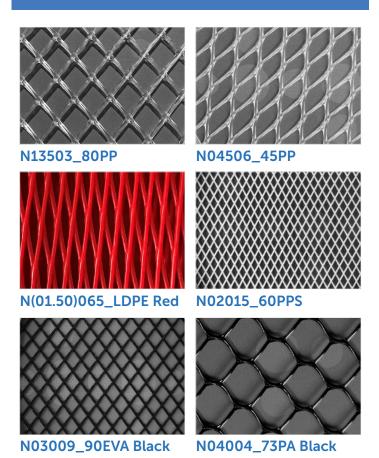
Naltex Diamond Netting variations include:

- Extruded Cage & Sleeves
- Extruded Diamond Netting
- Feed Spacer
- Flow Media
- Parts Protection Netting

Learn more about **essential** solutions for your applications at <u>swmintl.com</u> or contact us at ams@swmintl.com.



Product Sampling



Customization Options

| Specifications | Imperial | Metric |
|--------------------------------|---|------------------|
| Thickness | 0.006" - 0.200" | 0.15 - 5.08 mm |
| Width | Up to 102" | Up to 260 cm |
| Hole Size | Up to 100+ microns | Up to 4+ mils |
| Strand Density | Up to 100/in | Up to 250/cm |
| Cage & Sleeve Diameter | 1/4" - 24" | 6.3 - 610 mm |
| Resins | Polypropylene - FDA, Gamma Stable, Polyphenylene Sulfide, Nylon, Nylon6,6, Polyester, Hytrel, LDPE, HDPE, PVDF, EVA | |
| Product Certifications | FDA, NSF, USP Class VI, CFR 21, USDA | |
| Optional Custom Services | Cutting, slitting, sheeting, laminating, ultrasonic welding, slabbing, die-cutting, calendaring, tantric charging, corono treatment, orientation, heat-sealing, button-sealing, rewinding, custom packaging | |
| Colors | Natural, red, black, yellow, orange, blue, brown, gray, green, custom | |

Naltex Netting for a World of Applications





Agriculture and Aquaculture Netting for crop and animal protection, fencing, turf netting, hay bale netting, garden & nursery support products



Air Filtration Recyclable and incinerable support layer for cabin air filters & high efficiency HVAC systems



Automotive Filtration Extruded netting, tubes & cores that provide support in demanding automotive liquid filters



Building & Construction Netting solutions for infrastructure, construction, safety/weather fence & building materials



Energy - Oil, Gas & Wind Flow media for resin infusion in turbine blade production, baghouse filters, pipeline protection, hydraulic oil, oil boom netting & wind energy



Liners for Shipping, Display & Storage Case and shelf liners, cushioned liners, freezer liners, standard grip liners, air grip liners & product overwraps



Flow media for resin infusion in composite production, extruded netting support layer in hospital masks, provides separation, channeling & flow control in hull production



Medical Extruded netting provides a flexible wound care & CPAP filters



Packaging Ideal solution for packing, storing and shipping food, beverage, candy, toys, crafts, decor, bulk items, equipment & electronics



Parts Protection Protective sleeves for part separation, furniture and bottle protection, marination bags, poultry & bulk packaging

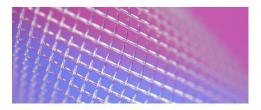


Process Filtration A wide range of filtration pleat support and outer sleeve options that withstand high temperatures & are compatible with many fluids



Membrane support feed spacers that offer improved pressure drop & flux within reverse osmosis elements

Naltex Diamond Netting







| Features | Benefits |
|--------------------------------|--|
| Limitless customization | Partner with us to develop a custom solution for your unique process |
| High strength | Light-weight protective netting capable of supporting heavy products |
| UV stable | Will not corrode in intense sunlight or saltwater environments |
| Does not shed, fray or unravel | Extruded material that will not shed, fray or unravel |

Naltex Diamond Netting

- Industry leading diamond netting technology
- Improved process of extruding through counter-rotating die heads
- New resins, varied strand count and cross sections
- Full range of strand angles, offering customers different looks, feels, strengths
- Added value for niche applications with additives like UV stabilizers, antioxidants, flame retardants, antimicrobials, color and slip agents

Strand Geometry Options:

- **Symmetrical**: both sets of strands are at an angle to the machine direction
- **Asymmetrical**: strands are at an angle to the machine direction but are different in number and size
- Non-symmetrical: one set of strands runs in the machine direction while the other set runs at a customer angle.

Naltex Extruded Cage & Part Protection Netting





| Features | Benefits |
|------------------------------|---|
| Rust proof | Extruded solution resistant to damage caused by corrosion |
| Incinerable | Reduces costs associated with disposal of traditional wire support |
| Chemically inert | Available in a variety of different resins compatible with aggressive chemicals & high temperatures |
| Wide range of sizes & colors | Cage from 1/4" - 24" (6.3 to 610 mm) in diameter and variety of colors |
| Stretch & Recovery | Resins can be modified to meet any product & stretch profile |





Naltex Extruded Cages & Cores

- Ideal for support, containment and separation
- Provide strength and rigidity to protect delicate media
- Manufactured following a similar process as our extruded netting, with the exception of using a reciprocating die rather than a counter-rotating die
- Compatible with other materials and tailored to specific requirements

Naltex Extruded Sleeves for Parts Protection

- Variety of stretch and recovery characteristics
- Protects straight shafts or cylinders and more unusual shapes
- Supplied in cut lengths or can be heat-sealed at one end to form protective mesh bags
- Available in five unique styles that provide different levels of protection
- Range of color-coded sizes to fit a variety of diameters







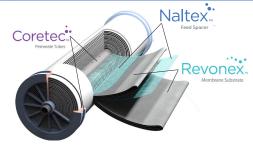


Naltex Feed Spacers

- Support and protect thin film composite (TFC) membranes in Reverse Osmosis (RO) spiral wound element filters
- Improves performance through optimized channeling that enhances fluid flow and reduces pressure
- Customizable strand alignment achieves the turbulence needed to protect and maintain system membranes
- Used in nearly all TFC membrane filtration applications, ranging from HRO to municipal water and industrial process filtration
- Full line of custom-designed feed spacers with varying geometries, specialty resins and optimal flow characteristics

| Features | Benefits |
|---------------------------|---|
| Customizable web geometry | Precise flow control & excellent separation |
| Uniform web | Ensures membrane quality via consistent channeling & flow |
| Unique PP/PE blend | Creates soft edges that protect membranes from damage |
| Premium separation | Customization options provide full control of shearing |

SWM Products for RO Spiral Wound Element Filters



Naltex Flow Media

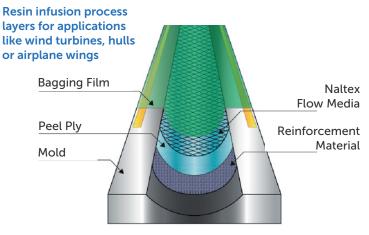




Naltex Flow Media

- Specially engineered to retain up to 15% less resin* than leading competitor (see test results on page 6)
- Smoothly conforms to the mold surface and facilitating the flow of resin infusion
- Tight, low profile, crisscross pattern of the media provides the necessary separation and channeling required to distribute a controlled, predictable flow of resin
- High performance, efficient with little waste
- Creates significant raw material cost savings for composite manufacturers
- Flexible edge that is safe for use with sensitive vacuum bags that are prone to abrasion and puncture
- SWM tools (lab trials, 3D printing, third-party testing, etc.) offer an abundance of infusion and flow media data under various conditions

| Features | Benefits |
|--------------------------|--|
| Optimized edge geometry | Total cost savings by retaining up to 15% less resin* during layup |
| Flexible edges | Protect sensitive vacuum bags & peel ply media from tearing |
| Internally vacuum tested | Media that is specially manufactured for VARTM processes |
| Product customization | Modify any media to suite your unique process requirements |



Naltex Performance for Resin Infusion Flow Media

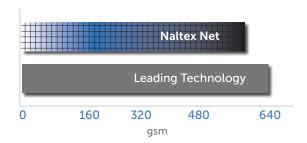


Retained Resin

After a part is fully infused and cured using the resin infusion process, composite manufacturers remove and discard the bag, infusion flow media, and peel ply materials. The infusion flow media, depending on its configuration, can retain resin in between its spaces, an outcome identified as retained resin. Thus, any retained resin on the flow media can increase costs to the overall manufacturing.

*Total cost savings by retaining up to 15% less resin during layup using Naltex X04215-006 flow media.

15% Less Resin Retainment with Naltex



Our Facilities



SWM is focused on advancing advanced materials and technologies in our ISO 9001, ISO 14001, ISO 50001 and OHSAS 18001 certified facilities. Our diverse product lines are recognized worldwide for their superior performance in a variety of applications. For more than 70 years, SWM has served its customers through a wide global manufacturing network with diverse processing capabilities developing solutions tailored to meet our customers unique requirements.



SWM locations shown Genk UK (top) and Middletown, DE, USA (bottom)



SWM INTL 100 North Point Center East Suite 600 Alpharetta, GA 30022 USA

swmintl.com
ams@swmintl.com

AMSNAL_061621

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 web site at www.swmintl.com.

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