ULTRACLEAN FILM™ FOR THE ULTIMATE IN PRODUCT PROTECTION

For three decades, CRP has been recognized as a leader in contamination control. The outstanding quality of our Ultraclean Film™ fortifies our reputation for superior products, reliable service and in-depth technical support.

Ultraclean Film™ products are certified to levels of cleanliness in accordance with the strictest industry, government and customer standards, and backed by CRP's testing, certification, and documentation. In fact, our cleanliness levels are so exceptional that NASA specified our packaging materials for the Apollo Lunar Program, the Space Shuttle Program, and the exploration of Mars. Companies like Merck, IBM, Lockheed, Bristol Myers Squibb, and Pfizer also rely on CRP's Ultraclean Film™ for their high-quality packaging needs. Why? Because Ultraclean Film™ offers unsurpassed protection against environmental contaminants that affect product integrity.

At CRP we have a unique 65,000 sq. ft., temperature stabilized (70-75°) manufacturing area. All floors have been chemically sealed and urethane coated to prevent concrete dust from entering the room. Within our facility, we maintain a 6,000 sq. ft., class M3.5/2.5 (100/10), critically controlled, state-of-the-art clean

A Name You Can Trust

KNF

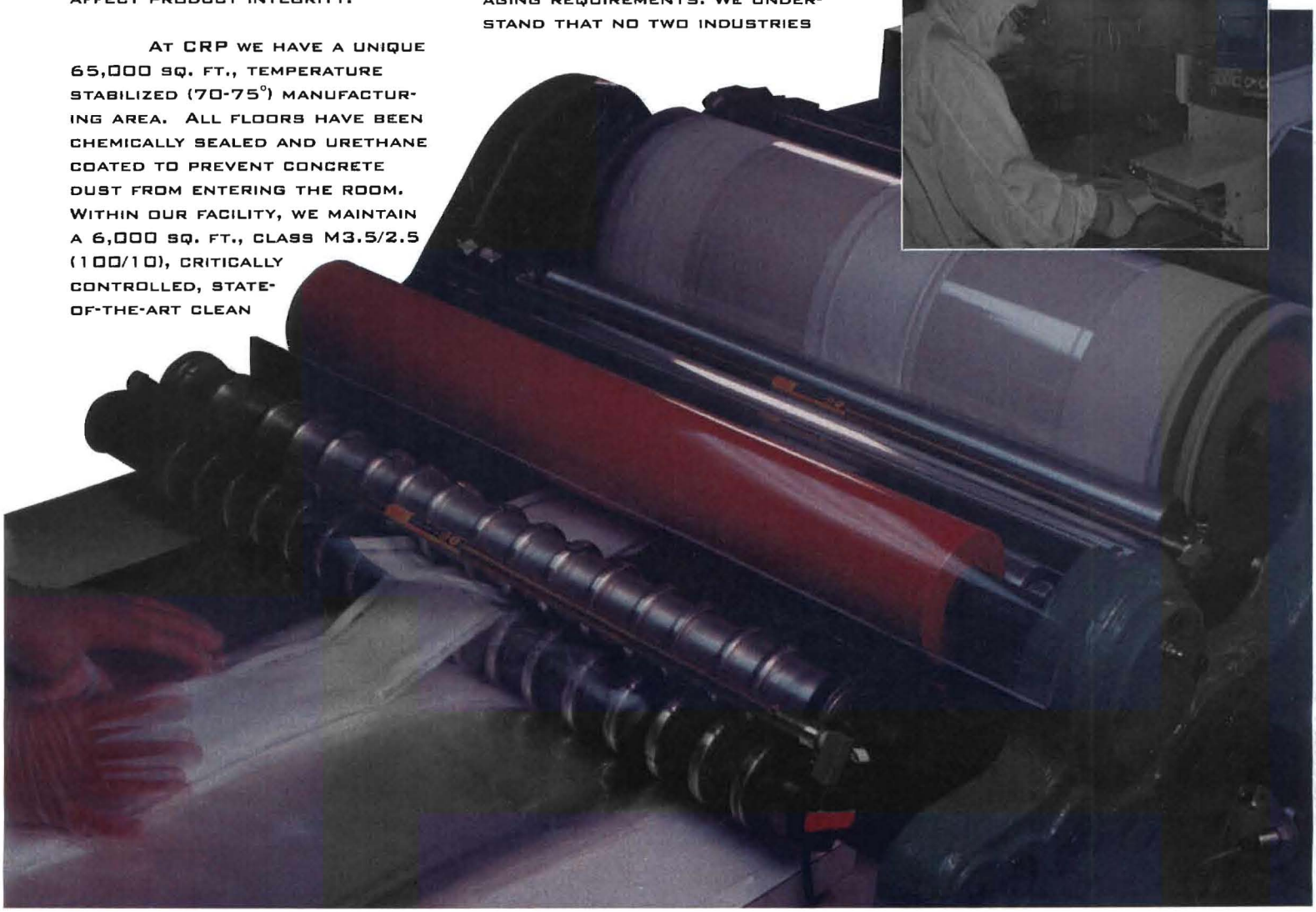
room (68°+/-2°F and 45%+/-5%RH) that is constantly monitored by our own Command 2000 environmental control system. Entry to this room is protected by CRP's 4-meter long Clean Zone Flooring to remove dust from shoe cover bottoms; a pressurized garment change-room; and, an electronic eye-activated Air Tunnel designed to remove residual particulate from the garments.

A SINGLE SOURCE FOR ALL YOUR ULTRACLEAN PACKAGING NEEDS.

CRP offers a comprehensive line of materials that accommodates virtually all packaging requirements. We understand that no two industries are alike and that each customer's requirements are unique. So, in addition to seven different types and grades of film products, we customize packaging materials to meet specific requirements. And, along with Ultraclean Film™ products, we offer a second tier of packaging materials—our Commercial Clean grade—for less critical clean room applications. Commercial Clean provides an economic alternative to our Ultraclean Film™ product line.

OUTSTANDING CUSTOMER SERVICE

CRP is working on the leading edge of clean room packaging technology. We invite you to put our expertise and advanced techniques to work for you. Our technical staff will gladly assist you with your clean room packaging requirements from initial analysis into final production.



KNF Clean Room Products Corporation

Specializing in Ultraclean Film™ and Flexible Packaging Products
www.knfcorporation.com
1800 Ocean Avenue, Suite 1
Ronkonkoma, NY 11779-6532

Phone: (631) 588-7000
Fax: (631) 588-7863

ACLAR®

Product Attributes

- Fluorinated, chlorinated thermoplastic Ultraclean Film™ certified to Level I cleanliness standards.
- Extremely low permeability to water vapor and other gases.
- Sterilizable by heat, gas and radiation (below 2 MR).
- Non-flammable.
- Extremely inert.
- Heat-sealable.
- Transparent to ultraviolet radiation.
- Excellent solvent resistance.
- Superior electrical insulating properties.
- Produced in three basic types: Aclar 22A, Aclar 22C, and Aclar 33C. Aclar 22C is recommended for superior handling and heat sealing.
- Very low outgassing.

Applications

Moisture and oxygen barrier protection; liquid oxygen parts storage; ball bearings and parts storage where corrosion is a problem; semiconductor chips; aerospace parts; optics; pharmaceuticals.

Specifications

Bag Width:	2" (minimum)	Bag Width:	24" (maximum)
Bag Length:	2" (minimum)	Bag Length:	36" (maximum)
Mil Thickness:	1.5 mil, 2 mil		
Cleanliness Level:	Level I		

Aclar 22A

Tensile strength @ break: 7,500–11,000 (MD), 5,500–8,000 (TD)
Elongation @ break: 115–225% (MD), 200–300%
Impact strength: 347 kg/cm
Melting point: 183–186°C
Flammable: No
Optical: Clear
Tear strength: 380 (MD), 360 (TD)

Aclar 22C

Tensile strength @ break: 4,000–6,000 (MD & TD)
Elongation @ break: 200–300% (MD&TD)
Impact strength: 120 kg/cm
Melting point: 183–186°C
Flammable: No
Optical: Clear
Tear strength: 465 (MD), 415 (TD)

Aclar 33C

Tensile strength @ break: 9,500–11,500 (MD)
5,500-8,000 (TD)
Elongation @ break: 50–150% (MD&TD)
Impact strength: <57 kg/cm
Melting point: 202–204°C
Flammable: No
Optical: Clear

® Aclar is a registered trademark of Honeywell, Inc.

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BREATHER TUBING®

Product Attributes

- Ultraclean Film™ certified to Level I cleanliness standards.
- Made of durable 3 mil polypropylene with a heat sealed Tyvek® 1059B breathable strip.
- Sterilizable by steam, ethylene oxide and dry heat.
- Transparent.
- Lightweight, pliable offering ease of transport and storage.

Applications

Breather Tubing is ideal for sterilization of pharmaceutical and medical materials including rubber stoppers and process equipment. When a specific size and quantity cannot be predetermined, breather tubing offers the convenience of allowing you to fabricate to size.

Specifications

Breather dimensions:	4"	Tubing width:	24" (maximum)
Breather location:	Center of tubing	Tubing length:	100'
Cleanliness level:	KNF CRP Level I		

Properties of Polypropylene			Properties of Tyvek 1059B	
Density		.902 gm/cc	Thickness	6.7 mils
Tensile Strength @ Yield		6,000 psi	Gurley Porosity	20 seconds
Elongation @ Yield		30%	Pore Size	.22 microns
Impact 50		230 gm	Water Vapor Permeability	684 g/m^3/24 hrs.
Tensile	MD	6,300 psi		
	TD	4,600 psi		
Elongation	MD	620%		
	TD	680%		
Moisture Vapor Transmission	.5 gm/mil/100 sq.in/24 hrs.			
Oxygen Permeation	130 cc/100 sq.in./24 hrs.			

® Tyvek is a registered Trademark of the DuPont Corporation. Breather Tubing is registered with the U.S. Patent Office.

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FEP

Product Attributes

- FEP, a tough, transparent Ultraclean Film™ certified to Level I cleanliness standards.
- More inert than all other plastics.
- Low permeability to liquids, gases, moisture and organic vapors.
- Compatible with liquid oxygen.
- Non-flammable.
- Excellent solvent resistance.
- Superior anti-stick and low-frictional properties.
- Extremely resistant to impact and tearing.
- FDA-approved for food packaging.
- High dielectric strength.
- Continuous service temperature: -400 to +400°F (240 to +205°C)
- Melting range: 500–540°F (240–280°C)
- Contains no plasticizers or other foreign materials.

Applications

Moisture and oxygen barrier; liquid, air and gas sampling bags; animal research; and lunar research projects. FEP is excellent at cryogenic temperatures. It can be heat-sealed, thermo-formed, vacuum-formed, heat bonded, welded, metalized, animated and combined with dozens of other materials. FEP offers exceptional chemical compatibility, electrical reliability; mechanical toughness, long-term weatherability, reliability and a wide thermal range.

Specifications

Bag Width:	2" (minimum)	Bag Width:	24" (maximum)
Bag Length:	2" (minimum)	Bag Length:	36" (maximum)
Mil Thickness:	2 mil, 5 mil		

Tensile strength @ break: 3,000 psi
Elongation @ break: 170%
Impact strength: 144 ft.-lbs./in.
Water absorption: <0.01%
Coefficient of thermal conductivity: 1.35 BTU
Flammability Classification: VTM/O

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½ HDPE/½ TYVEK STERILIZATION BAGS

Product Attributes

- Ultraclean Film™ certified to Level I cleanliness standards.
- Made of durable 3 mil HDPE heat sealed to a full sheet of Tyvek® 1059B.
- Sterilizable by steam, ethylene oxide and dry heat.
- Lightweight, pliable offering ease of transport and storage.

Applications

KNF CRP's Ultraclean HDPE Sterilization Bag is designed specifically for stopper and other component sterilization requiring a clean environment. This advanced Sterilization Bag can be sterilized by autoclave or ethylene oxide, making it ideally suited for pharmaceutical and medical applications. A full high temperature Tyvek side comes into contact with interior parts and allows for sterilized materials to maintain sterility for an extended period of time. When a specific size and quantity cannot be predetermined, Breather Tubing® is available offering the convenience of fabricating to size.

Specifications

Bag Width:	6" (minimum)	Bag Width:	36" (maximum)
Bag Length:	8" (minimum)	Bag Length:	96" (maximum)
Cleanliness Level:	Level I		

Properties of HDPE		Properties of Tyvek 1059B	
Density	.950 gm/cc	Thickness	6.7 mils
Tensile Strength @ Yield	MD 3800 psi	Gurley Porosity	20 seconds
	TD 3400 psi	Pore Size	.22 microns
Tensile Strength @ Break	MD 8500 psi	Water Vapor Permeability	684 g/m^3/24 hrs
	TD 5000 psi		
Elongation @ Yield	MD and TD 300-420%		
Impact 50	350 gm		
Moisture Vapor Transmission	.12.5 9/24 hrs/M^2/mil		

® Tyvek is a registered Trademark of the DuPont Corporation. Breather Tubing is registered with the U.S. Patent Office.

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HDPE Sterilization Bags

Product Attributes

- Ultraclean Film™ certified to Level I cleanliness standards.
- Made of durable 3 mil HDPE with a heat sealed Tyvek® 1059B breathable strip.
- Sterilizable by steam, ethylene oxide and dry heat.
- Lightweight, pliable offering ease of transport and storage.

Applications

KNF CRP's Ultraclean HDPE Sterilization Bag is designed specifically for stopper and other component sterilization requiring a clean environment. This advanced Sterilization Bag can be sterilized by autoclave, ethylene oxide, or dry heat, making it ideally suited for pharmaceutical and medical applications. A wide high temperature Tyvek breather strip never comes into contact with interior parts and allows for sterilized materials to maintain sterility for an extended period of time. When a specific size and quantity cannot be predetermined, Breather Tubing® is available offering the convenience of fabricating to size.

Specifications

Bag Width:	6" (minimum)	Bag Width:	36" (maximum)
Bag Length:	8" (minimum)	Bag Length:	96" (maximum)
Cleanliness Level:	Level I		
Tyvek Strip:	4" (std.), other widths available upon request.		

Properties of HDPE		Properties of Tyvek 1059B	
Density	.950 gm/cc	Thickness	6.7 mils
Tensile Strength @ Yield	MD 3800 psi	Gurley Porosity	20 seconds
	TD 3400 psi	Pore Size	.22 microns
Tensile Strength @ Break	MD 8500 psi	Water Vapor Permeability	684 g/m^3/24 hrs
	TD 5000 psi		
Elongation @ Yield	MD and TD 300-420%		
Impact 50	350 gm		
Moisture Vapor Transmission	.12.5 9/24 hrs/M^2/mil		

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NYLON & ANTI-STATIC NYLON

Product Attributes

- Nylon 6, Ultraclean Film™ certified to Level I cleanliness standards.
- Holds up under elevated temperatures.
- Superior gas barrier properties.
- Extremely oil and grease-resistant.
- Maximum resistance to abrasion, wear and puncture.
- Autoclavable and excellent for pharmaceuticals (unsealed).
- Nylon is FDA-approved for packaging food and meals. (Anti-static nylon is not FDA approved.)

Applications

Parts storage for all industries; overwrap for products with sharp or protruding parts; packaging for highly polished plates, mirrors, etc., primary packaging for cleanliness; pharmaceutical implant sterilization.

Specifications

Bag Width:	2" (minimum)	Bag Width:	36" (maximum)
Bag Length:	2" (minimum)	Bag Length:	60" (maximum)
Mil Thickness:	2 mil, 3 mil		
Cleanliness Level:	Level I		

Tensile strength @ break: 10,000 psi
Elongation @ break: 300%
Tensile yield strength: >7,000 psi
Water absorption (24 hrs): 1.3–1.9%
Melting point: 216°C
Flammable: Yes
Optical: Transparent orange

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POLYETHYLENE & ANTI-STATIC POLYETHYLENE

Product Attributes

- Low density Ultraclean Film™ certified to: Level II (poly), Level III (anti-static poly) cleanliness standards.
- Strong puncture resistance.
- Easily heat sealed.
- Low water vapor transmission rate.
- Good electrical properties.
- Chemically resistant to most solvents.
- Economical, most common material used for clean room packaging.
- FDA Approved for use with food.

Applications

Poly: Medical implants; bearings, valves, valve component parts; box liners and bulk storage; laundry services; gamma sterilization; pharmaceutical storage; electronic disk carriers and transport trays; precision parts; air, gas, water filters and housings; machinery covers; optical parts; printing plate storage and protection.

Anti-static poly: Adds static protection for the parts listed above. Additionally, it is effective for secondary packaging for parts transport; separator sheets between parts; parts storage; disk storage; printed circuit boards, electronic solenoid valves; and clean wafer boat carriers.

Specifications

Bag Width:	2" (minimum)	Bag Width:	48" (maximum)
Bag Length:	2" (minimum)	Bag Length:	60" (maximum)
Mil Thickness:	1.5–8 mil		
Cleanliness Level:	Level II Poly Level III Anti-Static Poly		

Tensile Strength @ Break: 2,700 psi
Elongation @ Break: 90–800%
Dart Impact: 350 gms
Water Absorption (24 hrs): <0.1%
Melting Point: 95–130°C
Flammable: Yes
Optical: Transparent and Transparent Pink
Surface Resistivity (for Anti-Static Poly): 4.5 x 10" ohms
Static Bleed-Off Time: to OV 0.5 sec. Average

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STERILIZATION BAGS

Product Attributes

- Ultraclean Film™ certified to Level I cleanliness standards.
- Made of durable 3 mil polypropylene with a heat sealed Tyvek® 1059B breathable strip.
- Sterilizable by steam, ethylene oxide and dry heat.
- Lightweight, pliable offering ease of transport and storage.

Applications

KNF CRP's Ultraclean Polypropylene Sterilization Bag is designed specifically for stopper and other component sterilization requiring a clean environment. This advanced Sterilization Bag can be sterilized by autoclave, ethylene oxide, or dry heat, making it ideally suited for pharmaceutical and medical applications. A wide high temperature Tyvek breather strip never comes into contact with interior parts and allows for sterilized materials to maintain sterility for an extended period of time. When a specific size and quantity cannot be predetermined, Breather Tubing® is available offering the convenience of fabricating to size.

Specifications

Bag Width:	5" (minimum)	Bag Width:	36" (maximum)
Bag Length:	8" (minimum)	Bag Length:	96" (maximum)
Cleanliness Level:	Level I		
Tyvek Strip:	4" (std.), other widths available upon request.		

Properties of Polypropylene			Properties of Tyvek 1059B	
Density		.902 gm/cc	Thickness	6.7 mils
Tensile Strength @ Yield		6,000 psi	Gurley Porosity	20 seconds
Elongation @ Yield		30%	Pore Size	.22 microns
Impact 50		230 gm	Water Vapor Permeability	684 g/m^3/24 hrs.
Tensile	MD	6,300 psi		
	TD	4,600 psi		
Elongation	MD	620%		
	TD	680%		
Moisture Vapor Transmission		.5 gm/mil/100 sq.in/24 hrs		
Oxygen Permeation		130 cc/100 sq.in./24 hrs		

® Tyvek is a registered Trademark of the DuPont Corporation. Breather Tubing is registered with the U.S. Patent Office.

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STERIWRAP

Product Attributes

- High temperature, low-shedding Nomex non-woven nylon.
- Low-linting.
- Withstands temperatures in excess of 500°F.
- Non-porous structure of low permeability.
- Available in rolls or sheets.

Applications

Sterile wrap for many pharmaceutical or biological products, medical devices.

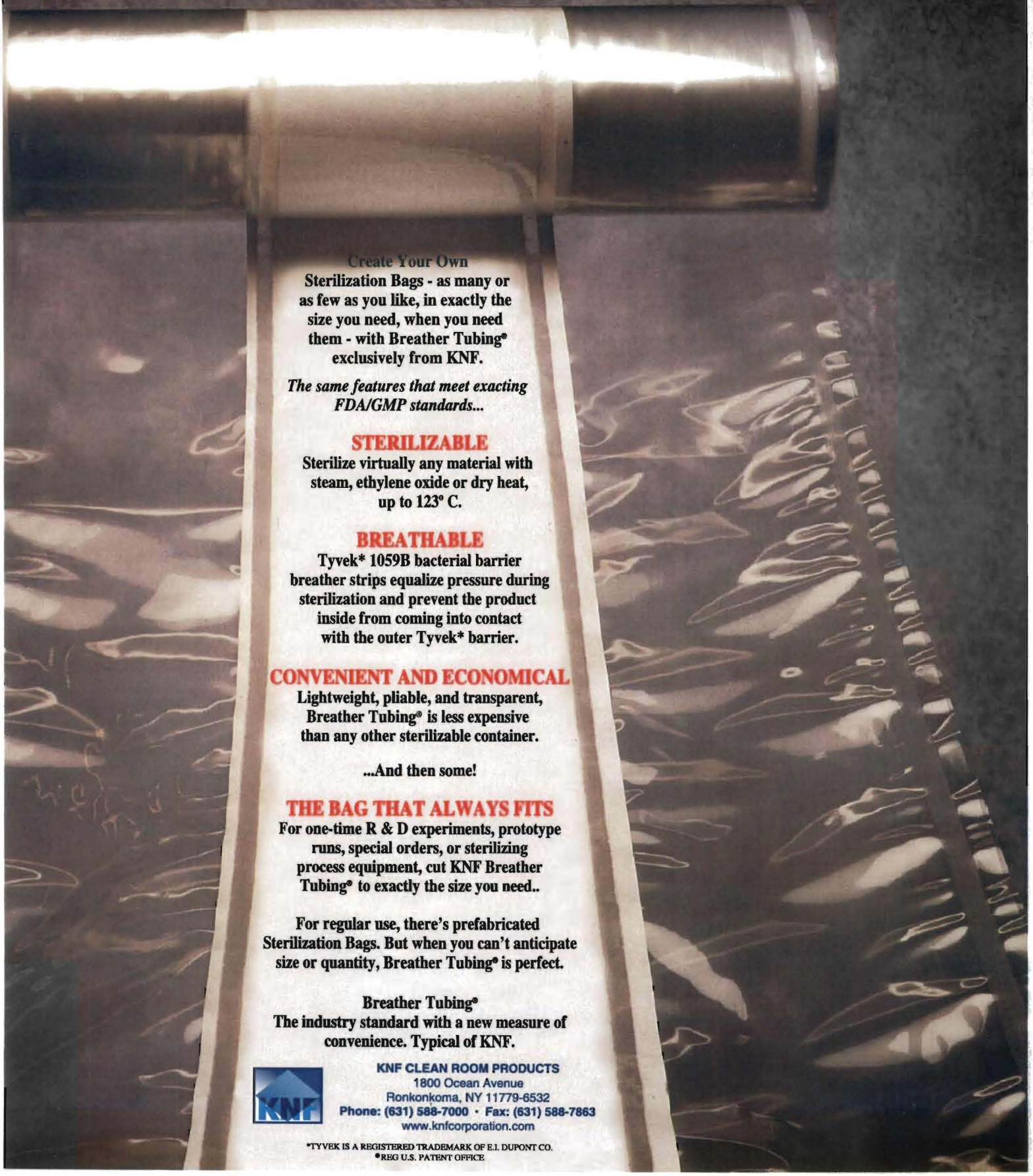
Specifications

Width:	36" (standard), other widths available upon request.
Length:	1,250 yards
Mil Thickness:	2 mil

NOW, ONLY FROM KNF...

STERILIZATION BAGS

THAT ARE JUST YOUR SIZE



Create Your Own
Sterilization Bags - as many or as few as you like, in exactly the size you need, when you need them - with Breather Tubing® exclusively from KNF.

The same features that meet exacting FDA/GMP standards...

STERILIZABLE
Sterilize virtually any material with steam, ethylene oxide or dry heat, up to 123° C.

BREATHABLE
Tyvek* 1059B bacterial barrier breather strips equalize pressure during sterilization and prevent the product inside from coming into contact with the outer Tyvek* barrier.

CONVENIENT AND ECONOMICAL
Lightweight, pliable, and transparent, Breather Tubing® is less expensive than any other sterilizable container.

...And then some!

THE BAG THAT ALWAYS FITS
For one-time R & D experiments, prototype runs, special orders, or sterilizing process equipment, cut KNF Breather Tubing® to exactly the size you need..

For regular use, there's prefabricated Sterilization Bags. But when you can't anticipate size or quantity, Breather Tubing® is perfect.

Breather Tubing®
The industry standard with a new measure of convenience. Typical of KNF.

KNF

KNF CLEAN ROOM PRODUCTS
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*TYVEK IS A REGISTERED TRADEMARK OF E.I. DUPONT CO.
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Ultraglove™

The cleanest glove available in the world is the **Ultraglove™** manufactured by KNF Clean Room Products.

The glove is fabricated using pure additive-free polyethylene film and manufactured in a clean room environment according to the stringent **Ultraclean cleanliness** level as all the other products offered by KNF Clean Room Products.

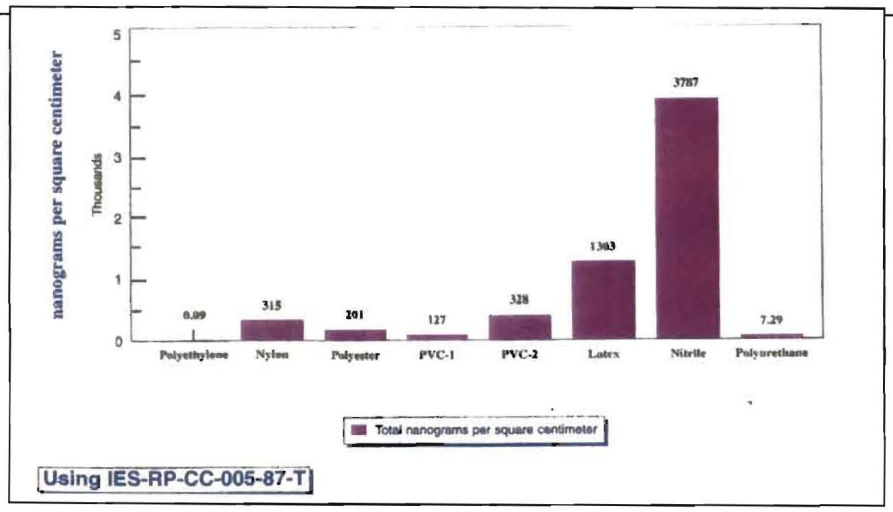
A final test of the glove is performed to determine ash content and any presence of additives, such **as slip**, antiblock, AHT's and BHT's.

The Ultraglove™ is widely used in the Polysilicon and Wafer production **industries** due to its low Cation and Anion content.

You can trust the Ultraglove™ to protect your most delicate semi-production processes.

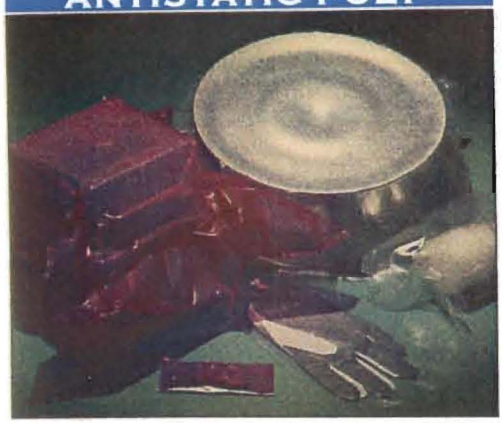
The Ultraglove™ provides the best chemical-resistant gloves for the Laboratory and Chemical **production industries.**
A **sterilized** Ultraglove™ is ideal for the Medical, Bio-Medical, Medical Device and Veterinary Medicine fields.
Please contact us for additional **Ultraglove™** information and samples.

Glove Comparison/ Water Extractables-Analysis by ICP-MS



The Ultraglove™ consistently tests lowest for water extractables, particle count, abrasion and surface **transfer, as** illustrated by the polyethylene test result on bar chart.

POLY AND ANTISTATIC POLY



Polyethylene is the most commonly used packaging film today. Our low-density polyethylene films are an excellent, economical choice for a wide range of applications that require Level II or III packaging cleanliness.

FEATURES

- Tough yet flexible.
- Easily heat-sealed for bag manufacture.
- Strong puncture-resistance.
- Low water vapor transmission rate.
- Good electrical properties.
- Virtually amine free, anti-static agent.
- Chemically resistant to solvents.
- FDA-approved for use with food.

SPECIFICATIONS

Tensile strength @ break: 2700 psi

Elongation @ break: 90-800%

Dart impact: 350 gms

Water absorption (24 hr): <0.01%

Melting point: 95-130° C

Flammable: Yes

Optical: Transparent and transparent pink

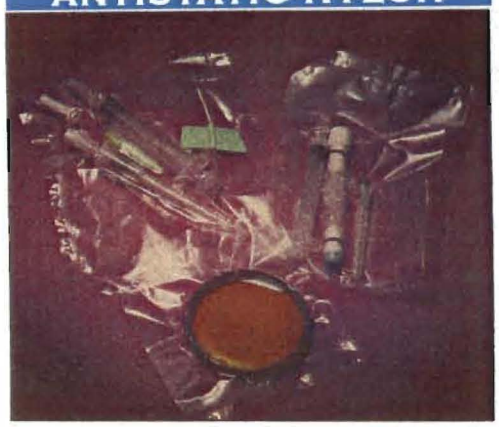
Surface resistivity (for anti- static poly): 4.5 x 10^{11} ohms

Static bleed-off time: to 0V, 0.5 sec. average

Levels II & III

See Applications Guide on back page for Cleanliness Levels.

NYLON AND ANTISTATIC NYLON



Nylon films are the most effective, heat-sealable films for long-term Level I protection. They create excellent primary barriers for packaging electronics, pharmaceuticals and precision parts. We employ Nylon 6, a polyamide that displays the maximum stiffness, strength and heat-resistance of all the nylons.

FEATURES

- Holds up under elevated temperatures.
- Superior gas barrier properties.
- Extremely oil-and grease-resistant.
- Maximum resistance to abrasion, wear and puncture.
- Autoclavable and excellent for pharmaceuticals.
- Nylon is FDA approved for packaging food and meat. (Antistatic nylon is not FDA approved).

SPECIFICATIONS

Tensile strength @ break: 10,000 psi

Elongation @ break: 300%

Tensile yield strength: > 7,000 psi

Water absorption (24 hr): 1.3-1.9%

Melting point: 216°C

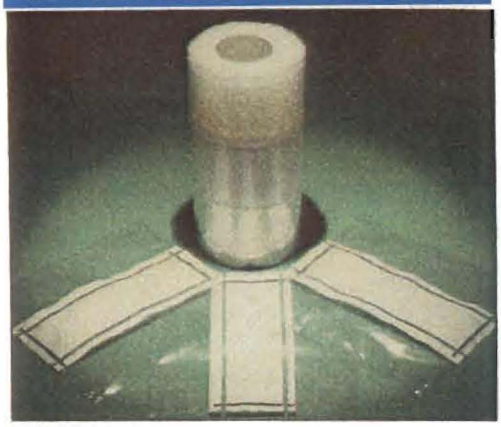
Flammable: Yes

Optical: Transparent and transparent orange

Level I

Custom Materials Available Upon Request

STERILIZATION BAGS SHEETING AND TUBING



Sterilizable and disposable Sterilization Bags are widely used in the pharmaceutical and medical industries where FDA Class 100 sterilization packaging is required. Our bags handle virtually any product and can withstand temperatures to 123°C (128° peak) for extended periods. Breather Tubing is also available when sizes cannot be predetermined.

Sterilization Bags, Breather Sheets and Breather Tubing are fabricated from two sheets of copolymer polypropylene and a strip of Tyvek 1059B heat-sealed over the slits on one of the sheets of polypropylene. When subject to varying chamber pressures, the breather slits help equalize the internal and external pressures while preventing product from coming into contact with the outer Tyvek barrier. This process has been patented offering an industry standard for your clean sterile packaging needs.

FEATURES

- Sterilizable by steam, ethylene oxide and dry heat.
- Excellent alternative to cumbersome stainless steel autoclave canisters: Sterilization Bags, Breather Sheets and Breather Tubing are less expensive, and easier to handle and store.
- Transparent, for convenient visual inspection.
- Exceptional pliability enables operators to separate "coagulated" products without opening the pouch.
- Bags and sheets in a variety of standard sizes. Custom sizes and gauges also available.

SPECIFICATIONS

Breather dimensions: 4" wide

Breather location: Center of bag or sheet

Cleanliness level: KNF Level I

Final packaging: Triple barrier packaged with nylon inner bag and two polyenthylene bags

OPTIONS

- Rubber modified polyethylene, 4 mil, for increased seal strength at lower autoclave extremes (<126° C). Film is milky translucent and is certified to KNF Level II or III. Alternate breather width-up to 8 inches maximum (6 or 8 inches standard).
- Alternate breather strip location.

Level I

Note: Commercial clean bags and sheets also available for all materials

ACLAR®

Aclar is a flexible, high-density thermoplastic film made from fluorinated-chlorinated resins. It is an excellent choice for ultraclean Level I packaging. The fluorine in Aclar's structure gives the film excellent thermal and chemical stability. In addition, it provides one of the best moisture vapor barriers among transparent films.

FEATURES

- Extremely low permeability to water vapor and other gases.
- Sterilizable by heat, gas and radiation (below 2MR).
- Non-flammable.
- Extremely inert.
- Heat-sealable.
- Excellent solvent resistance.
- Superior electrical insulating properties.
- Produced in three basic types: Aclar 22A, Aclar 22C, and Aclar 33C. Aclar 22C is recommended for superior handling and heat-sealing.

SPECIFICATIONS

22A:
Tensile strength @ break: 7500-11000 (MD)
5500-8000 (TD)
Elongation @ break: 115-225%(MD), 200-300%
Impact strength: 347 kg/cm
Melting point: 183-186°C
Flammable: No
Optical: Clear
Tear strength: 380 (MD), 360(TD)

22C:
Tensile strength @ break: 4000-6000 (MD & TD)
Elongation @ break: 200-300% (MD & TD)
Impact strength: 1200 kg/cm
Melting point: 183-186°C
Flammable: No
Optical: Clear
Tear strength: 465 (MD), 415 (TD)

33C:
Tensile strength @ break: 9500-11500 (MD)
5500-8000 (TD)
Elongation @ break: 50-150% (MD &TD)
Impact strength: <57 kg/cm
Melting point: 202-204°C
Flammable: No
Optical: Clear
Tear strength: 400 (MD), 360(TD)

Aclar is a registered trademark of Allied Signal, Inc.

Level I

FEP

FEP is a tough, transparent, thermoplastic film. It is used primarily as a Level I packaging material in aerospace and military applications.

FEP is excellent at cryogenic temperatures. It can be heat-sealed, thermo-formed, vacuum-formed, heat-bonded, welded, metalized, laminated, combined with dozens of other materials and is also an excellent hot-melt adhesive. FEP offers exceptional chemical compatibility, electrical reliability, mechanical toughness, long-term weatherability, reliability, and a wide thermal range.

FEATURES

- The most inert of all plastics.
- Low permeability to liquids, gases, moisture and organic vapors.
- Compatible with liquid oxygen.
- Non-flammable.
- Excellent solvent resistance.
- Superior anti-stick and low-frictional properties.
- Extremely resistant to impact and tearing.
- FDA-approved for packaging food.
- High dielectric strength.
- Continuous service temperature: -400° to + 400°F (-240° to + 205°C).
- Melting range: 500°-540°F (240°-280°C).
- Contains no plasticizers or other foreign materials.

SPECIFICATIONS

Tensile strength @ break: 3000 psi
Elongation @ break: 170%
Impact strength: 144 ft.-lbs./in.
Water absorption: <0.01%
Coefficient of thermal conductivity 1.35 BTU in.
Flammability classification: VTM/O
Optical: Clear transparent

Level I

POLYPROPYLENE

Polypropylene is an all-purpose thermoplastic packaging film with superior seal strength. A unique copolymer film that combines the outstanding characteristics of homopolymer polypropylene and polyethylene. It suits a wide range of ultraclean Level I & II packaging applications.

FEATURES

- Easily heat-sealed, providing the strongest film seal strength available from any packaging film.
- Good abrasion-resistance.
- FDA-approved.
- Fast processing, clarity, low-cost, and sterilizability by autoclave or dry heat make it ideal for medical applications. Routinely used for biohazard materials.

SPECIFICATIONS

Tensile strength @ break: 4,000-5,500 psi
Elongation @ break: 200-700%
Tensile yield strength: 3500-4300 psi
Water absorption (24 hr): 0.03%
Melting point: 60-168°C
Flammable: Yes
Optical: Clear transparent

Levels I & II

STERI-WRAP LS SERIES

Steri-Wrap is a high temperature, low shedding Nomex nylon paper made from polyamide polymers. Its excellent mechanical, thermal and non-linting properties make it the optimum sterile wrap for many pharmaceutical and biological products and medical devices.

FEATURES

- Low linting.
- Withstands temperatures in excess of 500°F.
- Non-porous structure of low permeability.
- Rolls or sheets.
- Colors from white to buff.
- Thickness from 2 to 3 mils.

SPECIFICATIONS

Thickness: 2 mils
Widths: 2-36 in.
Length: 1250 yards

ULTRACLEAN FILM™ PRODUCTS MEET THE HIGHEST STANDARDS OF CLEANLINESS

QUALITY ASSURANCE

AT CRP IT IS NOT ENOUGH FOR OUR MATERIALS TO MEET EXTERNAL STANDARDS SET BY NASA, FEDERAL SPECIFICATIONS, AND ASTM METHODS. WE CONTINUOUSLY SET AND RAISE OUR OWN INTERNAL STANDARDS OF PRODUCT AND SERVICE EXCELLENCE IN ALL AREAS.

WEEKLY MEETINGS DISCUSSING PRODUCTION AND QUALITY ASSURANCE INSURE THE DEPLOYMENT OF A WRITTEN, CONTINUOUS IMPROVEMENT PLAN FOR MATERIALS, METHODS, MACHINERY AND TRAINING. A WRITTEN TRAINING PROCEDURE IS FOLLOWED AND DOCUMENTED FOR EVERY EMPLOYEE, AND THIS PROCEDURE IS PERIODICALLY EVALUATED IN ORDER TO DEEPEN AND IMPROVE ITS POSITIVE IMPACT ON OUR TEAM.

DETAILED STANDARD OPERATING PROCEDURES DESIGNED TO ASSURE QUALITY IN THE AREAS OF MATERIAL EVALUATION, CLEANLINESS, DOCUMENTATION, SEAL INTEGRITY, EQUIPMENT OPERATION, AND CLEAN ROOM COMPORTMENT AND MONITORING HAVE BEEN ESTABLISHED AND ARE PERIODICALLY AUDITED.

A TOTAL COMMITMENT TO QUALITY

FILM MANAGEMENT'S DEDICATION TO QUALITY IS STRONGLY EVIDENCED BY ITS PARTICIPATION IN CUSTOMER FOCUS MEETINGS AND CORRECTIVE ACTION REQUESTS. WEEKLY "TOWN HALL" MEETINGS WITH EVERY MEMBER OF THE DIVISION OPEN COMMUNICATION ON EVERY KIND OF ISSUE, PROBLEM, SOLUTION, OBSTACLE, AND ADVANTAGE AFFECTING EMPLOYEES AND MANAGEMENT. A PERMANENT TEAM CONSISTING OF QUALITY ASSURANCE, PRODUCTION, AND MACHINE SERVICES IS ATTACHED TO THE PROCESS OF FILM MANUFACTURING AND CONDUCTS EXPERIMENTS TO DETERMINE AND ROOT OUT ALL ASSIGNABLE CAUSE VARIATION IN THE MACHINERY, METHODS, MEDIUM, AND MATERIAL. THE PROCESS TEAM IS DEDICATED TO STANDARDIZING AND INNOVATING EVERY PROCESS WHICH COMES UNDER SCRUTINY.

MANAGEMENT LEADERSHIP

CRP'S MANAGEMENT TAKES FULL RESPONSIBILITY FOR ITS PRODUCTS AND THE SERVICE STRUCTURES THAT SUPPORT THEM. THIS COMMITMENT IS ASSERTED BY OUR FILM MANAGEMENT'S MISSION STATEMENT:

"The quality of product produced by the film division is the sole responsibility of the management and associates of the film division. Quality starts with our intimate involvement with the customer needs and the processes used that produce the product. The film division will take positive control of the quality program for the division."

IF QUALITY, PURITY AND SERVICE ARE YOUR CONCERNS, CONSIDER CRP AND ULTRACLEAN FILM™.

CRP. SOLUTIONS. PURE AND SIMPLE.℠

KNF

ULTRACLEAN FILM™ APPLICATIONS GUIDE

Cleanliness Level

ULTRACLEAN		ULTRACLEAN & STERILIZABLE
Nylon FEP Aclar Polypropylene Antistatic Nylon	I	Sterilization Bags, Breather Sheets, Breather Tubing Nylon Polypropylene
Polyethylene Polypropylene	II	Polyethylene Polypropylene
Antistatic Polyethylene	III	Sterilization Bags, Breather Sheets, Breather Tubing

NYLON/ANTISTATIC NYLON

Parts storage for all industries; overwrap for products with sharp or protruding parts; packaging for highly polished plates, mirrors, etc.; primary packaging for cleanliness; pharmaceutical implant sterilization.

ACLAR

Moisture and oxygen barrier protection; liquid oxygen parts storage; ball bearings and parts storage where corrosion is a problem; semiconductor chips; aerospace parts; optics; pharmaceuticals.

POLYPROPYLENE

Optics, biohazard bags, disk carrier storage.

POLYETHYLENE

Medical implants; bearings; valves; valve component parts; box liners and bulk storage; laundry services; gamma sterilization; pharmaceutical storage; electronic disk carriers and transport trays; precision parts; air, gas, water filters and housings; machinery covers; optical parts; printing plate storage and protection.

ANTISTATIC POLYETHYLENE

Adds protection for the parts listed above. Additionally, it is effective for secondary packaging for parts transport; separator sheets between parts; parts storage; disk storage; printed circuit boards; electronic solenoid valves; and clean wafer boat carriers.

FEP

Moisture and oxygen barrier; liquid, air and gas sampling bags; animal research; and lunar research projects. FEP is excellent at cryogenic temperatures. It can be heat-sealed, thermoformed, vacuum-formed, heat-bonded, welded, metallized, laminated and combined with dozens of other materials.

STERILIZATION BAGS, BREATHER SHEETS, BREATHER TUBING

Sterilization of pharmaceutical stoppers, equipment; medical devices.

KNF Clean Room Products Corporation
Specializing in Ultraclean Film™ and Flexible Packaging Products

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