



# High Performance Sterilization Wraps

Reliance® Sterile Barrier System



# PROTECTING PATIENTS GLOBALLY

Selecting the most appropriate Sterile Barrier System (SBS) for use in the Central Sterilization Service Department (CSSD) is a challenging responsibility and plays a key role in infection prevention and patient safety.

Ahlstrom-Munksjö single use sterilization wraps help to prevent microorganisms (bacteria, viruses, spores) from easily gaining access to the tray contents, allow sterilization, provide physical protection, maintain sterility up to the point of use and allow aseptic presentation.

## Ahlstrom-Munksjö Reliance® Wrap and sterilize your medical devices with confidence

Our Reliance® product range is comprised of various types of fabric, manufactured from 100% cellulose, cellulose + synthetic and 100% synthetic fibers. Our wide range and combination of sterilization wraps enables our customers to select the most appropriate Sterile Barrier System to meet their requirements.

### Applications

- Sterilization wraps for terminally sterilized medical devices
- Filter for containers
- Overwrap for single use Custom Procedure Trays (CPT)
- Tray liner for moisture absorption and protection of the tray

### Our Technologies



**CREPE PAPER**  
*cellulose fibers*



**WETLAID NONWOVENS**  
*cellulose + synthetic fibers*



**SMS**  
*synthetic fibers*

### Benefits and Characteristics

- Facilitate the wrapping of medical instruments and devices
- Allow sterilization due to good penetration and removal of sterilizing agent
- Maintain sterility of medical devices during handling and storage
- Enable aseptic presentation at the point of use



## Sterilization Methods

The Sterile Barrier System products are to be used for wrapping medical devices, which can be terminally sterilized by the following methods:



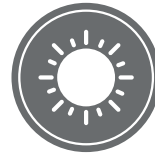
**STEAM**



**EO**



**FORM**



**IRRAD**



**H2O2**

We recommend that the end user validates the final packaging system as suitable with the intended sterilization process to comply with international standards as per ISO 11607 part 2.

## Registrations and declarations

### **MDD 93/42/EEC 1193 / 47EC5 2007**

Wrapping materials are considered as a Class 1 accessories for medical device and comply with the essential requirements 93/42/EEC directive and therefore CE marked. All products are registered at "Agence Nationale de Sécurité du Médicament" in France.

### **EN ISO 11607-1**

Packaging for terminally sterilized medical devices. Part. 1: Requirements for materials, sterile barrier systems and packaging systems (ISO 11607-1:2017).

### **EN 868-2**

Packaging material for terminally sterilized medical device. Part. 2: Sterilization wrap requirements and test methods EN 868-2: 2017.

## Additional information

### **Latex free**

All our products are latex free - including synthetic latex materials or natural rubber materials containing any of the proteins linked to Types I & IV latex allergies.

### **Traceability**

Our production system ensures complete traceability of products via a LOT number printed on each delivered box, providing information relating to the production cycle. All data needed for effective tracking of a single box and identification is contained within the bar code on the external packaging.

## Third party certifications

All our products received certification of compliance from:



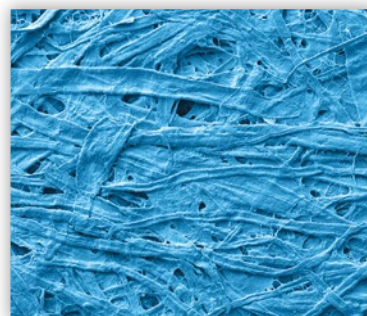
# CREPE PAPER

## Excellent barrier properties with moisture absorption capacity

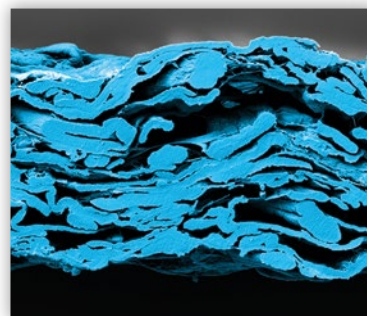
Ahlstrom-Munksjö Reliance® crepe paper is made with more than 97% of cellulosic fibers and wet strength and sizing agents.

Cellulosic fibers create the best-in-class tortuous path for excellent sterility maintenance and bacterial barrier.

It is available in Standard or Sensitive version: with an offline micrexing process, our Sensitive crepe paper is softer with improved drapeability.



Surface



Section

## Benefits and Characteristics

- Best in Class bacterial barrier
- Helps to prevent wet-packs
- Cost-effective wrapping solution



STEAM



EO



FORM



IRRAD

## Ahlstrom-Munksjö Reliance® Crepe paper range

### STERILIZATION WRAP:

#### Reliance® Crepe

(R310)

60 gsm



#### Reliance® Crepe Sensitive

(R310S)

60 gsm



### TRAY LINER:

#### Reliance® Crepe Trayliner

(R309)

Light - 80 gsm



#### Reliance® Crepe Trayliner

(R309)

Medium - 110 gsm



#### Reliance® Crepe Trayliner

Sensitive

(R309S)

Heavy - 140 gsm



### OVERWRAP:

#### Reliance® Overwrap Sensitive

(R307S)

43 gsm



50 gsm



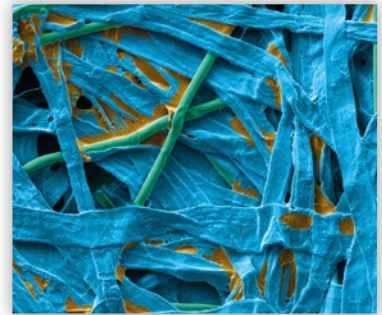
# WETLAID NONWOVENS

## Softer and stronger cellulose-based material

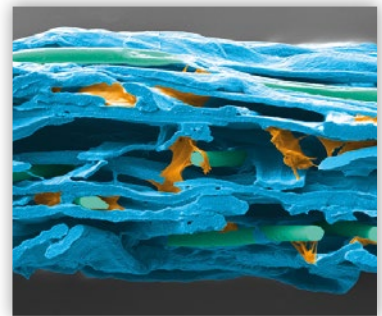
Ahlstrom-Munksjö Reliance® Wetlaid Nonwovens are made with 70% cellulose, 20% synthetic binder and 10% PET fibers.

Cellulosic fibers create the best-in-class tortuous path for excellent sterility maintenance when synthetic binders and PET fibers bring more strength and softness to the product.

Available in two colors and three basis weights, all our wetlaid nonwovens are micrexed for increased drapeability and comfort.



Surface



Section

## Benefits and Characteristics

- Excellent bacterial barrier
- Helps to prevent wet-packs
- Soft and strong
- Low lint



STEAM



EO



FORM



IRRAD

## Ahlstrom-Munksjö Reliance® Wetlaid range

### STERILIZATION WRAP:

#### Reliance® Dextex 100

(R335)

52 gsm



#### Reliance® Dextex 200

(R345)

57 gsm



#### Reliance® Dextex 300

(R360)

67 gsm

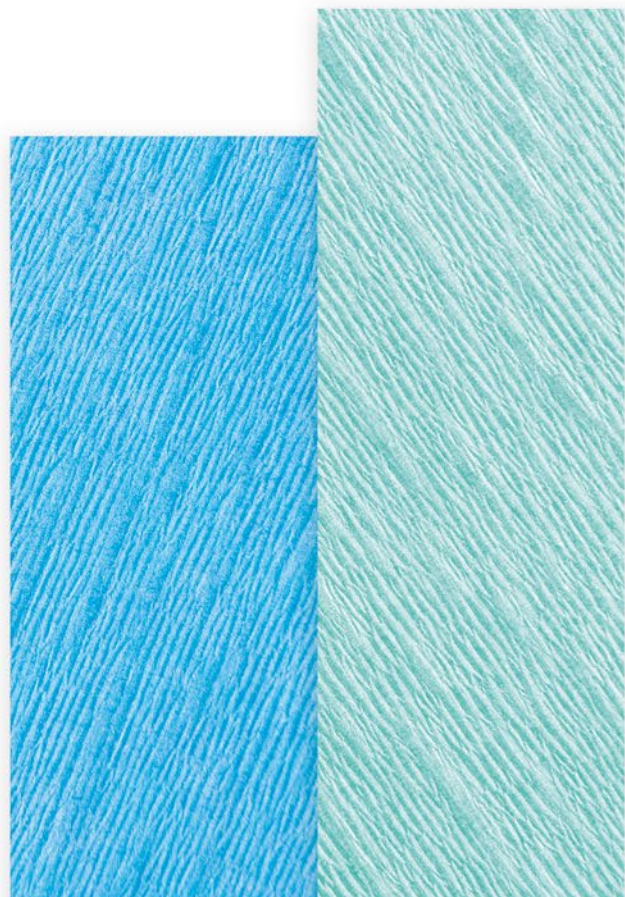


### TRAY LINER:

#### Reliance® Dextex Tray Liner

(R308)

72 gsm



MADE IN USA



Ahlstrom-Munksjö Nonwovens LLC  
Windsor Locks, CT - USA

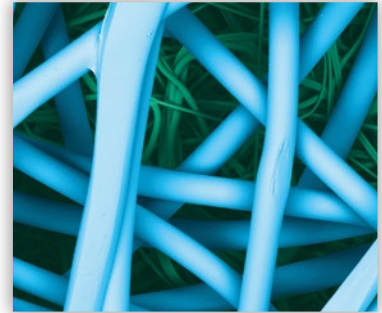
# SMS - SPUNBOND MELTBLOWN SPUNBOND

## Strong and durable, with low lint and high barrier

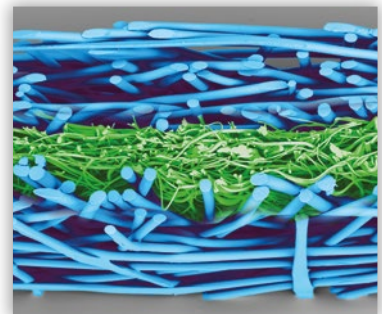
Ahlstrom-Munksjö Reliance® SMS is 100% polypropylene and treated to resist static charge build-up. It does not contain natural fibers (cellulose) or synthetic binder.

The key to the barrier protection of the SMS are the three meltblown layers of microscopic fibers, delivering a tortuous path for a consistent bacteriological barrier to maintain sterility.

It is available in two colors and six different basis weights to satisfy different user requirements.



Surface



Section

## Benefits and Characteristics

- Excellent bacterial barrier
- Liquid repellent and antistatic
- High strength to avoid rips, tears or punctures
- Drapeability



STEAM



EO



FORM



H2O2

## Ahlstrom-Munksjö Reliance® SMS range

### Reliance® SMS 100

(R430)

35 gsm



### Reliance® SMS 400

(R460)

60 gsm



### Reliance® SMS 200

(R440)

43 gsm



### Reliance® SMS 500

(R470)

70 gsm



### Reliance® SMS 300

(R450)

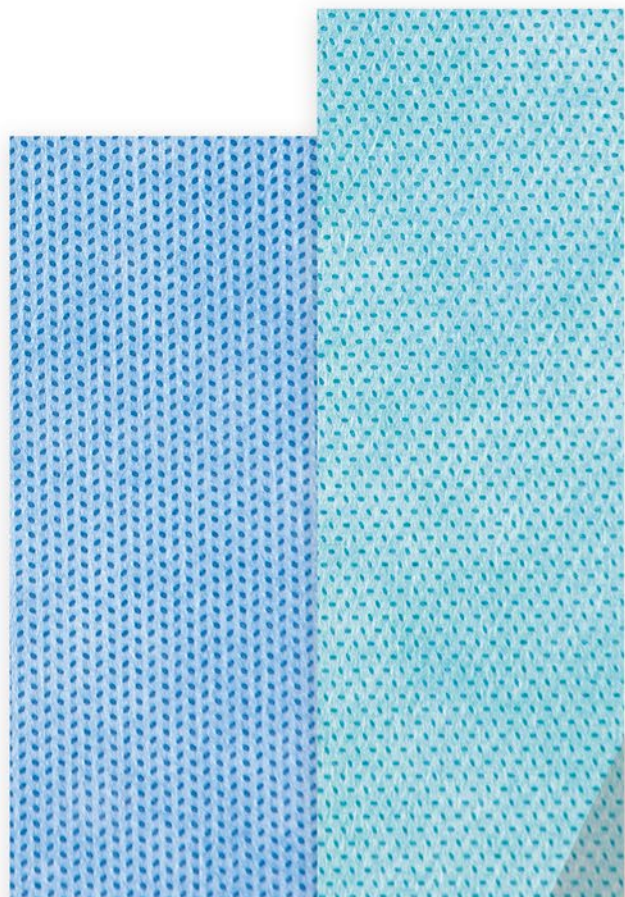
50 gsm



### Reliance® SMS 600

(R480)

85 gsm



MADE IN INDIA



Ahlstrom-Munksjö Fibercomposites  
Mundra, Gujarat - India

# AHLSTROM-MUNKSJÖ RELIANCE® TANDEM

## Interleaved sterile barrier system solutions

Ahlstrom-Munksjö Reliance® Tandem combines different colors to provide the optimal combination for sequential wrapping, increasing efficiency and productivity.

The use of two colors clearly differentiates between the two layers during transport, storage and in the operating room allowing damage to be easily seen.

### Benefits and Characteristics

- **Color coding for improved efficiency** - the outer wrap and the inner wrap, which is sterile and suitable to be used in the operating room, have two different colors for easier identification.
- **Simplified stock and purchase processes** - hospitals can save space and time using a single stock of two-colored layers.
- **Increased patient safety** - the superposition of the two colored layers easily allows any damages or punctures to be visualized.

## Interleaved colors and technologies: the right combination to your wrapping requirements

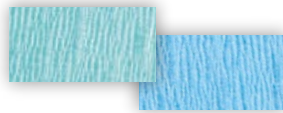
### Same technology, different colors

Crepe paper, wetlaid and SMS can be interleaved with different colors to ensure the benefits associated to visual differentiation.

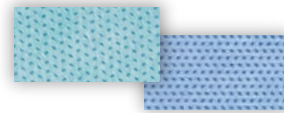
#### Reliance® Tandem Crepe



#### Reliance® Tandem Dextex



#### Reliance® Tandem SMS



### Combining different technologies for improved performance

Cellulose, featuring high moisture absorption, can be combined with SMS to offer improved strength. Combining the best of the two worlds, different technologies and grammages, will help achieve the best results.

#### Crepe / Wetlaid

##### Tandem

##### Crepe Sensitive / Dextex 100

(R310S / R335)

Crepe / Wetlaid



##### Tandem

##### Crepe Sensitive / Dextex 300

(R310S / R360)

Crepe / Wetlaid



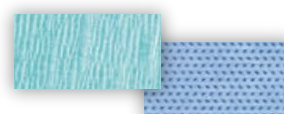
#### Wetlaid / SMS

##### Tandem

##### Dextex 100 / SMS 300

(R335 / R450)

Wetlaid / SMS





# AHLSTROM-MUNKSJÖ RELIANCE® SOLO

## Bonded system for simultaneous wrapping

Ahlstrom-Munksjö Reliance® Solo is composed of two bonded sheets of SMS for easy to use, simultaneous wrapping.

Like sequential wrapping, Reliance® Solo creates a tortuous path, delivering aseptic opening at the point of use.

Two colors allow for easy identification of damage from transport/storage and wrong handling.

### Benefits and Characteristics

- Simplified wrapping process
- Simultaneous aseptic unwrapping in the operating room
- Proven best barrier to prevent penetration of microorganisms through the bonded layers
- High strength to avoid rips, tears or punctures
- Lotcode printed on every application

### Ahlstrom-Munksjö Reliance® Solo range

#### Reliance® Solo 100

(Solo 833)

SMS

35 + 35 gsm



#### Reliance® Solo 400

(Solo 866)

SMS

60 + 60 gsm



#### Reliance® Solo 200

(Solo 844)

SMS

43 + 43 gsm



#### Reliance® Solo 500

(Solo 877)

SMS

70 + 70 gsm



#### Reliance® Solo 300

(Solo 855)

SMS

50 + 50 gsm



#### Reliance® Solo 600

(Solo 888)

SMS

85 + 85 gsm



# OUR GLOBAL PRESENCE

## Manufacturing, converting and servicing: reaching end users worldwide

We manufacture, convert and have representation globally with three manufacturing sites dedicated to the production of fiber-based materials for sterilization wraps.

Ahlstrom-Munksjö has two state-of-the-art fully automated converting lines:

- **Windsor Locks** plant in Connecticut, USA to serve Americas and export markets under FDA requirements
- **Pont Audemer** plant in Normandie, France to serve Europe and export markets according to CE requirements

### Our plants comply with the following standards:

#### Windsor Locks:

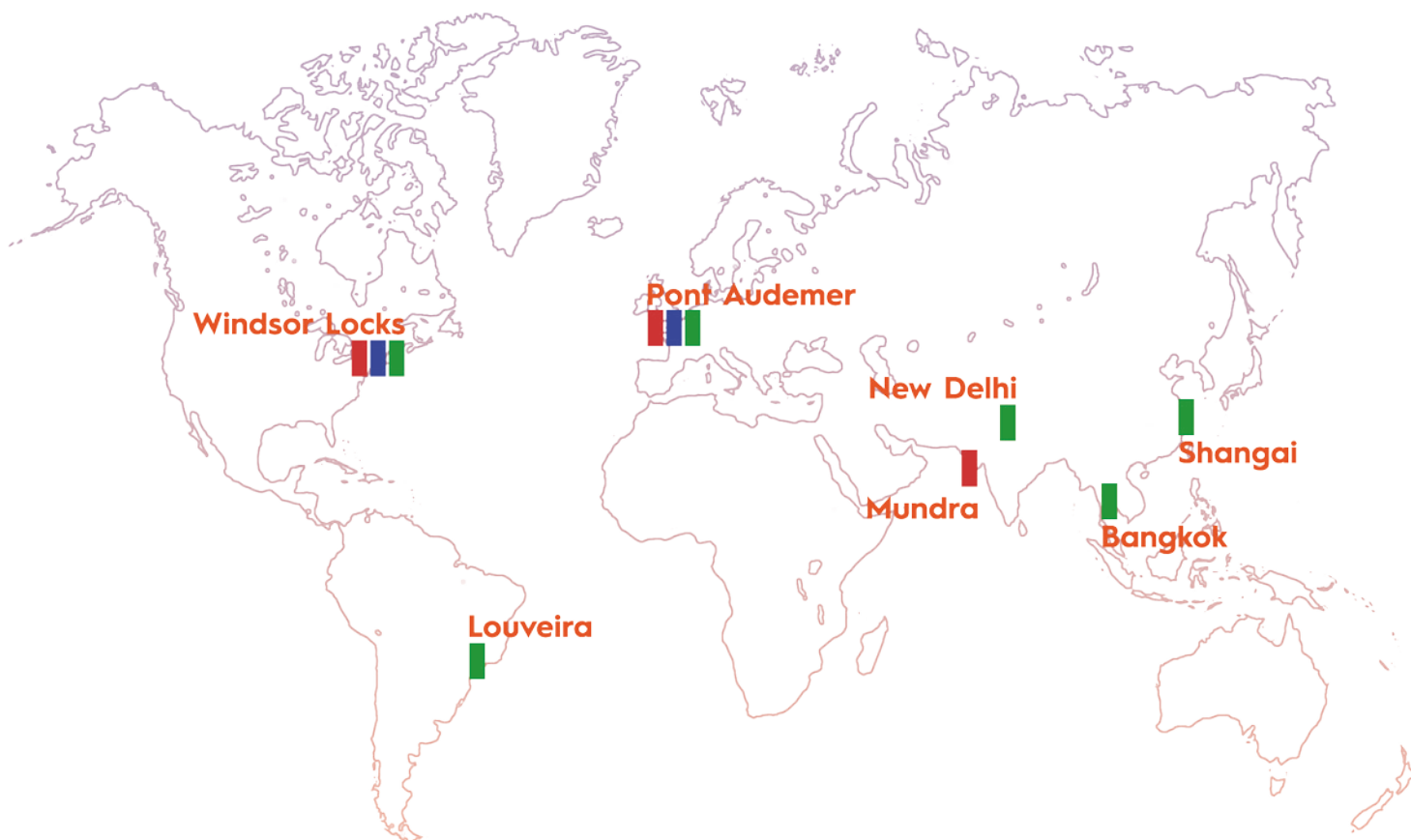
ISO 9001:2015  
ISO 14001:2004  
PEFC, FSC, SFI  
FDA Registered  
Site for Medical  
Devices

#### Pont Audemer:

ISO 9001:2015  
ISO 14001:2015  
OHSAS 18001:2007  
ISO 50001:2001  
FSC™

#### Mundra:

ISO 9001:2015  
ISO 14001:2015  
ISO 45001



■ Manufacturing ■ Converting ■ Sales Offices

# HOW TO USE

## Prior to use

Ahlstrom-Munksjö Reliance® wrap is intended for single use only.

We provide the material in sheets of your specified sizes, enclosed with a protective sealed bag and supplied in a secure high quality box.

We recommend to store our boxes in a cool, dry place, out of direct sunlight.

Location of use should be clean, dust-free, dry and away from fluorescent or ultraviolet lights sources.

Allow wrapping material to condition to atmospheric temperature and humidity prior to use.

Use within five years of manufacture, check manufacture date on label.

## Folding Instructions

Covering all package contents is required for sterility maintenance, and failure to follow this for correct wrapping technique could compromise sterility.

For wrapping techniques, please refer to our Instructions for Use.

## Safety instructions and disposal

The product is non-toxic, nonhazardous and considered harmless.

Waste disposal must be in accordance with local regulations. Suitable for incineration. Product is not biodegradable.

The product is combustible in oxygen-rich environments and when a source of ignition is applied to the fabric. Therefore, to avoid fire, the product should be kept away from heat, sparks and open flame. If fire does occur it can be extinguished by normal means.

## Precautions

This is a single use product and shall not be re-used.

Do not use sheet if damaged or extraneous matter is detected.

Do not use with sharp instruments. These may damage the wrap and compromise barrier properties.

## Sterility Maintenance

Real-time testing supports maintenance of package sterility for 180 days, provided package integrity is maintained.

Reliance® sterilization wraps range has been tested by third party laboratories for Time and Event Related Sterility Maintenance, ensuring six months of sterility maintenance. These tests have been performed to the best of our knowledge of hospital processes, providing end user has validated its sterilization process including forming, sealing and assembly of its packaging system according to ISO 11607-2.

Ahlstrom-Munksjö is a global leader in fiber-based materials, supplying innovative and sustainable solutions to its customers. Our mission is to expand the role of fiber-based solutions for sustainable everyday life.

Our offering include filter materials, release liners, food and beverage processing materials, decor papers, abrasive and tape backings, electrotechnical paper, glass fiber materials, medical fiber materials and solutions for diagnostics as well as a range of specialty papers for industrial and consumer end-uses.

Our annual net sales are about EUR 3 billion and we employ some 8,000 people. The Ahlstrom-Munksjö share is listed on the Nasdaq Helsinki and Stockholm.



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