

# Controlled Environments

2024 NORTH AMERICA PRODUCT CATALOG

**DUPONT**  
**Tyvek**  
IsoClean®



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# Cleanroom clothing that helps give you peace of mind



## **DuPont understands your need to do everything possible to reduce contamination risks in your controlled environments.**

Operators represent the biggest source of contamination inside cleanrooms. Operator contamination can be reduced through training and impeccable hygiene, but it can't be eliminated. There is only one way to prevent particles generated by operators from contaminating the cleanroom: cleanroom garment systems.

Cleanroom garments are the only barrier between the operator and the production environment. The DuPont cleanroom clothing portfolio offers a comprehensive selection of single-use cleanroom garments and accessories designed for use in pharmaceutical, biotech, medical device, laboratory and electronic settings that require high standards for particle and microbiological contamination control.

DuPont™ Tyvek® IsoClean® garments have a long history of use in cleanrooms due to their excellent barrier to particles, microorganisms and non-hazardous liquids. They offer an ideal balance of protection, durability, comfort and contamination control. They are available in many styles for different cleanroom and controlled environment applications. With the DuPont Controlled Environments offering, you get the advantage of a wide range of proven, science-based solutions that help keep your cleanroom environment protected.

For over 25 years Tyvek® IsoClean® garments have been an excellent choice for a variety of processes in cleanrooms and controlled environments because of the outstanding contamination control properties, fabric design and performance.



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**Tyvek®**  
IsoClean®

What types  
of DuPont  
fabrics are used  
in cleanroom  
clothing?



# What types of DuPont fabrics are used in cleanroom clothing?

DuPont™ Tyvek® IsoClean® and DuPont™ ProClean® garments and accessories are specifically designed for controlled environment applications and can help reduce the risk of product and process contamination. Many Tyvek® IsoClean® garment styles are available clean-processed for exceptional low-linting apparel and sterile for aseptic processes.



Tyvek® 400 and DuPont™ ProShield® fabric can be considered for product protection applications and non-hazardous dirty jobs. See the chart on the next page for the various garment and accessory options for the DuPont fabrics mentioned in this section.



Tyvek® 600 and Tyvek® 800 offer chemical permeation barrier to low-concentration water-based inorganic chemicals, including infective agents and bodily fluids. Please refer to DuPont™ SafeSPEC™ for specific barrier performance information for hazardous liquid chemicals.



DuPont™ Tychem® 2000 and Tychem® 4000 are likely garment options available for higher hazard liquid chemical exposure applications. Please refer to DuPont™ SafeSPEC™ for specific barrier performance information for hazardous liquid chemicals.

# Controlled environment apparel selection guide

## DuPont Controlled Environments garments: Tyvek® IsoClean®, ProClean®, Tyvek®, ProShield® & Tychem®

	Tyvek® IsoClean®				ProClean®*	ProShield® 10	Tyvek® 400	Tyvek® 600/ 800	Tychem® 2000/4000	Considerations
	Clean-processed sterile	Sterile	Clean-processed non-sterile	Bulk non-sterile	Non-sterile	Non-sterile	Non-sterile	Non-sterile	Non-sterile	
<b>Environments</b>										
ISO Class 5 Aseptic Cleanrooms (Former FED-STD- 209E; Class 100)	●	◐								Tyvek® IsoClean® sterile garments offer excellent cleanliness, barrier, and sterility assurance level.
ISO Class 6, 7, and 8 Bioburden Control Areas (Former FED-STD- 209E; Class 1000, 10,000 and 100,000)	●	●								Tyvek® IsoClean® sterile garments offer excellent cleanliness, barrier, and sterility assurance level.
ISO Class 6, 7, and 8 Cleanrooms (Former FED-STD-209E; Class 1000, 10,000 and 100,000)	●	●	●	●	◐	◐	◐	◐	◐	Tyvek® is durable, low-linting and provides an inherent particle barrier. Clean processing and bound seams should be considered for more critical environments.
<b>Hazards</b>										
Non-hazardous dry particles	●	●	●	●	●*	◐*	●	●	●	Tyvek® provides an inherent barrier against small particles.
Non-hazardous, light liquid splash	●	●	●	●	●*	◐*	◐	◐	◐	ProClean® provides an effective barrier against a variety of common non-hazardous liquids.
Hazardous powders Notice: DuPont Controlled Environments garments should not be used in potentially explosive or flammable environments	●	●	●	●			●	●	●	Use bound or taped seam garments when working with hazardous powders.
Hazardous liquid splash								◐	●	Please refer to DuPont™ SafeSPEC™ for specific barrier performance information for hazardous liquid chemicals
Electric arc, industrial fire hazard, welding										Please refer to DuPont™ Nomex® for flame-resistant apparel. Controlled environment garments are not suitable for firefighting activities, nor for protection from hot liquids, steam, molten metals, welding, electric arc, or thermal radiation.

**Do Not Use**

Comparison within the DuPont portfolio: ● Best ◐ Better (Blank) Not recommended

\* Barrier properties may be compromised through use.



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**Tyvek®**  
IsoClean®

Why is Tyvek®  
IsoClean®  
right for your  
cleanroom?



# DuPont™ Tyvek® IsoClean® apparel is single-use and can offer consistent performance, flexibility and cost control



## Consistent performance

Single-use garments are not subjected to multiple cycles of wearing, laundering and sterilization, so fabric barrier and strength are consistent and predictable. Also, DuPont cleanroom clothing helps to minimize cross-contamination risk because clean-processing and packaging are done in a ISO 4 facility that only handles new garments. Control of the contamination risk linked to operators relies heavily on the barrier performance of cleanroom garments. Tyvek® IsoClean® sterile cleanroom garments make this control easier. If garments are only used once their Helmke drum and bacterial filtration efficiency (BFE) performances are constant. This is not the case for reusable cleanroom garments that are used, washed, dried and sterilized multiple times. DuPont has demonstrated in a study that the performance of reusable garments is significantly reduced by repeated laundering and sterilization cycles. The study can be accessed [here](#).

## Easier Quality Risk Management

Companies should have a Quality Risk Management system. As DuPont is the manufacturer of both the Tyvek® material and the finished clean and sterile Tyvek® IsoClean® cleanroom garments, the entire value chain is under DuPont control and test data and certificates (such as lot-based certificates of sterility, irradiation and compliance) can be supplied any time. This makes qualification and subsequent quality audits easier than with reusable cleanroom garments involving several value-chain customers (PET filament manufacturer, textile weaver, garment manufacturer, laundry, etc.).

## Flexibility

Single-use coveralls made from Tyvek® can offer more production flexibility and can speed up production as they do not require infrastructure or laundry processes. Inventories can be adjusted to meet production needs. DuPont single-use apparel allows you to order only the quantities that you plan to use, which offers flexibility as your needs change. Also, the stock management of a single Tyvek® IsoClean® garment is much easier than managing a reusable garment system (due to washing, disinfection and laundering cycles, garment replacement or repairs, complex invoice checking and others).

## Recyclability

Additionally, Tyvek® IsoClean® garments may be eligible for recycling through the Tyvek® Protective Apparel Recycling Program. Please read more about recyclability of Tyvek® IsoClean® apparel [here](#).

## Cost control

Single-use garments help eliminate budget uncertainties associated with garment repair, damage, and loss, helping you to better predict expenditures.





Strong fabric, yet lightweight  
and soft



Keeps microbiological and particle  
contamination inside the garment



Inherently low linting



Resistant to abrasion  
and tearing



Resistant to aqueous liquids  
and liquid aerosols



Breathable and comfortable  
to wear



Available in many processing options,  
including clean-processed and sterile



Available in many styles  
coveralls and accessories



May be eligible for recycling through  
the Tyvek® Protective Apparel Recycling  
Program\*



Tyvek® offers an ideal balance  
of protection, durability and comfort

### DuPont™ Tyvek® fabric in the cleanroom

DuPont™ Tyvek® fabric has been used to make high-quality cleanroom garments for more than 25 years. Tyvek® is made by DuPont with a proprietary flash-spinning process that creates continuous fibers of high-density polyethylene that are randomly distributed and non-directional. When using cleanroom clothing made of Tyvek® you get an ideal balance of protection, durability, comfort and contamination control. The biggest advantage Tyvek® fabric offers to cleanrooms and controlled environments is keeping human contamination inside the garment and not allowing it to contaminate the cleanroom and the production.

\*DuPont cannot accept used Tyvek® garments that have been exposed to hazardous materials / dangerous goods (as defined by local, federal or international transportation regulations) and that have not been decontaminated. Hazardous materials / dangerous goods include, among other items, chemicals, Division 6.2 infectious substances, biological products, cultures, patient specimens and regulated medical waste.

# DuPont™ Tyvek® IsoClean® apparel is manufactured to the highest quality standards



## Sterilization

### Dose audits

Dose audits are conducted quarterly to maintain dose validation.

### Sterility Assurance

Tyvek® IsoClean® sterile garments have a sterility assurance level (SAL) of  $10^{-6}$ . Radiation doses are validated in accordance with ANSI/AAMI/ ISO 11137 through bio burden and dose verification testing.

### ISO 13485 registered facilities

Tyvek® IsoClean® sterile garments are gamma irradiated in a facility that is registered by ISO 13485 quality standard and adheres to the requirements of ANSI/AAMI/ ISO 11137.

## Quality Assurance

### Lot traceability

Lot traceability is maintained through garment manufacturing, processing and sterilization.

### Quality documentation

Quality documents are readily available and accurate when requested to help meet customer requirements.

### Customer audits

Customers are invited to audit our manufacturing and sterilization facilities.

### Quality management system

The DuPont Controlled Environments quality management system is ISO 9001:2015 registered.

## Packaging and folding

### Aseptic folding

Clean-processed and sterile products are folded to aid aseptic donning procedures.

### Validated cleanroom packaging

The system serves both as an additional sterility risk management component and is a key element for contamination risk reduction when transferring apparel into clean areas.

## Cleanliness

Garments are tested for particle shedding using the Helmke drum (IEST-RP-CC003.4) test.



A Certificate of Sterility and a Certificate of Compliance come with every shipment of sterile single-use garments.

# Garment processing and packaging options

## Sterile

### Clean-processed and sterile (option code CS)

Garments are specially processed to help minimize particle shedding, then folded to aid in aseptic donning and individually packaged in an ISO Class 4 cleanroom. The case quantity is packaged in a cardboard case with two polyethylene liners. Sterility is achieved by gamma irradiation. Radiation dosage is validated in accordance with ISO 11137 for an SAL of  $10^{-6}$ .

### Sterile (option code OS or TS)

Garments available with the OS option code are folded to aid in aseptic donning and individually packaged. Garments available with the TS option code are folded and double-bagged individually. The case quantity is packaged in a cardboard case with two polyethylene liners.

Some sterile items are folded and individually packaged in an ISO Class 5 cleanroom (see garment data sheet). Sterility is achieved by gamma irradiation. Radiation dosage is validated in accordance with ISO 11137 for an SAL of  $10^{-6}$ .



Opaque sterile pouch packaging features a no-smear label.

## Non-sterile

### Clean-processed (option code OC)

Garments are specially processed to minimize particle shedding and individually packaged in an ISO Class 4 cleanroom. The case quantity is packaged in a cardboard case with two polyethylene liners.

### Individually packaged (option code PI)

Garments are individually packaged.

### Bulk (option code OB or OO)

Case quantities are packed in a cardboard case with two polyethylene liners. Tychem® garments are packed in a cardboard case with a single polyethylene liner.

Note: Individual packaging for shoe and boot covers indicates that each pair has its own sealed bag. Cuff tapes may have subgroupings of individually packaged items within the case.



# 9 step guide to select & qualify cleanroom garments\*

## STEP 1

**Identify User Requirements and Specifications**



## STEP 2

**Assess barrier properties**



## STEP 3

**Assess particle shedding**



## STEP 4

**Assess sterility assurance level (SAL)**



## STEP 5

**Assess durability**



## STEP 6

**Assess packaging**



## STEP 7

**Assess fold design**



## STEP 8

**Update procedures**



## STEP 9

**Integrate into the contamination control strategy**



\*For details please refer to the Appendix [“Selection and qualification of cleanroom garments”](#)

# Tyvek® IsoClean® garments

## For ISO 4/5 (class 10/100) and ISO 7/8 (class 10,000/100,000) controlled environments

One of the most popular products in the DuPont Controlled Environments portfolio, Tyvek® IsoClean® clean-processed and sterile single-use garments offer an ideal balance of protection, durability, and comfort.

Tyvek® IsoClean® garments are available sterile and non-sterile in a wide variety of styles, such as coveralls, frocks, lab coats, hoods, gowns, bouffants, shoe and boot covers, and sleeve protectors.

For more information on Tyvek® IsoClean® garments, see [page 19](#) of this catalog.

## IEST-RP-CC003 minimum gowning recommendations

	Hair cover	Hood	Face mask	Frock	Coverall	Shoe covers	Boots
<b>ISO Class 8</b> (CLASS 100,000)	•			•		•	
<b>ISO Class 7</b> (CLASS 10,000)	•			•		•	
<b>ISO Class 6</b> (CLASS 1,000)	•				•		•
<b>ISO Class 5</b> (CLASS 100)	•	•	•		•		•
<b>ISO Class 4</b> (CLASS 10)	•	•	•		•		•

### Gowning for ISO 4/5 controlled environments

#### Clean and sterile bouffant

Tyvek® IsoClean®  
IC729SWH000250CS

#### Clean and sterile hood

Tyvek® IsoClean®  
IC668BWH000100CS

#### Clean and sterile coverall

Tyvek® IsoClean®  
IC253BWHXX0025CS

Garments folded to facilitate aseptic donning

Bound seam garments offer better particle barrier than serged seams.

#### Clean and sterile boot cover

Tyvek® IsoClean®  
IC458BWHXX0100CS

Elastic wrists and ankles are covered by garment materials so the elastic is not exposed.

Gripper™ soles offer a higher level of slip resistance than standard PVC soles.

### Gowning for ISO 7/8 controlled environments

#### Bouffant

Tyvek® IsoClean®  
IC729SWH0002500B

#### Frock with snaps

Tyvek® IsoClean®  
IC270BWHXX003000

#### with zipper

Tyvek® IsoClean®  
IC264SWHXX00300B

#### Shoe cover with Gripper™ sole

Tyvek® IsoClean®  
IC451SWHXX01000B

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**Tyvek®**  
IsoClean®

# Product Overview





# Tyvek® IsoClean® clean-processed and sterile garments (OPTION CODE CS)

CLICK ON THE GARMENT  
TO DISCOVER MORE



## Coveralls



Tyvek®  
IsoClean®  
IC182



Tyvek®  
IsoClean®  
IC253



Tyvek®  
IsoClean®  
IC254



Tyvek®  
IsoClean®  
IC255

## Hooded coveralls



Tyvek®  
IsoClean®  
IC105

## Frocks and lab coats



Tyvek®  
IsoClean®  
IC264



Tyvek®  
IsoClean®  
IC270

## Hoods and bouffants



Tyvek®  
IsoClean®  
IC666



Tyvek®  
IsoClean®  
IC668



Tyvek®  
IsoClean®  
IC729

## Sleeves



Tyvek®  
IsoClean®  
IC501

## Shoe and boot covers



Tyvek®  
IsoClean®  
IC447



Tyvek®  
IsoClean®  
IC458

# Tyvek® IsoClean® sterile garments (OPTION CODE OS or TS)

CLICK ON THE GARMENT  
TO DISCOVER MORE



## Coveralls



Tyvek®  
IsoClean®  
IC253

## Hooded coveralls



Tyvek®  
IsoClean®  
IC108

## Frocks and lab coats



Tyvek®  
IsoClean®  
IC262

## Hoods and bouffants



Tyvek®  
IsoClean®  
IC669

## Sleeves



Tyvek®  
IsoClean®  
IC501

## Shoe and boot covers



Tyvek®  
IsoClean®  
IC457

# Tyvek® IsoClean® clean-processed garments (OPTION CODE 0C)

CLICK ON THE GARMENT  
TO DISCOVER MORE



## Coveralls



Tyvek®  
IsoClean®  
IC181



Tyvek®  
IsoClean®  
IC182



Tyvek®  
IsoClean®  
IC253

## Hooded coveralls



Tyvek®  
IsoClean®  
IC105

## Frocks and lab coats



Tyvek®  
IsoClean®  
IC264



Tyvek®  
IsoClean®  
IC270

## Hoods and bouffants



Tyvek®  
IsoClean®  
IC666



Tyvek®  
IsoClean®  
IC668



Tyvek®  
IsoClean®  
IC729

## Sleeves



Tyvek®  
IsoClean®  
IC501

## Shoe and boot covers



Tyvek®  
IsoClean®  
IC458



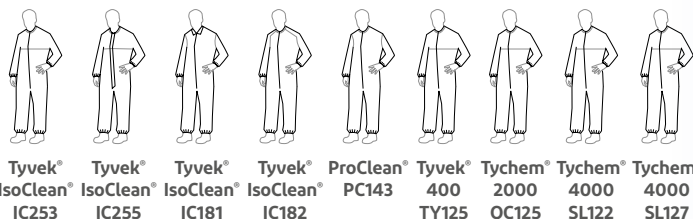
# Tyvek® IsoClean®, ProClean®, ProShield®, Tyvek® & Tychem® non-sterile garments (OPTION CODE 0B or 00)

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IsoClean.

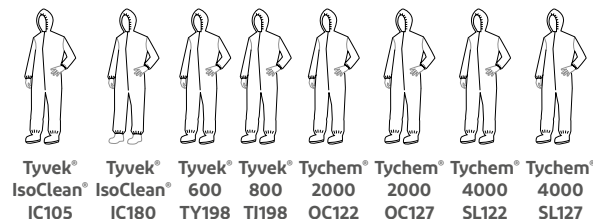
CLICK ON THE GARMENT  
TO DISCOVER MORE



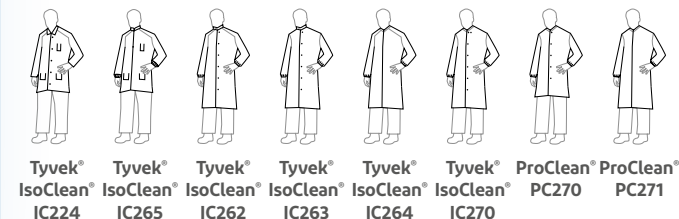
## Coveralls



## Hooded coveralls



## Frocks and lab coats



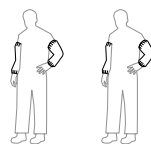
## Gowns



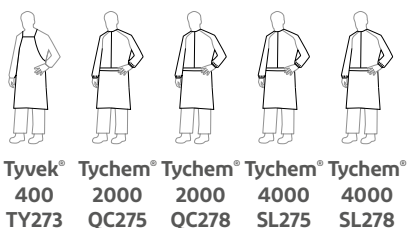
## Hoods and bouffants



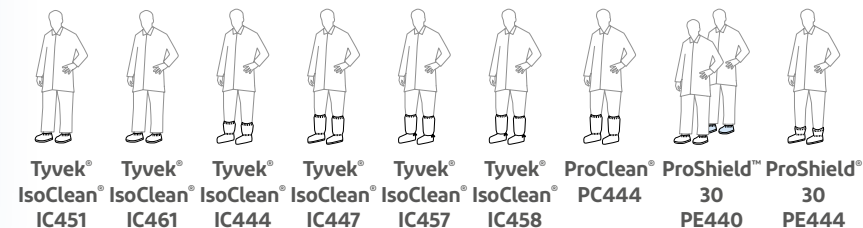
## Sleeves



## Aprons



## Shoe and boot covers



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**Tyvek®**  
IsoClean®

# Clean-processed & sterile garments

SUITABLE FOR USE IN ISO 4/5  
OR GMP GRADE A/B, ASEPTIC  
CONTROLLED ENVIRONMENTS



# Tyvek® IsoClean®

## CLEAN-PROCESSED & STERILE GARMENTS



### Tyvek® IsoClean® Coverall IC105

- Serged seams
- Standard hood
- Elastic hood opening
- Set sleeve
- Zipper closure
- Elastic wrists
- Elastic ankles
- Attached thumb loops
- Attached boots with PVC soles
- Pin lock slider zipper pull
- 25/cs



### Tyvek® IsoClean® Coverall IC182

- Bound seams
- Bound neck
- Raglan sleeve
- Zipper closure
- Elastic wrists
- Elastic ankles
- Pin lock slider zipper pull
- 25/cs



### Tyvek® IsoClean® Coverall IC253

- Bound seams
- Bound neck
- Dolman sleeve
- Zipper closure
- Elastic wrists
- Elastic ankles
- Pin lock slider zipper pull
- 25/cs



### Tyvek® IsoClean® Coverall IC254

- Bound seams
- Bound neck
- Dolman sleeve
- Zipper closure
- Elastic wrists
- Elastic ankles
- Snaps for aseptic donning
- Pin lock slider zipper pull
- 25/cs



### Tyvek® IsoClean® Coverall IC255

- Bound seams
- Bound neck
- Dolman sleeve
- Storm flap
- Zipper closure
- Elastic wrists
- Elastic ankles
- Thumb loop
- Pin lock slider zipper pull
- 25/cs

**Ref:** IC105SWHXX0025CS

**Color:** White

**Size:** MD-5X

**Ref:** IC182BWHXX0025CS

**Color:** White

**Size:** SM-4X

**Ref:** IC253BWHXX0025CS

**Color:** White

**Size:** SM-7X

**Ref:** IC254BWHXX0025CS

**Color:** White

**Size:** SM-4X

**Ref:** IC255BWHXX0025CS

**Color:** White

**Size:** SM-6X

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.





**Tyvek® IsoClean®  
Frock IC264**

- Serged seams
- Bound neck
- Raglan sleeve
- Zipper closure
- Elastic wrists
- 30/cs



**Tyvek® IsoClean®  
Frock IC270**

- Bound seams
- Bound neck
- Set sleeve
- Snap closure (6 + 1 adjustable)
- Elastic wrists
- 30/cs



**Tyvek® IsoClean®  
Boot cover IC447**

- Serged seams
- Elastic openings
- Elastic ankles
- Gripper™ sole
- 18" high
- 100/cs



**Tyvek® IsoClean®  
Boot cover IC458**

- Bound seams
- Elastic openings
- Ties at ankles
- Gripper™ sole
- 18" high
- 100/cs



**Tyvek® IsoClean®  
Hood IC666**

- Bound seams
- Bound hood opening (eyes only)
- Snaps for fit
- Bound bottom
- 100/cs

**Ref:** IC264SWHXX0030CS

**Color:** White

**Size:** SM-4X

**Ref:** IC270BWHXX0030CS

**Color:** White

**Size:** SM-4X

**Ref:** IC447SWHXX0100CS

**Color:** White

**Size:** SM-2X

**Ref:** IC458BWHXX0100CS

**Color:** White

**Size:** SM-XL

**Ref:** IC666BWHXX0100CS

**Color:** White

**Size:** MD-LG

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.

# Tyvek® IsoClean®

## CLEAN-PROCESSED & STERILE GARMENTS



### Tyvek® IsoClean® Hood IC668

- Bound seams
- Full face opening
- Bound hood opening
- Ties with loops for fit
- 100/cs



### Tyvek® IsoClean® Bouffant IC729

- Serged seams
- Elastic headband
- 21.5" diameter
- 250/cs



### Tyvek® IsoClean® Sleeves IC501

- Bound seams
- Elastic openings
- 18" length
- 100/cs

**Ref:** IC668BWH000100CS

**Color:** White

**Size:** Universal sizing (00)

**Ref:** IC729SWH000250CS

**Color:** White

**Size:** Universal sizing (00)

**Ref:** IC501BWH000100CS

**Color:** White

**Size:** Universal sizing (00)

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.



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**Tyvek**<sup>®</sup>  
IsoClean<sup>®</sup>

# Sterile garments

SUITABLE FOR USE IN ISO 4/5 OR  
GMP GRADE A/B, ASEPTIC  
CONTROLLED ENVIRONMENTS





# Tyvek® IsoClean®

## STERILE GARMENTS



### Tyvek® IsoClean® Coverall IC108

- Serged seams
- Respirator fit hood
- Elastic hood opening
- Set sleeve
- Zipper closure
- Elastic wrists
- Attached thumb loops
- Attached boots with PVC soles
- Double-bagged
- Pin lock slider zipper pull
- 25/cs



### Tyvek® IsoClean® Coverall IC253

- Bound seams
- Bound neck
- Dolman sleeve
- Zipper closure
- Elastic wrists
- Elastic ankles
- Pin lock slider zipper pull
- 25/cs



### Tyvek® IsoClean® Frock IC262

- Serged seams
- High mandarin collar w/adjustable snaps
- Raglan sleeve
- Snap closure (6)
- Elastic wrists
- Generous cut
- 30/cs



### Tyvek® IsoClean® Sleeves IC501

- Bound seams
- Elastic openings
- 18" length
- 100/cs



### Tyvek® IsoClean® Boot cover IC457

- Serged seams
- Elastic openings
- Ties at ankles
- PVC sole
- 18" high
- 100/cs

**Ref:** IC108SWHXX0025TS

**Color:** White

**Size:** SM-6X

**Ref:** IC253BWHXX00250S

**Color:** White

**Size:** SM-5X

**Ref:** IC262SWHXX00300S

**Color:** White

**Size:** MD-3X

**Ref:** IC501BWH0001000S

**Color:** White

**Size:** Universal sizing (00)

**Ref:** IC457SWHXX01000S

**Color:** White

**Size:** SM-XL

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.



# Tyvek® IsoClean®

## STERILE GARMENTS



### Tyvek® IsoClean® Hood/mask IC669

- Integrated hood/mask combination
- Bound seams
- Bound head opening
- Ties with loops for fit
- White hood
- Blue face mask
- Pleated polyethylene outer 7" wide mask
- Individually packaged
- 100/cs

**Ref:** IC669BWH0001000S

**Color:** White & Blue

**Size:** Universal sizing (00)

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.

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**Tyvek®**  
IsoClean®

# Clean-processed garments

SUITABLE FOR USE IN ISO 7/8  
OR GMP GRADE C/D  
CONTROLLED ENVIRONMENTS



# Tyvek® IsoClean®

## CLEAN-PROCESSED GARMENTS



**Tyvek® IsoClean®  
Coverall IC105**

- Serged seams
- Standard hood
- Elastic hood opening
- Set sleeve
- Zipper closure
- Elastic wrists
- Elastic ankles
- Attached thumb loops
- Attached boots with PVC soles
- Pin lock slider zipper pull
- 25/cs



**Tyvek® IsoClean®  
Coverall IC181**

- Serged seams
- Standard collar
- Set sleeve
- Zipper closure
- Elastic wrists
- Elastic ankles
- Pin lock slider zipper pull
- 25/cs



**Tyvek® IsoClean®  
Coverall IC182**

- Bound seams
- Bound neck
- Raglan sleeve
- Zipper closure
- Elastic wrists
- Elastic ankles
- Pin lock slider zipper pull
- 25/cs



**Tyvek® IsoClean®  
Coverall IC253**

- Bound seams
- Bound neck
- Dolman sleeve
- Zipper closure
- Elastic wrists
- Elastic ankles
- Pin lock slider zipper pull
- 25/cs



**Tyvek® IsoClean®  
Frock IC264**

- Serged seams
- Bound neck
- Raglan sleeve
- Zipper closure
- Elastic wrists
- 30/cs

**Ref:** IC105SWHXX00250C  
**Color:** White  
**Size:** MD-3X

**Ref:** IC181SWHXX00250C  
**Color:** White  
**Size:** SM-4X

**Ref:** IC182BWHXX00250C  
**Color:** White  
**Size:** SM-4X

**Ref:** IC253BWHXX00250C  
**Color:** White  
**Size:** SM-5X

**Ref:** IC264SWHXX00300C  
**Color:** White  
**Size:** SM-4X

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.

# Tyvek® IsoClean®

## CLEAN-PROCESSED GARMENTS



### Tyvek® IsoClean® Frock IC270

- Bound seams
- Bound neck
- Set sleeve
- Snap closure  
(6 + 1 adjustable)
- Elastic wrists
- 30/cs



### Tyvek® IsoClean® Boot cover IC458

- Bound seams
- Elastic openings
- Ties at ankles
- Gripper™ sole
- 18" high
- 100/cs



### Tyvek® IsoClean® Sleeves IC501

- Bound seams
- Elastic openings
- 18" length
- 100/cs



### Tyvek® IsoClean® Hood IC666

- Bound seams
- Bound hood opening  
(eyes only)
- Snaps for fit
- Bound bottom
- 100/cs



### Tyvek® IsoClean® Hood IC668

- Bound seams
- Full face opening
- Bound hood opening
- Ties with loops for fit
- 100/cs

**Ref:** IC270BWHXX00300C

**Color:** White

**Size:** SM-4X

**Ref:** IC458BWHXX01000C

**Color:** White

**Size:** MD-XL

**Ref:** IC501BWH0001000C

**Color:** White

**Size:** Universal sizing (00)

**Ref:** IC666BWHXX01000C

**Color:** White

**Size:** MD-LG

**Ref:** IC668BWH0001000C

**Color:** White

**Size:** Universal sizing (00)

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.



# Tyvek® IsoClean®

## CLEAN-PROCESSED GARMENTS



### Tyvek® IsoClean® Bouffant IC729

- Serged seams
- Elastic headband
- 21.5" diameter
- 250/cs

**Ref:** IC729SWH0002500C  
**Color:** White  
**Size:** Universal sizing (00)

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.



«DUPONT»  
**Tyvek.**  
IsoClean.

◀DUPONT▶

**Tyvek**<sup>®</sup>  
IsoClean<sup>®</sup>

# Non-sterile garments

SUITABLE FOR USE IN ISO 7/8  
OR GMP GRADE C/D  
CONTROLLED ENVIRONMENTS





# Tyvek® IsoClean®

## NON-STERILE GARMENTS



### Tyvek® IsoClean® Coverall IC105

- Serged seams
- Standard hood
- Elastic hood opening
- Set sleeve
- Zipper closure
- Elastic wrists
- Attached thumb loops
- Attached boots with PVC soles
- Pin lock slider zipper pull
- 25/cs



### Tyvek® IsoClean® Coverall IC180

- Serged seams
- Standard hood
- Elastic hood opening
- Set sleeve
- Zipper closure
- Elastic wrists
- Elastic ankles
- Pin lock slider zipper pull
- 25/cs



### Tyvek® IsoClean® Coverall IC181

- Serged seams
- Standard collar
- Set sleeve
- Zipper closure
- Elastic wrists
- Elastic ankles
- Pin lock slider zipper pull
- 25/cs



### Tyvek® IsoClean® Coverall IC182

- Bound seams
- Bound neck
- Raglan sleeve
- Zipper closure
- Elastic wrists
- Elastic ankles
- Pin lock slider zipper pull
- 25/cs



### Tyvek® IsoClean® Coverall IC253

- Bound seams
- Bound neck
- Dolman sleeve
- Zipper closure
- Elastic wrists
- Elastic ankles
- Pin lock slider zipper pull
- 25/cs

**Ref:** IC105SWHXX002500

**Color:** White

**Size:** SM-3X

**Ref:** IC180SWHXX002500

**Color:** White

**Size:** MD-3X

**Ref:** IC181SWHXX002500

**Color:** White

**Size:** SM-8X

**Ref:** IC182BWHXX002500

**Color:** White

**Size:** SM-4X

**Ref:** IC253BWHXX00250B

**Color:** White

**Size:** SM-5X

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.

# Tyvek® IsoClean®

## NON-STERILE GARMENTS



**Tyvek® IsoClean®  
Coverall IC255**

- Bound seams
- Bound neck
- Dolman sleeve
- Storm flap
- Zipper closure
- Elastic wrists
- Elastic ankles
- Thumb loops
- Pin lock slider zipper pull
- 25/cs



**Tyvek® IsoClean®  
Lab coat IC224**

- Serged seams
- Laydown collar
- Raglan sleeve
- Snap closure (5)
- Pockets (1 chest pencil, 2 lower front)
- 30/cs



**Tyvek® IsoClean®  
Lab coat IC265**

- Serged seams
- Mandarin collar
- Raglan sleeve
- Front zipper closure
- Knit cuffs
- Pockets (1 left chest pencil, 2 lower front)
- 30/cs



**Tyvek® IsoClean®  
Frock IC262**

- Serged seams
- High mandarin collar w/adjustable snaps
- Raglan sleeve
- Snap closure (6)
- Elastic wrists
- Generous cut
- 30/cs



**Tyvek® IsoClean®  
Frock IC263**

- Serged seams
- High mandarin collar w/snap
- Set sleeve
- Snap closure (6)
- Elastic wrists
- 30/cs

**Ref:** IC255BWHXX00250B

**Color:** White

**Size:** SM-7X

**Ref:** IC224SWHXX00300B

**Color:** White

**Size:** SM-2X

**Ref:** IC265SWHXX00300B

**Color:** White

**Size:** SM-4X

**Ref:** IC262SWHXX00300B

**Color:** White

**Size:** SM-4X

**Ref:** IC263SWHXX00300B

**Color:** White

**Size:** SM-4X

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.



# Tyvek® IsoClean®

## NON-STERILE GARMENTS



### Tyvek® IsoClean® Frock IC264

- Serged seams
- Bound neck
- Raglan sleeve
- Zipper closure
- Elastic wrists
- 30/cs



### Tyvek® IsoClean® Frock IC270

- Bound seams
- Bound neck
- Set sleeve
- Snap closure (6 + 1 adjustable)
- Elastic wrists
- 30/cs



### Tyvek® IsoClean® Gown IC701

- Serged seams
- Bound neck w/ties
- Knit cuffs
- Bound ties originating at center front waist
- 30/cs



### Tyvek® IsoClean® Sleeves IC501

- Bound seams
- Elastic openings
- 18" length
- 100/cs



### Tyvek® IsoClean® Bouffant IC729

- Serged seams
- Elastic headband
- 21.5" diameter

**Ref:** IC264SWHXX00300B

**Color:** White

**Size:** SM-4X

**Ref:** IC270BWHXX003000

**Color:** White

**Size:** SM-4X

**Ref:** IC701SWH00003000

**Color:** White

**Size:** Universal sizing (00)

**Ref:** IC501BWH0001000B

**Color:** White

**Size:** Universal sizing (00)

**Ref:** IC729SWH0002500B

**Color:** White

**Size:** Universal sizing (00)

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.

# Tyvek® IsoClean®

## NON-STERILE GARMENTS



### Tyvek® IsoClean® Hood IC666

- Bound seams
- Bound hood opening (eyes only)
- Snaps for fit
- Bound bottom
- 100/cs



### Tyvek® IsoClean® Hood IC668

- Bound seams
- Full face opening
- Bound hood opening
- Ties with loops for fit
- 100/cs



### Tyvek® IsoClean® Boot cover IC444

- Serged seams
- Elastic opening
- Elastic ankles
- PVC sole
- 15" high
- 200/cs



### Tyvek® IsoClean® Boot cover IC447

- Serged seams
- Elastic opening
- Elastic ankles
- Gripper™ sole
- 18" high
- 100/cs



### Tyvek® IsoClean® Boot cover IC457

- Serged seams
- Elastic opening
- Ties at ankles
- PVC sole
- 18" high
- 100/cs

**Ref:** IC666BWHXX01000B

**Color:** White

**Size:** MD-LG

**Ref:** IC668BWH0001000B

**Color:** White

**Size:** Universal sizing (00)

**Ref:** IC444SWHXX02000B

**Color:** White

**Size:** MD-XL

**Ref:** IC447SWHXX01000B

**Color:** White

**Size:** SM-XL

**Ref:** IC457SWHXX01000B

**Color:** White

**Size:** SM-XL

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.

# Tyvek® IsoClean®

## NON-STERILE GARMENTS



### Tyvek® IsoClean® Boot cover IC458

- Bound seams
- Elastic opening
- Ties at ankles
- Gripper™ sole
- 18" high
- 100/cs



### Tyvek® IsoClean® Shoe cover IC451

- Serged seams
- Elastic opening
- Gripper™ sole
- 5" high
- 100/cs



### Tyvek® IsoClean® Shoe cover IC461

- Serged seams
- Elastic opening
- PVC sole
- Elastic toe
- 5" high
- 300/cs

**Ref:** IC458BWHXX01000B

**Color:** White

**Size:** MD-XL

**Ref:** IC451SWHXX01000B

**Color:** White

**Size:** SM-XL

**Ref:** IC461SWHXX03000B

**Color:** White

**Size:** SM-XL

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.



### ProClean® Coverall PC143

- Serged seams
- Bound neck
- Set sleeve
- Enclosed elastic at back
- Elastic wrists
- Elastic ankles
- Pin lock slider zipper pull
- 25/cs



### ProClean® Frock PC270

- Serged seams
- Bound neck
- Set sleeve
- Elastic wrists
- Snap closure (5)
- 30/cs



### ProClean® Frock PC271

- Serged seams
- Bound neck
- Set sleeve
- Zipper closure
- Elastic wrists
- 30/cs



### ProClean® Boot cover PC444

- Serged seams
- Elastic opening
- Elastic ankles
- PVC sole
- 18" height
- 100/cs

**Ref:** PC143SWHXX00250B

**Color:** White

**Size:** SM-4X

**Ref:** PC270SWHXX00300B

**Color:** White

**Size:** SM-4X

**Ref:** PC271SWHXX00300B

**Color:** White

**Size:** SM-4X

**Ref:** PC444SWHXX01000B

**Color:** White

**Size:** MD-XL

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.





### Tyvek® 400 Apron TY273

- Bound seams
- Bound neck
- Tie closure
- Tyvek® ties at waist
- 100/cs



### Tyvek® 400 Coverall TY125

- Comfort fit design
- Collar
- Storm flap
- Elastic wrists and ankles
- Elastic waist
- Pin lock slider zipper pull
- Serged seams



### Tyvek® 600 Coverall TY198

- Taped seam
- Attached hood (respirator fit)
- Storm flap
- Elastic wrists
- Elastic ankles
- CE certified
- Category III type 4-B, 5-B, and 6-B
- Pin lock slider zipper pull
- 25/cs
- Bloodborne pathogen protection<sup>1</sup>



### Tyvek® 800 Coverall TJ198

- Taped seam
- Attached hood (respirator fit)
- Storm flap
- Elastic wrists
- Elastic ankles
- CE certified
- Category III type 3-B, 4-B, 5-B, and 6-B
- Pin lock slider zipper pull
- 25/cs
- Bloodborne pathogen protection<sup>2</sup>

**Ref:** TY273BWH00010000

**Color:** White

**Size:** Universal sizing (00)

**Ref:** TY125SWHXX002500

**Color:** White

**Size:** MD-7X

**Ref:** TY198TWHXX0025PI

**Color:** White

**Size:** SM-7X

**Ref:** TJ198TWHXX0025PI

**Color:** White

**Size:** SM-7X

<sup>1</sup> Protects against infective agents (EN 14126) including resistance to penetration by blood and body fluids using synthetic blood (ISO 16603).

<sup>2</sup> Meets the U.S. industry requirements for blood (ASTM F1670) and viral penetration (ASTM F1671) protecting against several bloodborne pathogen exposure risks. Protects against infective agents (EN 14126) including resistance to penetration by blood and body fluids using synthetic blood (ISO 16603) and resistance to penetration by blood-borne pathogens using Phi-X174 bacteriophage (ISO 16604).

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.

# ProShield®

## NON-STERILE GARMENTS



### ProShield® 10 Lab coat PB219

- Serged seams
- Knit collar
- Set sleeve
- Snap closure (6 + 1 adjustable)
- Knit cuffs
- Pockets (1 left chest pencil, 2 lower front)
- 30/cs

### ProShield® 10 Frock PB267

- Serged seams
- Mandarin collar
- Set sleeve
- Snap closure (6 + 1 adjustable)
- Knit cuffs
- Enclosed elastic wrists
- 30/cs



### ProShield® 30 Shoe cover PE440

- Serged seams
- Elastic opening
- 5.5" height
- 200/cs



### ProShield® 30 Boot cover PE444

- Serged seams
- Elastic opening
- Elastic ankles
- 13" height
- 100/cs

**Ref:** PB219SWHXX00300B<sup>1</sup>  
PB219SBUXXX00300B<sup>2</sup>

**Color:** White<sup>1</sup> & Blue<sup>2</sup>

**Size:** SM-5X

**Ref:** PB267SWHXX00300B

**Color:** White

**Size:** SM-7X

**Ref:** PE440SWHXX020000<sup>3</sup>  
PE440SBUXXX020000<sup>4</sup>

**Color:** White<sup>3</sup> & Blue<sup>4</sup>

**Size:** MD-XL<sup>3</sup> LG-XL<sup>4</sup>

**Ref:** PE444SWHXX010000

**Color:** White

**Size:** LG-XL

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.



**Tychem® 2000  
Coverall QC122**

- Bound seams<sup>1</sup>
- Serged seams<sup>2</sup>
- Taped seam<sup>3</sup>
- Attached hood
- Zipper closure
- Storm flap with tape closure<sup>1</sup>
- Elastic wrists
- Attached socks
- Pin lock slider zipper pull
- 12/cs



**Tychem® 2000  
Coverall QC127**

- Serged seams<sup>5</sup>
- Bound seams<sup>4</sup>
- Taped seam
- Attached hood
- Zipper closure
- Storm flap<sup>4</sup>
- Elastic wrists
- Elastic ankles
- Pin lock slider zipper pull
- 12/cs



**Tychem® 2000  
Coverall QC125**

- Bound seams
- Collar
- Zipper closure
- Storm flap with tape closure
- Elastic wrists
- Elastic ankles
- Pin lock slider zipper pull
- 12/cs



**Tychem® 2000  
Apron QC275**

- Bound seams
- Waist ties
- Elastic wrists
- Knee length apron/gown
- Open back
- 44" long
- 25/cs



**Tychem® 2000  
Apron QC278**

- Bound seams
- Bound yoke neck with snaps
- Sleeved apron
- Waist ties
- Elastic wrists
- 52" long
- 12/cs



**Tychem® 2000  
Sleeves QC500**

- Bound seams
- Tunneled elastic wrists
- Elastic biceps
- 18" length
- 200/cs

**Ref:** QC122BYLXX001200<sup>1</sup>  
QC122SYLXX001200<sup>2</sup>  
QC122TYLXX000400<sup>3</sup>

**Color:** Yellow

**Size:** MD-6X<sup>1,3</sup> MD-8X<sup>2</sup>

**Ref:** QC127BYLXX001200<sup>4</sup>  
QC127SYLXX001200<sup>5</sup>

**Color:** Yellow

**Size:** MD-6X<sup>4</sup> MD-7X<sup>5</sup>

**Ref:** QC125BYLXX001200

**Color:** Yellow

**Size:** MD-6X

**Ref:** QC275BYLXX002500

**Color:** Yellow

**Size:** SM-6X

**Ref:** QC278BYL00001200

**Color:** Yellow

**Size:** Universal sizing (00)

**Ref:** QC500BYLXX020000

**Color:** Yellow

**Size:** Universal sizing (00)

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.



### Tychem® 4000 Coverall SL122

- Taped seams<sup>1</sup>
- Bound seams<sup>2</sup>
- Attached hood
- Zipper closure
- Storm flap with tape closure
- Elastic wrists
- Attached socks
- Pin lock slider zipper pull
- 6/cs<sup>1</sup> 12/cs<sup>2</sup>



### Tychem® 4000 Coverall SL127

- Taped seams<sup>3</sup>
- Bound seams<sup>4</sup>
- Attached hood
- Zipper closure
- Storm flap with tape closure
- Elastic wrists
- Elastic ankles
- Pin lock slider zipper pull
- 6/cs



### Tychem® 4000 Apron SL275

- Taped seams
- Raw edge neck with snaps
- Attached long sleeves
- Waist ties
- Elastic wrists
- 44" long
- 25/cs



### Tychem® 4000 Apron SL278

- Bound seams
- Bound yoke neck with snaps
- Attached long sleeves
- Waist ties
- Elastic wrists
- 52" long
- 12/cs

**Ref:** SL122TWHXX000600<sup>1</sup>  
SL122BWHXX001200<sup>2</sup>

**Color:** White

**Size:** MD-6X<sup>1</sup> MD-7X<sup>2</sup>

**Ref:** SL127TWHXX000600<sup>3</sup>  
SL127BWHXX000600<sup>4</sup>

**Color:** White

**Size:** MD-7X

**Ref:** SL275TWHXX002500

**Color:** White

**Size:** SM-6X

**Ref:** SL278BWHXX001200

**Color:** White

**Size:** Universal sizing (00)

Please substitute your size for XX when ordering. See [page 46](#) for full part number description.



◀DUPONT▶

**Tyvek®**  
IsoClean®

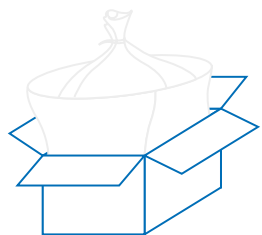
# Appendix



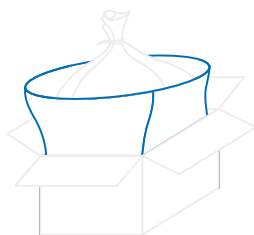
# Packaging options

## TYVEK® ISOCLEAN® CLEAN-PROCESSED AND STERILE

Example: Tyvek® IsoClean® clean-processed and sterile coverall



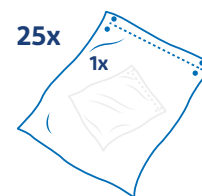
Box with  
25 coveralls



Open case  
liner bag



Closed internal  
liner bag



Secondary transparent  
sealed bag  
25 x 1 coverall



Primary sealed  
opaque bag  
(1 each)



Sterile packaging process - Critical assurance sterile apparel multilevel packaging



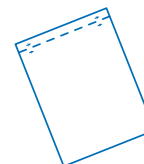
1

Outer shipping carton is securely sealed. Carton displays product label, sterile dot indicator, and fully traceable lot number.



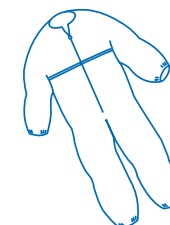
2

Multilevel interior packaging features one or two polyethylene carton liners. The outer liner provides protection from dust and contamination, particularly if outer carton is discarded. A lot-specific Certificate of Compliance with sterile dot indicator is placed between the two liners. The inner liner allows transportation of product to a cleaner, more controlled environment.



3

Completely heat sealed, airtight individual garment opaque bag is made from durable polyethylene film and features a varnish-coated ink, easy-to-open linear-tear, and embossed lot number.



4

Sterile garment consistently folded and packaged to ease aseptic donning. Traceable lot numbers are stamped on each individual sterile garment.

Note: This is a visual representation of selected products from the Tyvek® IsoClean® clean-processed and sterile product range, for details on each product please refer to the table on the next page.

# Cleanroom classifications

**Table 1** ISO 14644-1 air cleanliness classes for cleanrooms and clean zones

ISO Classification Number	0.1 µm	0.2 µm	0.3 µm	0.5 µm	1.0 µm	5.0 µm	SI	English former FED-STD-209E
ISO Class 1	10							
ISO Class 2	100	24	10					
ISO Class 3	1,000	237	102	35			M 1.5	1
ISO Class 4	10,000	2,370	1,020	352	83		M 2.5	10
ISO Class 5	100,000	23,700	10,200	3,520	832		M 3.5	100
ISO Class 6	1,000,000	237,000	102,000	35,200	8,320	293	M 4.5	1,000
ISO Class 7				352,000	83,200	2,930	M 5.5	10,000
ISO Class 8				3,520,000	832,000	29,300	M 6.5	100,000
ISO Class 9				35,200,000	8,320,000	293,000		

Source: ISO 14644-1

**Table 2** A, B, C, D rating table

Class	Maximum permitted number of particles equal to or greater than 0.5 µm	
	At rest equal to or greater than 0.5 µm per m <sup>3</sup>	In operation equal to or greater than 0.5 µm per m <sup>3</sup>
Grade A	3,520	3,520
Grade B	3,520	352,000
Grade C	352,000	3,520,000
Grade D	3,520,000	Not defined

Source: EU GMPs Annex 1 - Recommended limits for particulate contamination

# Selection and qualification of cleanroom garments

## Step 1 - Identify User Requirements and Specifications:

Define the requirements on the cleanroom garments system from the users and the environment they work in. The User Requirements Specification are dependent on the cleanroom class (ie. ISO 4/5 or GMP Grade A/B Aseptic; ISO 7/8 or GMP C/D), which will define the critical requirements against which the garment system needs to be assessed so that they will be in line with the quality risk assessment. For example, a trained operator may have to be able to work at least 3 hours in the same set of cleanroom garments without causing unacceptable (cGMP) levels of contamination of the garments and the aseptic working environment. The garment design and features need to match the requirement. The garment's packaging system may have to be suitable for the layout of the cleanroom and its material pass-through systems, or it may have to be suitable for manual spray disinfection.

## Step 2 - Assess barrier properties:

The main function of cleanroom garments is to ensure that the particles and micro-organisms shed by the operators stay inside the cleanroom garments and do not contaminate the cleanroom. The barrier properties of the garments must meet the requirements of the cleanroom classification and should be assessed using validated test methods, such as the bacterial filtration efficiency (BFE) test (ASTM F2101).

## Step 3 - Assess particle shedding:

Particle shedding from a cleanroom garment could be a source of contamination, therefore each garment's linting properties should be assessed before it enters the cleanroom. The Helmke Drum test method as per IESTRP – C003.4 is the industry standard to assess the particle shedding of cleanroom garments.

## Step 4 - Assess sterility assurance level (SAL):

Sterile cleanroom garments used in aseptic cleanrooms should be sterilized according to a validated sterilization process (as per ANSI/AAMI/ISO 11137-1) and offer a sterility assurance level (SAL) of  $10^{-6}$ . Autoclaving or irradiation may not be enough to ensure garment sterility.

## Step 5 - Assess durability:

It is important to assess how the garment characteristics and properties will change over time (due to aging, wear, wash-dry-sterilization cycles). The performance should be validated under worst-case conditions, i.e., for single-use garment systems, assessing garments from different batches and at the end of their shelf-life, and for reusable garments after 10, 20, 30, 40 and 50 wash-dry-sterilization cycles to assess and define the end of life of the garments.

## Step 6 - Assess packaging:

Both the integrity and stability of the packaging system that the garments come in should be checked to make sure that they do not represent a contamination risk and allow a seamless transportation from the warehouse to the gowning area.

## Step 7 - Assess fold design:

The aseptic folding should be checked to make sure that they allow for an easy aseptic gowning.

## Step 8 - Update procedures:

Upon selection of the appropriate cleanroom garments, the gowning procedures and training should be adapted to the new garments.

## Step 9 - Integrate into the contamination control strategy:

Document the garment validation process and integrate the certificates, test reports and documents provided by the garment manufacturer into the contamination control strategy and include them in the revision and audit processes.

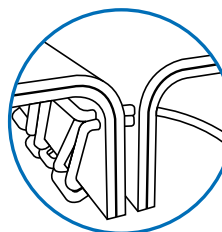




# Seam construction overview

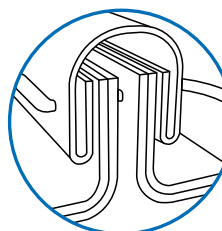
## Even the most protective fabrics are useless without strong, tight seams.

Garment seam design and quality is a very important consideration. All protective garments employ seams in their construction and due attention must be devoted to ensuring that the seam technology employed is up to requisite standard. It is not enough for a garment to be manufactured using the best barrier fabric if the seams are weak or leak. Different seaming configurations and connection systems are available which provide the necessary strength and impenetrability for different hazard and usage situations. The same considerations apply to closure systems such as zips and storm flaps, and to garment interfaces and boundaries in the neck, hood, wrist and ankle areas.



### Serged

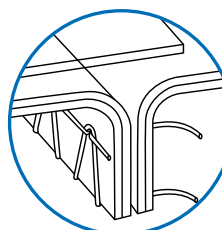
A seam produced when three threads are interlocked around the raw edges of two pieces of material for a strong, stress-resistant seam.



### Bound

Tightly serged with a reinforced outer binding to increase seam strength and barrier.

For potential misting exposure of non-hazardous liquids or particle penetration through the seam.



### Taped

Both sewn and taped to provide strong chemical resistance against heavy liquid splashes and tough seam stress.

A sewn seam is covered with a strip of compatible material by heat-sealing.

# Product Part Numbers

To simplify ordering and inventory management, we developed a simple, logical, and intuitive product part numbering system. Using only 16 characters, each part number comprises abbreviations that provide all the information you need.

## Base catalog number

The first six characters provide the basic representation of the product

## Additional product detail

The remaining characters provide additional product detail and complete the full part number

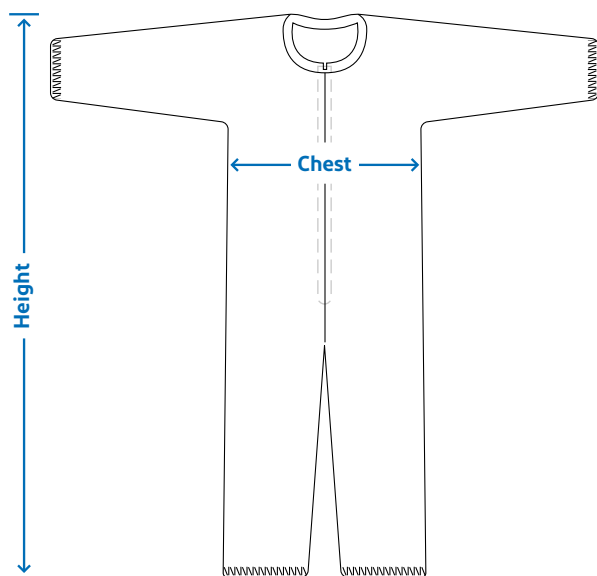
IC	253	B	WH	LG	0025	CS
Fabric	Style	Seam Construction	Color	Size	Case Count	Options
<p>The first two characters are the fabric description.</p> <p><i>Abbreviations</i></p> <p><b>IC</b> Tyvek® IsoClean®</p> <p><b>PB</b> ProShield® 10</p> <p><b>PC</b> ProClean®</p> <p><b>PE</b> ProShield® 30</p> <p><b>QC</b> Tychem® 2000</p> <p><b>SL</b> Tychem® 4000</p> <p><b>TJ</b> Tyvek® 800</p> <p><b>TY</b> Tyvek® 400</p> <p><b>TY</b> Tyvek® 600</p>	<p>DuPont offers a wide array of garment styles - from hoods, aprons, and coveralls to fully encapsulated suits.</p> <p>Each garment style has a unique three-digit code.</p>	<p><i>Abbreviations</i></p> <p><b>S</b> Serged</p> <p><b>B</b> Bound</p> <p><b>T</b> Taped or double taped</p>	<p>Several DuPont fabrics are available in color options.</p> <p><i>Abbreviations</i></p> <p><b>BU</b> Blue</p> <p><b>WH</b> White</p> <p><b>YL</b> Yellow</p>	<p>Many DuPont garments are available in a range of sizes; refer to catalog descriptions for details.</p> <p><i>Abbreviations</i></p> <p><b>SM</b> Small</p> <p><b>MD</b> Medium</p> <p><b>LG</b> Large</p> <p><b>XL</b> Extra large</p> <p><b>2X</b> 2 Extra large</p> <p><b>3X</b> 3 Extra large</p> <p><b>4X</b> 4 Extra large</p> <p><b>5X</b> 5 Extra large</p> <p><b>6X</b> 6 Extra large</p> <p><b>7X</b> 7 Extra large</p> <p><b>8X</b> 8 Extra large</p> <p><b>00</b> Universal</p>	<p>The number of garments per case.</p>	<p><i>Abbreviations</i></p> <p><b>CS</b> Clean-processed and sterile</p> <p><b>TS</b> Sterile, double-bagged</p> <p><b>OS</b> Sterile</p> <p><b>OC</b> Clean-processed</p> <p><b>PI</b> Individually packaged</p> <p><b>00 or OB</b> Bulk</p>

Not all sizes are available in all styles. Not all option codes are available for all products; refer to catalog descriptions for details.

# Sizing chart for DuPont Controlled Environments garments

## Garment sizing notes:

- Please check chest measurements for most accurate fit
- Garments are meant to be worn over clothing, so measurements may vary slightly from your standard clothing size • We suggest you try multiple sizes to find the best fit
- We suggest you try multiple sizes to find the best fit
- Use this chart to determine what size garment is right for you. Sizes are based on an individual's height and chest size.
- For other garment styles, please refer to [SafeSPEC™](#) for sizing charts.



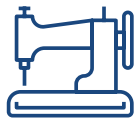
## Size table for DuPont™ Tyvek® IsoClean® IC253B garments

Size	Fits chest	Fits height
SM	31 3/4" - 35 1/4"	5'0" - 5'7"
MD	33 3/4" - 37 1/4"	5'3" - 5'7"
LG	35 1/4" - 38 3/4"	5'5" - 5'9"
XL	39 3/4" - 43 1/4"	5'8" - 6'2"
2X	43 3/4" - 47 1/4"	6'0" - 6'4"
3X	47 3/4" - 51 1/4"	6'2" - 6'4"
4X	51 1/4" - 54 3/4"	6'4" - 6'7"
5X	55 1/4" - 58 3/4"	6'7" - 6'10"
6X	59 1/4" - 62 3/4"	6'9" - 7'1"
7X	63 1/4" - 66 3/4"	7'0" - 7'4"

Garment may shrink during cleaning process. Please use your best judgment to determine the most appropriate size to order based on this chart.

# Advantages of DuPont™ Tyvek® IsoClean single-use garments over reusable garments for cleanroom environments as it relates to contamination risk factors

## Contamination risk factors



### Manufacturing of the garments

For Tyvek® IsoClean®, the production of raw materials is well controlled by DuPont as the sole manufacturer. For reusable garments, the risk of garment failure varies considerably across multiple manufacturers within that supply chain.



### Packaging & transport of the garments

Tyvek® IsoClean® garments are packaged in a pouch with a five-year shelf life, then in double poly case liners, and finally in a single-use sealed box, significantly reducing the risk of contamination. Most reusable garments are packed in a bag with a six month shelf life and then in a reusable crate.



### Working in the cleanroom

Reusable polyester garments have a higher risk of contamination in the cleanroom due to their high permeability. Additionally, the frequent washing and sterilization of reusable garments leads to damaged fabric and larger pores, thereby increasing the release of particles and fibers into the environment. Tyvek® IsoClean® provides a consistent barrier against dry particles and microorganisms, delivering the ideal balance of protection, durability and comfort.



### Washing & sterilizing the garments

Tyvek® IsoClean® garments are only washed and sterilized prior to wearing, so there is no risk of ineffective washing or sterilizing of a garment that has already been worn. Reusable garments are washed and sterilized many times over their lifetime, increasing the risk of contamination.



### Repairing damaged garments

Tyvek® IsoClean® garments are only worn once, so there is no risk of inadequately repairing damaged garments. Inadequate repairs on reusable garments can lead to holes and increased permeability. Requalifying repaired garments can also be expensive and disruptive.



# Featured products

## IC253B Coverall

- Bound seams
- Bound neck
- Dolman sleeve
- Zipper closure
- Elastic wrists
- Elastic ankles
- Pin lock slider zipper pull
- 25/cs



Ref:	IC253BWHXX00250B <sup>1</sup> IC253BWHXX00250S <sup>1</sup> IC253BWHXX00250C <sup>1</sup> IC253BWHXX0025CS <sup>2</sup>
Color:	White
Size:	SM-5X <sup>1</sup> SM-7X <sup>2</sup>

## IC105S Coverall

- Serged seams
- Standard hood
- Elastic hood opening
- Set sleeve
- Zipper closure
- Elastic wrists
- Elastic ankles
- Attached thumb loops
- Attached boots with PVC soles
- Pin lock slider zipper pull
- 25/cs



Ref:	IC105SWHXX0025CS
Color:	White
Size:	MD-5X

## IC182B Coverall

- Bound seams
- Bound neck
- Raglan sleeve
- Zipper closure
- Elastic wrists
- Elastic ankles
- Pin lock slider zipper pull
- 25/cs



Ref:	IC182BWHXX0025CS
Color:	White
Size:	SM-4X

## IC181S Coverall

- Serged seams
- Standard collar
- Set sleeve
- Zipper closure
- Elastic wrists
- Elastic ankles
- Pin lock slider zipper pull
- 25/cs



Ref:	IC181SWHXX002500
Color:	White
Size:	SM-8X

## IC270B Frock

- Bound seams
- Bound neck
- Set sleeve
- Front snap closure (6 + 1 adjustable)
- Elastic wrists
- 30/cs



Ref:	IC270BWHXX00300C
Color:	White
Size:	SM-4X

## IC264S Frock

- Serged seams
- Bound neck
- Raglan sleeve
- Front zipper closure
- Elastic wrists
- 30/cs



Ref:	IC264SWHXX00300B IC264SWHXX0030CS
Color:	White
Size:	SM-4X

## IC263S Frock

- Serged seams
- High mandarin collar w/snap
- Set sleeve
- Snap closure
- Elastic wrists
- 30/cs



Ref:	IC263SWHXX00300B
Color:	White
Size:	SM-4X

## PC271 Frock

- Serged seams
- Bound neck
- Set sleeve
- Zipper closure
- Elastic wrists
- 30/cs



Ref:	PC271SWHXX00300B
Color:	White
Size:	SM-4X

# Featured products

## IC668B Hood

- Bound seams
- Full face opening
- Bound hood opening
- Ties with loops for fit
- 100/cs



Ref:	IC668BWH000100CS
Color:	White
Size:	Universal sizing (00)

## IC669B Hood/mask

- Integrated hood/mask combination
- Pleated polyethylene outer 7" wide mask
- Individually packaged
- Bound head opening
- White hood
- Ties with loops for fit
- Bound seams
- Blue face mask
- 100/cs



Ref:	IC669BWH0001000S
Color:	White & blue
Size:	Universal sizing (00)

## IC729 Bouffants

- Serged seams
- Elastic headband
- 21.5" diameter
- 250/cs



Ref:	IC729SWH0002500B
Color:	White
Size:	Universal sizing (00)

## IC501B Sleeves

- Bound seams
- Elastic openings
- 18" length
- 100/cs



Ref:	IC501BWH0001000B IC501BWH0001000S IC501BWH000100CS
Color:	White
Size:	Universal sizing (00)

## IC458B Boot cover

- Bound seams
- Elastic openings
- Ties at ankles
- Gripper™ sole
- 18" high
- 100/cs (50 pairs)



Ref:	IC458BWHXX0100CS
Color:	White
Size:	SM-XL

## IC447S Boot cover

- Serged seams
- Elastic openings
- Elastic ankles
- Gripper™ sole
- 18" high
- 100/cs (50 pairs)



Ref:	IC447SWHXX01000B
Color:	White
Size:	SM-XL

## IC457S Boot cover

- Serged seams
- Elastic openings
- Ties at ankles
- PVC sole
- 18" high
- 100/cs (50 pairs)



Ref:	IC457SWHXX01000B IC457SWHXX01000S
Color:	White
Size:	SM-XL

## IC461 Shoe cover

- Serged seams
- Elastic openings
- PVC sole
- Elastic toe
- 5" high
- 300/cs (150 pairs)



Ref:	IC461SWHXX03000B
Color:	White
Size:	SM-XL

## IC451S Shoe cover

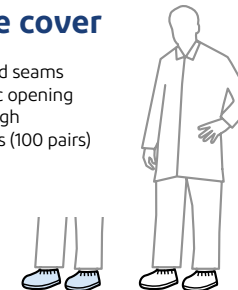
- Serged seams
- Elastic openings
- Gripper™ sole
- 5" high
- 100/cs (50 pairs)



Ref:	IC451SWHXX01000B
Color:	White
Size:	SM-XL

## ProShield® 30 Shoe cover

- Serged seams
- Elastic opening
- 5.5" high
- 200/cs (100 pairs)



Ref:	PE440SWHXX020000 <sup>3</sup> PE440SBUX020000 <sup>4</sup>
Color:	White <sup>3</sup> & blue <sup>4</sup>
Size:	MD-XL <sup>3</sup> - LG-XL <sup>4</sup>

# Tyvek® protective apparel recycling program

Tyvek® is proud to offer a garment recycling program that helps our customers within the continental United States manage used Tyvek® and Tyvek® IsoClean® protective apparel and reduce waste. The program includes set-up, collection, transportation, storage, and recycling of garments\*.

## WHY RECYCLE?

The Tyvek® protective apparel recycling program offers the chance to divert garments away from landfills and give them a second life in products like containers, lumber pallets, and park benches.

## PREDICTED SAVINGS

For every case of 25 Tyvek® coveralls that is recycled, 10 lbs. of HDPE are diverted from the waste stream and given a second life in products like pallets and park benches. DuPont offers this service for free to qualifying customers. On an annualized usage basis, the savings really add up.

## DUPONT SUSTAINABILITY

We are proud of our role in protecting people at work and we believe that advancing sustainability is an important extension of that role. From product development and manufacturing to packaging, distribution and marketing, we are focused on continuous innovation to advance sustainability along the value chain. The Tyvek® protective apparel recycling program is easy to participate in and is a cost-effective and responsible choice.

For more information, call 1 800 931 3456,  
or contact your local DuPont sales representative

[PERSONALPROTECTION.DUPONT.COM](https://PERSONALPROTECTION.DUPONT.COM)



\*DuPont cannot accept used Tyvek® garments that have been exposed to hazardous materials / dangerous goods (as defined by local, federal or international transportation regulations) and that have not been decontaminated. Hazardous materials / dangerous goods include, among other items, chemicals, Division 6.2 infectious substances, biological products, cultures, patient specimens and regulated medical waste.



## Recycling process



### COLLECTION



### CONSOLIDATION



### RECYCLING



### RENEWAL

# Disclaimers

**Latex statement:** After January 2023 all DuPont Personal Protection product styles are manufactured under specifications that exclude components containing natural rubber latex.

Tyvek® 500, Tyvek® 600 and Tyvek® 800 contain natural rubber latex which may cause allergic reactions in some sensitized individuals. Anyone who begins to exhibit an allergic response during the use of DuPont products should immediately cease using these products and should also be reported to DuPont at 1-800-441-3637 (outside the U.S. 1-302-774-1139) so that an investigation can be initiated.

After June 2023, Tyvek® 500, Tyvek® 600 and Tyvek® 800 are manufactured under specifications that exclude components containing natural rubber latex.

## **Silicone statement:**

All DuPont™ Tyvek®, ProShield®, Tyvek® IsoClean®, ProClean™, and Dura-Trac™ products are manufactured under specifications that do not contain silicone. Tyvek® friction-coated shoe covers or Tyvek® garments with friction-coated shoe covers might contain silicone. This includes styles TY122, TY121, FC450 and FC454. End users who are consuming these styles and who have concerns about silicone contamination should conduct their own testing to ensure they are suitable for their application(s).

This information is based upon technical data that DuPont believes to be reliable. It is subject to revision as additional knowledge and experience become available. It is the user's responsibility to determine the level of toxicity and the proper personal protective equipment needed. The information set forth herein reflects laboratory performance of fabrics, not complete garments, under controlled conditions. This information is intended for use by persons having the technical expertise to undertake evaluation under their own specific end-use conditions, at their own discretion and risk. Anyone intending to use this information should first check that the garment selected is suitable for the intended use. The end-user should discontinue use of garment if fabric becomes torn, worn or punctured, to avoid potential chemical exposure. Since conditions of use are beyond our control, DUPONT MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND ASSUME NO LIABILITY IN CONNECTION WITH ANY USE OF THIS INFORMATION. This information is not intended as a license to operate under or a recommendation to infringe any trademark, patent or technical information of DuPont or other persons covering any material or its use.

Garments should have slip-resistant or anti-slip materials on the outer surface of boots, shoe covers or other garment surfaces in conditions where slipping could occur. Some Tychem® garments have attached socks made of the garment material. These attached socks must be worn

inside protective outer footwear and are not suitable as outer footwear. These attached socks do not have adequate durability or slip resistance to be worn as the outer foot covering.

In many cases, seams and closures have shorter breakthrough times and higher penetration rates than the fabric. Please contact DuPont for specific data.

**WARNING:** Cleanroom apparel should not be used around heat, flames, sparks or in potentially flammable or explosive environments. Cleanroom fabrics should have slip-resistant materials on the outer sole of boots, shoe covers or other garment surfaces in conditions where slipping could occur.

**WARNING:** Tyvek®, ProShield®, and most Tychem® garments should not be used around heat, flames, sparks or in potentially flammable or explosive environments.

ProShield® 6 SFR, Tyvek® 400 SFR, and Tychem® 2000 SFR, garments offer secondary flame resistance and are designed to be used over primary flame-resistant garments, including but not limited to, garments made with Nomex® Essential (Nomex® IIIA) or Nomex® Comfort. In addition, for ProShield® 6 SFR, Tyvek® 400 SFR, and Tychem® 2000 SFR hooded garments, primary flame-resistant hood/balaclava should be worn. Users of Tychem® 2000 SFR, Tyvek® 400 SFR, and ProShield® 6 SFR garments should not knowingly enter an explosive environment. Consult the Tychem® User Manual, located on our website, for instructions on proper use, care and maintenance of your Tychem® garments.

<sup>1</sup> **Respirator fit hoods** are designed with a longer zipper, extending to the chin for complete coverage of the neck area. **Standard hoods** only extend to the neck.

<sup>2</sup> Garments made of Tyvek® should have slip-resistant or anti-slip materials on the outer surface of boots, shoe covers or other garment surfaces in conditions where slipping could occur.





#### DuPont Personal Protection

[safespec.dupont.com](https://safespec.dupont.com)

[mycustomerservice.na@dupont.com](mailto:mycustomerservice.na@dupont.com)

800-931-3456 (US)

844-243-6752 (Canada)

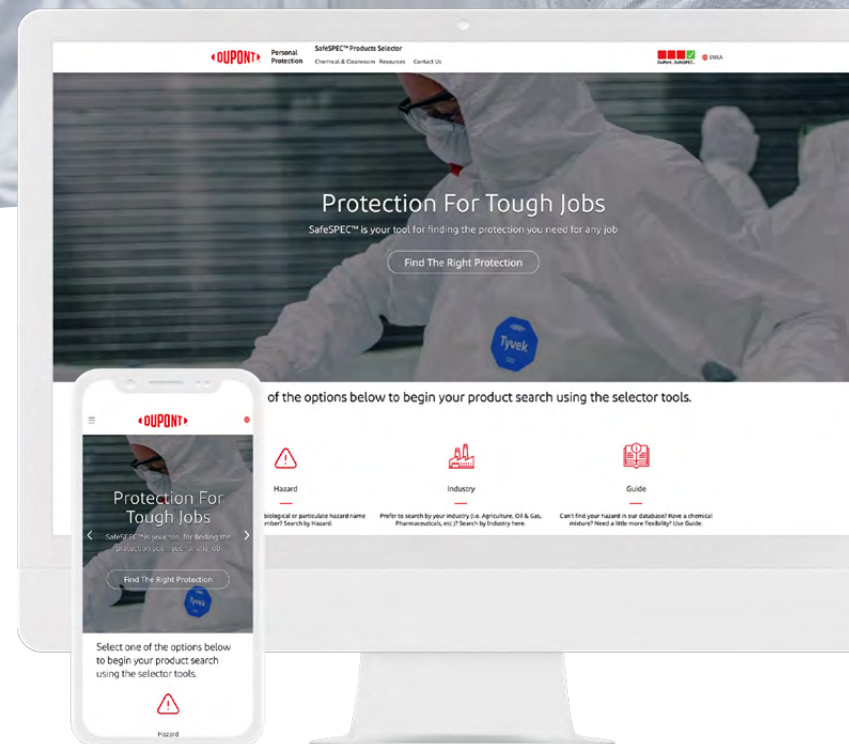


DuPont™ SafeSPEC™

#### DuPont™ SafeSPEC™ - We're here to help

Our powerful web-based tool can assist you with finding the appropriate DuPont garments for chemical, controlled environment, thermal, and mechanical hazards.

[safespec.dupont.com](https://safespec.dupont.com)



[tyvek.com/ppe](https://tyvek.com/ppe)

Connect with us:  

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