



Critical Environment Apparel

NEW

CleanMax®

Cleanroom Apparel - available in Clean Manufactured Non-Sterile or Clean Manufactured Sterile versions

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NEW

GP and Level 2 Isolation Gowns

Basic protection for the medical industry

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CleanMax® Cleanroom Apparel

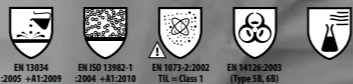
CleanMax® Applications

Cleanrooms

Pharmaceutical
Compounding



Bound Seam



CE 2777 UK CA 0321

Available in Clean Manufactured Non-Sterile or Clean Manufactured Sterile configurations



All Lakeland® CleanMax® Apparel is:

- IEST-RP-CC003 Category I Particle Cleanliness
- Latex and Silicone Free
- Compatible with ISO Class 4 -8 Cleanrooms and all Controlled Environments
- Individually packaged and protective outer bag for ante areas
- Resistant to blood and body fluid penetration
- Resistant to viral penetration
- Resistant to Blood Borne Pathogens
- Chemical Penetration Resistance to oils, bleach and 50% Sodium Hydroxide

Bound Seams

CleanMax® garments feature bound seams, which are precisely sewn with an additional outer binding. This increases seam strength and provides a better barrier from particulates than simple serged seams.

Tunneled Elastic Wrists

CleanMax® garments feature tunneled elastic seams for better sealing properties

Lakeland Industries has spent over 30 years being an industry leader protecting people in the workplace and now we've extended our expertise to protect both your people and your cleanroom and/or controlled environment. CleanMax® is a high-quality microporous laminate material that is lightweight and breathable but is impervious to liquids, harsh chemicals and microorganisms.

Both CleanMax® Clean Manufactured Non-Sterile and CleanMax® Clean Manufactured Sterile meet IEST-RP-C003 Category I particulate cleanliness standards and are ready for immediate use in ISO Class 4 – 8 Cleanrooms. All sterile garments are gamma radiation sterilized to a level of 10⁻⁶ SAL (Sterility Assurance Level). These garments provide excellent comfort as well as protection, so you can easily don and doff your garments to reduce excursions and risk of contamination.



CleanMax® Clean Manufactured Sterile garments are sterile to a sterility assurance level of 10⁻⁶ SAL, and are compatible with ISO Class 4-8 Cleanrooms and all Controlled Environments.

CleanMax® Configurations



CTL191



CTL414



CTL417



CTL428



CTL713



CTL903



CTL850

Clean Manufactured Non-Sterile Garments

Frock – CTL191CM
• Mandarin collar
• Zipper closure
• No pockets
• Tunneled elastic wrists with thumb loops
Sizes: M – 5X
Case Pack: 30

Coverall – CTL414CM
• Zipper closure
• Attached hood and boots
• Tunneled elastic on wrists (with thumb loops), and back half of waist
Sizes: M – 5X
Case Pack: 25

Coverall – CTL417CM
• Zipper closure
• Tunneled elastic on wrists (with thumb loops), ankles, and back half of waist
Sizes: M – 5X
Case Pack: 25

Coverall – CTL428CM
• Zipper closure
• Attached hood
• Tunneled elastic on wrists (with thumb loops), ankles, and back half of waist
Sizes: M – 5X
Case Pack: 25

Hood – CTL713CM
• Covers shoulders
• One size
• Ties to customize fit
Case Pack: 100

Boot Cover – CTL903CMP
• Tunneled elastic top
• 19" high
• Non-skid Vinyl sole
Sizes: S/M, L/XL, 2X
Case Pack: 50 pair

Sleeve CTL850CMP-18
• Bound seams
• Tunneled elastic
• Thumb loops
Size: 18" length
Case Pack: 50 pair

Clean Manufactured Sterile Garments STERILE R Irradiation Sterilization

Clean Sterile
• Certificate of Radiation included
• Gamma radiation indicator dots on each package
• IPA resistant ink

Coverall – CTL414CS
• Zipper closure
• Attached hood and boots
• Tunneled elastic on wrists (with thumb loops), and back half of waist
Sizes: M – 5X
Case Pack: 25

Coverall – CTL417CS
• Zipper closure
• Tunneled elastic on wrists (with thumb loops), ankles, and back half of waist
Sizes: M – 5X
Case Pack: 25

Coverall – CTL428CS
• Zipper closure
• Attached hood
• Tunneled elastic on wrists (with thumb loops), ankles, and back half of waist
Sizes: M – 5X
Case Pack: 25

Hood – CTL713CS
• Covers shoulders
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Boot Cover – CTL903CSP
• Tunneled elastic top
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Sleeve CTL850CSP-18
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• Tunneled elastic
• Thumb loops
Size: 18" length
Case Pack: 25

Disposable Cleanroom Suits: Tips for Cleanroom Apparel Selection

Confidence in your cleanroom starts with understanding how to select the right disposable apparel for your unique needs. In just a few minutes, our team of cleanroom industry experts will work with you to determine the type of garment required for your application and environment, and discuss how we can help you protect your team effectively with clean-manufactured garments.

Applications for CleanMax® Cleanroom Apparel

CleanMax® Clean Manufactured Sterile

- Aseptic or Terminally Sterile Cleanroom Environments
- ISO Class 4-8 Cleanroom
- Sterility assurance level of 10⁻⁶ SAL

CleanMax® Clean Manufactured Non-Sterile

- ISO Class 4-8 or below Non-Aseptic Cleanrooms or Controlled Environments

Garment Configurations

Apparel	ISO 8	ISO 7	ISO 6	ISO 5 Non-Sterile	ISO 5 Sterile (Aseptic)	ISO 4	ISO 3	ISO 1 & 2
Hair cover	R	R	R	R	R	R	R	AS
Barrier gloves	AS	AS	AS	AS	R	R	R	R
Facial cover	AS	AS	AS	R	R	R	R	AS
Hood	AS	AS	AS	R	R	R	R	AS
Frock	R	R	AS	AS	NR	NR	NR	NR
Coverall	AS	AS	R	R	R	R	R	R
Shoe cover	R	R	AS	AS	NR	NR	NR	NR
Boot	AS	AS	R	R	R	R	R	R
Typical Frequency of Change*	2X/week	2X/week	3X/week	1X/day	Per Entry	Per Entry	Per Entry	Per Entry

Chart shows Lakeland® garments relevant to ISO 5. Recommendations from IEST-RP-CC003. **R** = Recommended, **NR** = Not Recommended, **AS** = Application Specific

CleanMax® Features and Benefits

Clean Manufactured Garments

Garments that are clean manufactured offer significantly less particle counts in contrast to garments that are not clean manufactured.

Smooth Storm Flap for Added Level of Protection

Very few disposable cleanroom garments have the added protection of a placket storm flap. Covering the zipper further protects the critical chest and front area of the garment from potential particulate breakthrough. Additionally, our storm flap has finished seams so there are no exposed raw edges.

Thumb Loops

Plastic wrists with thumb loops help secure the coveralls and frocks in place to prevent the potential exposure of skin while worn during normal activities.

Chemical Penetration Resistance

CleanMax® offers chemical penetration resistance to oils, bleach and 50 percent sodium hydroxide.

Premium Packaging Means Less Wrinkles, Less excursions

Garments are individually packaged and expertly folded to prevent excessive wrinkling and the potential for increased excursions.

Get the added safety of CleanMax®, which offers resistance to blood and body fluid penetration, viral penetration and bloodborne pathogens!



All bound seams

CleanMax® garments feature bound seams, which are precisely sewn with an additional outer binding. This increases seam strength and provides a better barrier from break through and protection from strike through than simple serged seams.

Smooth surface area prevents particles from sticking

CleanMax® garments are smoother than other leading brands, which means particulates are less likely to harbor on the garment surface.

Cuffed ankle allows for six inches of freedom

Expertly folded to reduce surface contamination during the donning process, the cuffed ankle provides six inches of freedom when you are stepping into the gown



Download our FREE Disposable Cleanroom Garment Guide!



lakeland.com/us/cleanroom-guide

CleanMax® Physical Properties

Physical Property	Test Method	Units	Test Results
Basis Weight	ASTM D3776	oz/y ²	1.55 oz/y ²
Grab Tensile MD	ASTM D5034	lbs.	22.0 lbs.
Grab Tensile XD	ASTM D5034	lbs.	14.0 lbs.
Trapezoidal Tear MD	ASTM D1117	lbs.	9.0 lbs.
Trapezoidal Tear CD	ASTM D1117	lbs.	5.8 lbs.
Ball Burst	ASTM D3787	lbs.	19.0 lbs.
Air Permeability	ASTM D737	cfm	<0.562 cfm/ft ²
Water Vapor Transmission	ASTM 96-80	g/m ² -24hrs	663.38
Bacterial Filtration Efficiency	ASTM F2101	%	99.999%
Particle Filtration Efficiency	ASTM F2299	%	99.999%

CleanMax® Penetration and Resistance Properties

Physical Property	Test Method	Units	Test Results
Synthetic Blood Penetration	ASTM F 1670	Time to Penetration (> 60 minutes)	Pass
Viral Penetration Resistance	ASTM F 1671	Time to Penetration (> 60 minutes)	Pass
Resistance to Penetration by Blood and Bodily Fluids using Synthetic Blood	ISO 16603	Pressure in kPa	Pass –no strike-through at 20kPa
Resistance to Penetration by Blood-borne Pathogens	ISO 16604	Pressure in kPa	Pass –no strike-through at 20kPa
Resistance to Permeation of Chemotherapy Drugs	ASTM D6978	Minimum Breakthrough Time >240 minutes	Pass*

*Tested drugs include Cisplatin, Cyclophosphamide, Cyclosporin A, Doxorubicin Hydrochloride, Etoposide (Toposar), Fluorouracil, Methotrexate, Mitomycin C, Paclitaxel

CE Testing

CleanMax® Physical Properties – CE Test Data

Physical Property	Test Method	CE Class
Abrasion Resistance	EN 530 method 2	Class 2
Flex Cracking	ISO 7854 method B	Class 4
Trapezoidal Tear (MD/CD)	ISO 9073-4	3 / 2
Tensile Strength (MD/CD)	ISO 13934-1	2 / 1
Puncture Resistance	EN 863	Class 1
Seam Strength	ISO 13935-2	3

CleanMax® Resistance to Penetration by Infectious Agents – CE Test Data

Physical Property	Test Method	CE Class
Resistance to penetration by blood Borne Pathogens	ISO 16604	Class 6 of 6
Resistance to Biologically Contaminated Aerosols	ISO 22611	Class 3 of 3
Resistance to Dry Microbial Contact	ISO 22612	Class 3 of 3
Resistance to Wet Bacterial Penetration	EN 14126 Annex A / ISO 22610	Class 6 of 6

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NEW

CleanMax® Bulk Packaging!

Bulk Packing in a single overlay bag is available on CleanMax® Clean Manufactured Non-Sterile Frocks, Coveralls, Boots and Hoods.

Does Your Cleanroom Apparel Meet Current IEST Standards?

Read our white-paper and find out...



lakeland.com/us/cleanroom-whitepaper

NEW

General Purpose Isolation Gown



Isolation Gown Applications

- Hospital/Medical
- Pharmaceutical Compounding



Serged Seam

Lakeland's General Purpose Isolation Gown is constructed from spun bonded polypropylene fabric. Designed with the end-user's comfort in mind, this general-purpose gown is both lightweight and breathable. Lakeland's Isolation Gown offers basic protection from light splashes in nonhazardous environments, dirt, and dry particulates.

Key features and benefits:

- Spun bonded Polypropylene
- Lightweight, breathable, and comfortable fit
- Wrap around design with neck and waist ties for full coverage
- Self-Certified as Category I PPE
- Latex and silicone free

Style Number: C21921G

Sizes: Universal Fit (S-L) and XL

Case Pack: 100/Case (5 bags with 20 per case)



C21921G

General Purpose Isolation Gown – C21921G

- Wrap around design
 - Neck and Waist ties
 - Elastic wrists
- Sizes:** Universal fit (S-L) and XL
Case Pack: 100

AAMI Level 2 Non-Surgical CE Certified Isolation Gown

NEW

For use when exposure to fluids is expected to be low to moderate

Lakeland's AAMI Level 2 Non-surgical CE Certified Isolation Gown is constructed from SMMS fabric. Designed with the end-user's comfort in mind, this non-surgical gown is both lightweight and breathable. Lakeland's Isolation Gown offers basic protection when exposure to fluids is expected to be low to moderate.

Key features and benefits:

- SMMS
- Lightweight, breathable, and comfortable fit
- Wrap around design with neck and waist ties for full coverage
- Elastic cuff at wrist
- Taped seams
- Latex and silicone free
- Non-sterile

Style Numbers: C8192TIG (Universal fit), C8192TIG-XL

Sizes: Universal Fit (S-L) and XL

Color: Blue

Case Pack: 100/Case (5 bags with 20 per case)

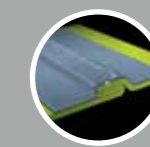
CE 2777 UK 0321



C8192TIG

AAMI Level 2 CE Certified Isolation Gown C8192TIG

- Wrap around design
 - Neck and Waist ties
 - Elastic wrists
- Sizes:** Universal fit (S-L) and XL
Case Pack: 100



Taped Seam



AAMI Level 2 Isolation Gown Applications

- Hospital/Medical
- Pharmaceutical Compounding

Liquid Barrier Performance and Classification of Protective Apparel and Drapes Intended for use in Health Care Facilities - ANSI/AAMI PB70:2012

Test Method	Requirement	Lakeland AAMI Level 2 Isolation Gown Test Results	Anticipated Risk of Exposure
LEVEL 1			
Requirements at 4% AQL	AATCC 42:2017 "Impact Penetration"	≤ 4.5 g	Average Fabric - 0.0 g
LEVEL 2			
Requirements at 4% AQL	AATCC 42:2017 "Impact Penetration"	≤ 1.0 g	Average Fabric - 0.0 g
	AATCC 127:2018 "Hydrostatic Pressure"	≥ 20 cm	Average Fabric - 59.09 cm

Physical Properties

Physical Property	Test Method	CE Minimum Requirements	Lakeland Isolation Gown Test Results	CE Class According to EN 14325
Abrasion Resistance	EN530	>10	>100 <500	Class 2
Tear Resistance	ISO9073-4	MD/XD >10	MD 65N / XD41N	Class 3
Tensile Strength	ISO13934-1	MD/XD >30	MD 92N / XD 59N	Class 1
Puncture Resistance	EN863	>5N	8N	Class 1
Liquid Test - Penetration (%) Sulphuric Acid 30% and Sodium Hydroxide 10%	ISO6530	<10%	0%	Class 3
Liquid Test - Repellency (%) Sulphuric Acid 30% and Sodium Hydroxide 10%	ISO6530	>80%	>95%	Class 3

This gown should not be used in a surgical setting. For use when exposure to fluids is expected to be low to moderate. This gown should not be used in a clinical setting where Level 3 or 4 protection is warranted, or in any setting involving invasive procedures or where there is a high risk of contamination. This product has not been FDA cleared or approved. This product has been authorized by the FDA under the EUA for use as PPE in healthcare settings by healthcare personnel. This AAMI Level 2 Non-surgical isolation gown may help protect healthcare professionals and/or patients from the transfer of SARS-COV-2 virus in low or minimal risk level situation to prevent the spread of COVID-19. This product is only authorized for the duration of the declaration. This product should not be used in the presence of a high intensity heat source or flammable gas.

**Your First Line of Defense
in Protective Apparel**



 **Lakeland**[®]
Protect Your People[®]

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