



VELTEK ASSOCIATES, INC.

TECHNICAL DATA FILES



Disposable Garments

Sterile Garments, Face Masks, and Cleanroom Apparel

Overview of DPMD

VAI®'s Disposable Products Manufacturing Division (DMPD) has addressed the needs of the pharmaceutical, biotechnology, semi-conductor, medical device, electronics, and healthcare industries by designing a complete range of sterile and non-sterile disposable garments and textile products that are manufactured under the CMP Clean Manufacturing System. The CMP Clean Manufacturing System incorporates cutting, manufacturing, and packaging (CMP) all products within a cleanroom facility from beginning to end. This manufacturing system assures that all products are handled in the cleanest possible fashion available. For this reason, VAI products have tested for over 35 years as some of the lowest particulate products in the marketplace.



All sterile DPMD lots are cleanroom packaged, gamma irradiated, lot sterility tested according to current USP compendium, completely traceable, and completely validated for sterility and shelf life. VAI sterility tests each lot by placing spore indicators (10^6 *B. pumilus*) and material swatches into each irradiation load. The spore indicators and material swatches are subsequently tested for viability. Sterile garments are delivered each time with lot specific Certificate of Irradiation and Certificate of Sterility.

The Cleanroom Problem

We know that people are the #1 source of contamination in cleanroom operations. We also know that airborne microorganisms are normally dispersed into the cleanroom from human skin cells. Humans shed one outermost layer of epithelial cells every 24 hours. A small, but significant portion of these cells (with skin microbes on them) are dispersed to the air and act as a microbe-carrying particle. Almost always, they are bacteria and are a reflection of skin flora that can amount to 1,000 bacteria carrying cells per minute. When the body becomes overheated this number of 1,000 bacteria carrying cells per minute can triple. These parameters were VAI's focus during the design of our material blends made for cleanrooms and critical environments.

Therefore, VAI has continuously worked to develop garments that are comfortable and breathable while providing excellent barrier capabilities against the shedding of skin cells and bacteria entering the cleanroom environment. VAI's redesigned garment lines have accomplished just that.

Sterile Garments Overview

VAI's disposable garment product line has been redeveloped and newly designed specifically for the needs of an aseptic cleanroom operation. The disposable garments have been refined to include more flexibility while maintaining a tailored design that works for all body types. VAI's disposable garments provide 100% garment sterility assurance and a significantly reduced chance of gowning contamination, while keeping the comfort and breathability when compared to traditional, reusable garments.

VAI's garments are available in two different fabrics, SMS and MP. The SMS garment line is built with a high quality spunbond-meltblown-spunbond (SMS) non-woven polypropylene fabric that provides excellent breathability while maintaining protection. Our MP line is built using a non-woven, microporous, coated material that provides even greater personal protection in the cleanroom. Beyond the fabric, both garment lines are manufactured and constructed identically therefore, the choice between the two garment fabrics all depends on the needs of the operations and the end user.

Garment configurations include classic coveralls, coveralls with attached boots, coveralls with attached hood and boots, open face hoods, hoods with integrated face mask, knee-high boots, frocks, and protective sleeves. Non-sterile and custom garments are available upon request.

Sterile Garments Features and Benefits

- A 100% bound seam construction for increased durability and reduced particle permeability
- Double layer front flaps for increased protection from contamination
- Elastic thumb loops and tunnelized elastic wrists and ankles
- Elastic in high movement areas for ease of movement and to ensure appropriate garment fit
- Active athletic styling with a tailored design for flexibility and to fit all body types

All of these redeveloped features enhance operator use and comfort.

Quality and Manufacturing

- Raw materials are quality assurance tested and lot controlled
- Fully assembled in a controlled environment
- Sewing area employs CAD assisted cutting and seaming equipment, therefore, reducing manual manipulation of the garment
- Individually packaged and labeled with the lot number and expiration date
- Packaged in easy tear bags with two liner bags per case
- Completely lot traceable
- Validated sterile with a 5 year closed bag expiration
- Lot sterility tested according to current USP compendium
- All garments are delivered with lot specific documentation packages including Certificates of Irradiation and Certificates of Sterility
- Coveralls are sized to ANSI standards for disposable coveralls

The Easy2Gown System

An innovative, easy system developed to reduce user contamination during the critical process of aseptic gowning.

EASY2GOWN
SYSTEM

Disposable garments are packaged in VAI's, patented, Easy2Gown System[®]. The Easy2Gown System is a fold that makes a proper aseptic gowning procedure an easy process rather than a routine challenge. The Easy2Gown design allows operators to have fewer manipulations while donning, therefore, reducing cross contamination.

This patented fold has been designed to minimize contact between the operator and the outside of the gown. By presenting the interior of the gown upon opening the package, the sterile exterior is protected from the transfer of contamination during the gowning process. Trained personnel will be able to gown without contact to the sterile, exterior, portion of the gown. The easily distinguished surface creates significant reduction in operator prep time while reducing manipulation of the garment itself.



Folded Easy2Gown Coverall

Benefits of the Easy2Gown System

- Reduced training time and gowning time because the coverall is pre-folded to be donned properly
- Better efficiency and performance in gowning qualifications
- Risk of operator contamination is greatly reduced during gowning process
- On-site training available upon request



VAI's sterile disposable Easy2Gown garments come in two types of fabric:

SMS Garment Fabric

VAI's SMS garments are built using high quality spunbond-meltblown-spunbond (SMS) nonwoven polypropylene fabric @ 60g/m² basis weight. This fabric type has high strength and outstanding moisture vapor transmission, which translates to overall increased operator comfort. Raw materials are quality assurance tested and lot controlled. VAI's microporous garments are sized to ANSI standards for disposable coveralls.

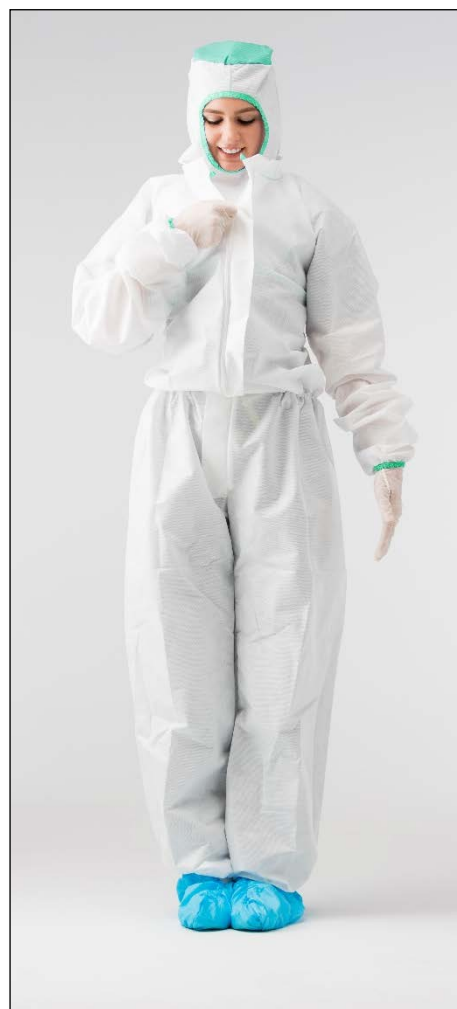
Select the SMS garment line when comfort and breathability is the highest priority and minimal to moderate splash protection is required. The SMS garment material has excellent bacterial filtration efficiency.

Features and Benefits

- High quality spunbond-meltblown-spunbond (SMS) nonwoven PP Fabric
- Athletic and active styling of fabric that fits all body types
- Ideal for minimal to moderate splash protection
- Suited for use where comfort and breathability is a priority
- Fabric construction provides increased operator comfort
- Highly breathable fabric that releases heat while maintaining protection
- Fabric has outstanding moisture vapor transmission
- Excellent bacterial filtration efficiency

SMS Fabric Configurations Available

- Classic coveralls
- Coveralls with attached boots
- Coveralls with attached hood and boots
- Open face hoods
- Hoods with integrated face mask
- Frocks



SMS Easy2Gown Classic Coverall with
SMS Open Face Hood

Specifications and Testing

SMS Fabric Testing*	Specification	Method
Basis Weight	60.0 gsm	ASTM D3776-96
Strip Tensile Strength – MD: (50 mm width, 100mm jaws separate @ 300mm/min jaw speed)	120.0 N/5cm	ASTM D5035-95
Elongation – MD: (50 mm width, 100mm jaws separate @ 300mm/min jaw speed)	45.0%	ASTM D5035-95
Strip Tensile Strength – CD: (50 mm width, 100mm jaws separate @ 300mm/min jaw speed)	58.0 N/5cm	ASTM D5035-95
Elongation – CD: (50 mm width, 100mm jaws separate @ 300mm/min jaw speed)	50.0%	ASTM D5035-95
Hydrostatic Head:	65 mbar (66.3 cm H ₂ O)	IST 80.6-98
Surface Resistivity:	50*10 ⁹ Ω	EN1149
Bacterial Filtration Efficiency (BFE):	96.98%	ASTM F2101-07

* Data shown here are typical values and should not be used as specifications



SMS Easy2Gown Coverall with Attached
Boots and SMS Open Face Hood



SMS Easy2Gown Coverall with Attached
Hood and Boots

MP Garment Fabric

VAI's MP garments are built using a heavy weight, non-woven, high quality microporous coated material. The MP disposable garments are extremely tough and fluid resistant and have superior barrier performance. Raw materials are quality assurance tested and lot controlled. VAI's microporous garments are sized to ANSI standards for disposable coveralls.

MP fabric is suited for use where maximum protection to product or wearer is required. The MP material has excellent water and liquid repellence to low level splashes and sprays and is resistant to chemicals. VAI's MP garments create an impervious barrier that prevents passage of bacteria and non-viable particulates through the garment material. The MP fabric has the best particulate performance in its segment.

Features and Benefits

- Heavy weight, non-woven and high quality microporous (MP) coated material
- Athletic and active styling of fabric that fits all body types
- Suited for use where maximum protection to product or wearer is required
- Fabric is heavy weight and extremely tough
- Excellent liquid resistance, especially to chemicals
- Provides protection to low level splashes and sprays
- Has a leading bacterial and particle filtration efficiency
- Fabric has an impervious barrier

MP Fabric Configurations Available

- Classic coveralls
- Open face hoods
- Hoods with integrated face mask
- Knee-High boots
- Protective sleeves
- Frocks



MP Easy2Gown Coverall and MP Open Face Hood with a MP Frock

Specifications

MP Fabric Testing*	Specification	Method
Basis Weight:	60.0 gsm	ASTM D751
Trapezoidal Tear MD Load:	≥ 10 lbs	ISO 9073-4
Trapezoidal Tear CD Load:	≥ 7 lbs	ISO 9073-4
Grab Tensile Strength MD:	≥ 20 lbs/ 50 mm	ASTM D5034
Elongation at Break MD:	100%	ASTM D5034
Grab Tensile Strength CD:	≥ 10 lbs/50 mm	ASTM D5034
Elongation at Break CD:	110%	ASTM D5034
Hydrohead:	> 170 cm	AATCC 127
Static LogR Film Side:	$< 5.0 \times 10^{10} \log_{10}(\text{ohms})$	EN 1149-1
Static LogR Fabric Side:	$< 5.0 \times 10^{10} \log_{10}(\text{ohms})$	EN 1149-1
Particle Filtration Efficiency:	100% Resistant	EN 14683:2014, Annex C
Bacterial Filtration Efficiency:	100% Resistant	ASTM F2101-07

* Data shown here are typical values and should not be used as specifications



MP Easy2Gown Coverall, Hood with
Integrated Face Mask & Knee-High Boots



MP Easy2Gown Coverall, Hood with
Integrated Face Mask & Knee-High Boots

Veltek Associates, Inc.'s disposable garments are available in the following garment types:

Hoods

VAI's Easy2Gown hoods are constructed of either SMS or MP garment fabric. To improve user comfort, the top of the disposable hoods are constructed of a highly breathable fabric that releases heat while maintaining protection. With a breathable hood top, workers are able to stay cool with the assurance that there is continued contamination control. **Both SMS and MP hoods are available in two styles:**

- Open face hood that allows the operation to use their choice of face mask
- Eye opening only hood with integrated mask that is constructed of a three layer polypropylene material with excellent bacterial and particle filtration efficiency

Both hood options are available in our Easy2Gown fold. **Standard features of VAI's hoods are:**

- 100% bound seam construction for increased durability and reduced particle permeability
- Active and athletic styling for increased breathability and flexibility
- Top of the hoods are constructed of a highly breathable fabric that releases heat while maintaining protection
- Cleanly folded to reduce operator contamination and reduce gowning time



SMS Hood with Integrated Face Mask



MP Open Face Hood

Knee-High Boots

VAI has redeveloped our cleanroom boot to address and improve upon the issues with the typical design of aseptic boots. These knee-high boots use a durable high-grip, non-skid sole, with the top portion being constructed of VAI's fluid resistant MP fabric. The boot, up to the ankle, has minimal seams. This design, along with the durable sole, helps maintain the integrity and decrease the possibility of wearing through the boot, all while offering excellent traction resistance. Knee-high boots are 18" tall. **Standard features of our Easy2Gown Knee-High Cleanroom boots include:**

- A sturdy seam that connects the high-grip bottom to the top of the boot, therefore, allowing the operator to don the boot easier without any damage
- Comfortable elastic seams under the knee and around the ankle to reduce shifting
- Two ties below the knee for added security that can be tucked into the sides if not in use
- Designed to fit above the calf therefore reducing boot droop
- Active and athletic styling for increased breathability and flexibility
- Cleanly folded to reduce operator contamination and reduce gowning time



MP Knee-High Boot

Protective Sleeves & Frocks

VAI's sterile disposable protective sleeves are offered in our MP fabric for protection against low level splashes and sprays. Sleeves come standard with elastic thumb loops and tunnelized wrists to reduce shifting and are cleanly folded for easy gowning and reduced spread of contamination. The top of the sleeve is turned inside out so the user can extract and don the sleeve without touching the outside fabric.

VAI's sterile disposable frocks are offered in SMS and MP fabric and come standard with a zipper closure for increased contamination protection, elastic thumb loops to reduce shifting, and a comfortable wrist cuff. Frocks are folded in a manner that allows them to be quickly and cleanly donned.



MP Protective Sleeve



SMS Frock

Coveralls

VAI's Easy2Gown coveralls are offered in both SMS and MP fabric. The coveralls have been designed with active athletic styling that offers more flexibility and space while maintaining a sleek design that works for all body types. **SMS and MP coveralls come standard with the following features:**

- A 100% bound seam construction for increased durability and reduced particle permeability
- A double layer front flap that helps mitigate the risk of contamination originating from the zipper closure
- Easy2Gown folded to reduce operator contamination and reduce gowning time
- Elastic thumb loops that keep shifting along sleeves to a minimum
- Tunnelized elastic wrists and ankles that make for a secure transition from gloves and boots and to help control contamination
- Elastic at the middle of the back and the waist for ease of movement and to ensure appropriate garment fit
- Active athletic styling with a tailored design for flexibility and to fit all body types

In addition to classic coveralls, SMS coveralls are available in two additional options:

- Classic coverall with attached boots
- Classic coverall with attached boots and open face hood



MP Classic Coverall



SMS Coverall with Attached Boots



SMS Coverall with Attached Hood & Boots

SMS Garment Ordering Information

SMS Garments - Coveralls		
Part number	Description	Qty/cs
1800P-E-S-1800	SMS Coverall, Classic, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, Small, Sterile	25
1800P-E-S-1801	SMS Coverall, Classic, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, Medium, Sterile	25
1800P-E-S-1802	SMS Coverall, Classic, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, Large, Sterile	25
1800P-E-S-1803	SMS Coverall, Classic, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, XL, Sterile	25
1800P-E-S-1804	SMS Coverall, Classic, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, 2XL, Sterile	25
1800P-E-S-1805	SMS Coverall, Classic, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, 3XL, Sterile	25
1800P-E-S-1806	SMS Coverall, Classic, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, 4XL, Sterile	25
1800P-E-S-1807	SMS Coverall, Classic, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, 6XL, Sterile	25
SMS Garments – Coveralls with Attached Boots		
Part number	Description	Qty/cs
1800P-EB-S-1815	SMS Coverall, Attached Boots, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, Small, Sterile	25
1800P-EB-S-1816	SMS Coverall, Attached Boots, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, Medium, Sterile	25
1800P-EB-S-1817	SMS Coverall, Attached Boots, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, Large, Sterile	25
1800P-EB-S-1818	SMS Coverall, Attached Boots, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, XL, Sterile	25
1800P-EB-S-1819	SMS Coverall, Attached Boots, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, 2XL, Sterile	25
1800P-EB-S-1820	SMS Coverall, Attached Boots, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, 3XL, Sterile	25

1800P-EB-S-1821	SMS Coverall, Attached Boots, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, 4XL, Sterile	25
SMS Garments – Coveralls with Attached Hood & Boots		
Part number	Description	Qty/cs
1800P-EHB-S-1808	SMS Coverall, Attached Open Face Hood and Boots, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, Small, Sterile	25
1800P-EHB-S-1809	SMS Coverall, Attached Open Face Hood and Boots, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, Medium, Sterile	25
1800P-EHB-S-1810	SMS Coverall, Attached Open Face Hood and Boots, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, Large, Sterile	25
1800P-EHB-S-1811	SMS Coverall, Attached Open Face Hood and Boots, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, XL, Sterile	25
1800P-EHB-S-1812	SMS Coverall, Attached Open Face Hood and Boots, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, 2XL, Sterile	25
1800P-EHB-S-1813	SMS Coverall, Attached Open Face Hood and Boots, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, 3XL, Sterile	25
1800P-EHB-S-1814	SMS Coverall, Attached Open Face Hood and Boots, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, 4XL, Sterile	25
SMS Garments – Open Face Hoods		
Part number	Description	Qty/cs
1800P-H-UC-S-1822	SMS Hood, Open Face, Easy2Gown, Individually Packaged, White, Small/Medium, Sterile	100
1800P-H-UC-S-1823	SMS Hood, Open Face, Easy2Gown, Individually Packaged, White, Large/XL, Sterile	100
SMS Garments – Hood with Integrated Face Mask		
Part number	Description	Qty/cs
1800P-HM-S-1824	SMS Hood, Integrated Face Mask, Easy2Gown, Individually Packaged, White, Small/Medium, Sterile	100
1800P-HM-S-1825	SMS Hood, Integrated Face Mask, Easy2Gown, Individually Packaged, White, Large/XL, Sterile	100

SMS Garments – Frocks		
Part number	Description	Qty/cs
1600-LC-S-1643	SMS Frock, Elastic Wrists, Zipper Closure, Individually Packaged, White, Small, Sterile	30
1600-LC-S-1644	SMS Frock, Elastic Wrists, Zipper Closure, Individually Packaged, White, Medium, Sterile	30
1600-LC-S-1645	SMS Frock, Elastic Wrists, Zipper Closure, Individually Packaged, White, Large, Sterile	30
1600-LC-S-1646	SMS Frock, Elastic Wrists, Zipper Closure, Individually Packaged, White, XL, Sterile	30
1600-LC-S-1647	SMS Frock, Elastic Wrists, Zipper Closure, Individually Packaged, White, 2XL, Sterile	30
1600-LC-S-1648	SMS Frock, Elastic Wrists, Zipper Closure, Individually Packaged, White, 3XL, Sterile	30

MP Garment Ordering Information

MP Garments - Coveralls		
Part number	Description	Qty/cs
1700P-E-S-17000	MP Coverall, Classic, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, Small, Sterile	25
1700P-E-S-17001	MP Coverall, Classic, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, Medium, Sterile	25
1700P-E-S-17002	MP Coverall, Classic, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, Large, Sterile	25
1700P-E-S-17003	MP Coverall, Classic, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, XL, Sterile	25
1700P-E-S-17004	MP Coverall, Classic, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, 2XL, Sterile	25
1700P-E-S-17005	MP Coverall, Classic, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, 3XL, Sterile	25
1700P-E-S-17006	MP Coverall, Classic, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, 4XL, Sterile	25
1700P-E-S-17007	MP Coverall, Classic, Easy2Gown, Elastic Wrists and Ankles, Zipper Closure, Individually Packaged, White, 6XL, Sterile	25
MP Garments – Open Face Hoods		
Part number	Description	Qty/cs

1700P-H-UC-S-17017	MP Hood, Open Face, Easy2Gown, Individually Packaged, White, Small/Medium, Sterile	100	
1700P-H-UC-S-17035	MP Hood, Open Face, Easy2Gown, Individually Packaged, White, Large/XL, Sterile	100	
MP Garments – Hood with Integrated Face Mask			
Part number	Description	Qty/cs	
1700P-HM-S-17037	MP Hood, Integrated Face Mask, Easy2Gown, Individually Packaged, White, Small/Medium, Sterile	100	
1700P-HM-S-17038	MP Hood, Integrated Face Mask, Easy2Gown, Individually Packaged, White, Large/XL, Sterile	100	
MP Garments – Protective Sleeves			
Part number	Description	Qty/cs	
1700-PS-S-1792	MP Protective Sleeve, Pair of Two, One Size, Sterile	100	
MP Garments – Frocks			
Part number	Description	Qty/cs	
1700-LC-S-1720	MP Frock, Elastic Wrists, Zipper Closure, Individually Packaged, White, Small, Sterile	30	
1700-LC-S-1721	MP Frock, Elastic Wrists, Zipper Closure, Individually Packaged, White, Medium, Sterile	30	
1700-LC-S-1722	MP Frock, Elastic Wrists, Zipper Closure, Individually Packaged, White, Large, Sterile	30	
1700-LC-S-1723	MP Frock, Elastic Wrists, Zipper Closure, Individually Packaged, White, XL, Sterile	30	
1700-LC-S-1724	MP Frock, Elastic Wrists, Zipper Closure, Individually Packaged, White, 2XL, Sterile	30	
1700-LC-S-1725	MP Frock, Elastic Wrists, Zipper Closure, Individually Packaged, White, 3XL, Sterile	30	
MP Garments – Knee-High Boots			
Part number	Description	Opening Size	Qty/cs
1700P-MC-NS-S-17039	MP Knee-High Boot, Easy2Gown, Pair of Two, 18” Tall, Small/Medium, Sterile	10”	100
1700P-MC-NS-S-17040	MP Knee-High Boot, Easy2Gown, Pair of Two, 18” Tall, Large/XL, Sterile	12”	100
1700P-MC-NS-S-17041	MP Knee-High Boot, Easy2Gown, Pair of Two, 18” Tall, 2XL/3XL, Sterile	14”	100

**VAI in addition offers sterile and non-sterile cleanroom apparel.
Our cleanroom apparel includes:**

Boot Covers

Cleanroom Boot Covers are latex and lint free, with a seamless bottom, suitable for use in a clean environment. The boot covers are manufactured from a blend of polyolefin coated polypropylene then uniquely constructed to create an impervious sole and side with an elastic ankle. This combination offers extraordinary traction and skid resistance. Furthermore, the covers are extremely durable, and resistant to liquids. Overall, this is the toughest, most durable and impervious boot cover currently on the market. The boot covers are ideal for wash down uses, cleanroom uses, and are built specifically for use in low traction areas.

Features and Benefits

- Individually inspected for size, stitching, and workmanship
- Neatly stacked and cleanroom packaged
- Extremely durable and resistant to liquids
- Latex & lint free
- Built for low traction areas
- Resistant against blood borne pathogens
- 100 pieces per inner polybag, 2 polybags per sealed bag



Gray Boot Covers

Testing Information

Boot Cover Testing	Specification	Method
ISO Class:	5, Helmke Drum Testing	IENT-RP-CC033.3
Coefficient of Friction:	1.39us	ASTM D1894
Blood borne Pathogen Test:	PASS	ASTM F1671
Flammability:	Class 1	CPSC 1610

Ordering Information

Boot Cover		
Part number	Description	Qty
150-SC-NS-1520	Boot Covers, Gray, Non-Skid, 7.75", Large, Non-sterile	100 pairs/cs
150-SC-NS-1521	Boot Covers, Gray, Non-Skid, 7.75", XL, Non-sterile	100 pairs/cs

Shoe Covers

VAI's Shoe Covers are latex and lint free, with a surged bottom seam that is made to be suitable for the use in clean environments. These shoe covers are a special polyolefin blend laminated to a polypropylene substrate. Due to this special blend, these shoe covers offer the best traction properties and skid resistance currently available in any shoe cover. These shoe covers are built specifically for use in low traction areas. Furthermore, the covers are extremely durable, resistant to liquids, and have an elasticized top opening.



Blue Shoe Covers

Features and Benefits

- Individually inspected for size, stitching, and workmanship
- Neatly stacked and cleanroom packaged
- Extremely durable and resistant to liquids
- Latex & lint free
- Built for low traction areas
- Resistant against blood borne pathogens
- 100 pieces per inner polybag, 2 polybags per sealed bag



Blue Shoe Covers Non-Skid Bottom

Testing Information

Shoe Cover Testing	Specification	Method
ISO Class:	5	IEST-RP-CC033.3
Coefficient of Friction:	1.39us	ASTM D1894
Blood borne Pathogen Test:	PASS	ASTM F1671
Flammability:	Class 1	CPSC 1610

Ordering Information

Shoe Cover		
Part number	Description	Qty
150-SC-NS-1522	Shoe Covers, Blue, Non-Skid, 16", Large, Non-sterile	100 pairs/cs
150-SC-NS-1523	Shoe Covers, Blue, Non-Skid, 18", XL, Non-sterile	100 pairs/cs

Bouffant Hats

VAI's bouffant head covers are designed and manufactured in a pleated design that is low in lint and full coverage, for use in a cleanroom setting. They are made from 100% virgin polypropylene. While a standard bouffant is hand sewn, our pleated design is made by fully automated equipment, therefore, lowering possible contamination and bio-burden. They are lightweight, cool, breathable and latex free for added comfort. Having a pleated design allows for greater storage capacity in the gowning room and ease of handling and filling. Less waste is experienced because it is easier for the operator to just take one.

Features and Benefits

- Individually inspected for size, stitching, and workmanship
- Neatly stacked and clean room packaged
- Low linting fabric
- Compact design
- 100 pieces per inner polybag, 10 polybags per sealed master bag

Testing Information

Bouffant Hat Testing	Specification	Method
Material Weight:	12 gm/m ²	N/A
Collapsed Size:	1x9"	N/A
ISO Class:	6	IEST-RP-CC033.3
Flammability:	Class 1	Reference Document: CPSC 1610

Ordering Information

Bouffant Hats		
Part number	Description	Qty
150-BF-NS-1530	Bouffant Hat, Blue, 21" in Diameter, Non-sterile	1000 pieces
150-BF-NS-1531	Bouffant Hat, Blue, 24" in Diameter, Non-sterile	1000 pieces



Bouffant Hat



Bouffant Hat Folded

Sweat-less Headbands

VAI offers a protective and comfortable sweat-less headband for use under a bouffant hat in a clean environment. The headbands have been designed specifically for the comfort of the end user. Made of a laundered nylon, the sweat-less headbands are soft, comfortable, and absorbent. The intended function is to provide a mechanism to absorb perspiration in an easy to use, disposable, and clean product. Overall, this product will reduce a potential contamination risk and the need for an employee to use products from outside the operation.

Features and Benefits

- Put on before the bouffant hat for added protection
- Available in multiple sizes
- Fabric is 100% nylon for user comfort and perspiration absorption
- Soft, cool and comfortable
- Fabric is stretchable but coils to a secure fit
- Bagged and boxed in 200 per case
- All headbands are white in color



Sweat-less Headband

Testing Information

Micron Count, Average of 5 Minutes	Helmke Drum Rotating at 10 RPM
$\geq 0.5\mu\text{m}$:	474 particles per headband per 1 ft ³ air
$\geq 5.0\mu\text{m}$:	4 particles per headband per 1 ft ³ air

Ordering Information

Sweat-less Headbands		
Part number	Description	Qty
SL-01-S	Sweat-less Cleanroom Headband, Small, 18" Diameter, 2" Wide, Non-sterile	200/cs
SL-01-M	Sweat-less Cleanroom Headband, Medium, 20" Diameter, 2" Wide, Non-sterile	200/cs
SL-01-L	Sweat-less Cleanroom Headband, Large, 22" Diameter, 2" Wide, Non-sterile	200/cs
SL-02-XL	Sweat-less Cleanroom Headband, XL, 24" Diameter, 2" Wide, Non-sterile	200/cs

Sterile and Non-Sterile Face Masks

The PF-2 Face Masks have been innovatively designed for use in the pharmaceutical, biotechnology, and medical device industries or in any cleanroom operation. VAI's PF-2 Face Masks are made of 100% rayon. The PF-2 Face Masks allows for excellent breathability, comfort, and protection, while maintaining filtration efficiency. The mask is designed to absorb moisture, therefore, it continually improves its own filtration efficiency. VAI's Face Masks are low in particulate and shedding characteristics and offer a barrier between the environment and the user.

PF-2 Face Masks come standard with a comfort fit nosepiece that, along with the Face Mask's absorption efficiency, virtually eliminates fogging of one's own goggles. The comfort fit nosepiece also protects the wearer from the lower edge of the goggle. This feature makes it unnecessary to continually adjust the goggles.

VAI's PF-2 sterile Face Mask has been redesigned to improve cleanliness by incorporating a new sewing method to eliminate any trailing thread ends. The masks are folded in a manner that allows them to be quickly, easily, and cleanly applied. It nearly eliminates the possibility of unintended contamination by touching the outside of the mask.

Sterile Face Masks are processed in an ISO 5/6 (Formed Class 100/1000, Grade A/B) manufacturing area. Sterility is assured through gamma irradiation and all sterile masks carry a five year validated closed packaged expiration date through high quality packaging for airtight seals. All sterile Face Masks are lot sterility tested according to current USP compendium and delivered with a lot specific Certificate of Irradiation, Certificate of Sterility, and Certificate of Conformance, and are completely lot traceable. PF-2 sterile Face Masks are individually labeled with lot number and expiration.

Features and Benefits

- Sterile masks are available individually packaged with bulk non-sterile packaging available
- Available in two different styles: either two elastic straps or 4 ties
- Five year validated closed packaged expiration date with sterility assured via gamma irradiation
- Delivered each time with lot specific documentation
- Soft, comfortable, and breathable
- Low particulate and shedding characteristics
- Mask continually improves its own filtration efficiency
- Goggle fogging is virtually eliminated due to absorption efficiency



PF-2 Face Mask with two Elastic Ties

Testing Information

PF-2 Face Mask	
Grade:	B
Color:	White
Flammability:	Class 1
Breathability:	0.4 Delta P
Sterility testing with <i>B. Pumilis</i> Spore Strips:	Pass

Ordering Information

PF-2 Face Mask		
Part Number	Description	Qty/Cs
PF-2SM-T-4-S-2021	PF-2 Face Mask, 4 Ties, Individually Packaged, One Size, Sterile	500
PF-2SM-2-2027	PF-2 Face Mask, 2 Elastic Straps, One Size, Non-Sterile	500
PF-2SM-2-S-2026	PF-2 Face Mask, 2 Elastic Straps, Individually Packaged, Inner Bags of 50, One Size, Sterile	500



PF-2SM-T-4-S-2021



PF-2SM-2-S-2026

Additional Documentation Provided Upon Request

- Specific Testing Reports
- Sample Lot Documentation Packages
- Product Validation Reports
- VAI's Recommended Easy2Gown Gowning Procedure
- Cleanroom Apparel Technical Data Cut Sheets



DPMD

Veltek Associates, Inc. Disposable Products Manufacturing Division's capabilities include sterile disposable garments, sterile disposable face masks, dry wipers, sterile wipers, custom cleanroom documentation, sterile synthetic writing substrate, and a HEPA filtered cleanroom printer.

DPMD has responded and met demands of professionals in the industry since 1985. Our manufacturing capabilities assure that we will be able to meet all requests and fulfill all of our customer's needs. All sterile DPMD products are processed and packaged in cleanroom facilities from beginning to end and subsequently gamma irradiated or aseptically filled in order assure sterility. Visit www.sterile.com or call 610-644-8335 for more information regarding these products.

Patents: www.sterile.com/patents