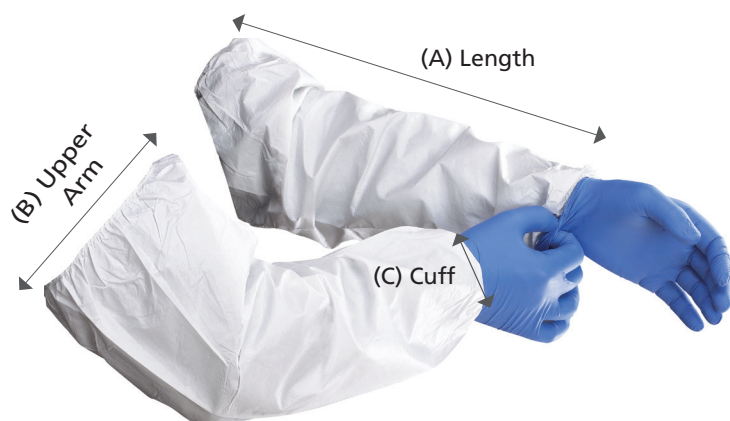


## VWR® Sterile Sleeves

- Gamma Irradiated to a Sterility Assurance Level (SAL) of 10<sup>-6</sup>
- Lowest Level of Particle Shedding: Level I Helmke Drum Classification
- Durable Fabric with Excellent Breathability and Water Vapor Transmission Rate
- Significant Fluid and Particulate Barrier: 99.9% Bacterial Filtration Efficiency
- Thumb Loop Option Available

VWR Sterile Sleeves are manufactured from a specially formulated breathable microporous fabric that provides significant fluid and barrier protection. Garments exhibit excellent water vapor transmission to optimize user comfort. Sleeves are gamma irradiated to address the concern of bio-burden contamination. Manufactured and packaged in an ISO Class 8 (FED-STD-209E Class 100,000/M3.5) cleanroom, garments are pair packed in sealed polyethylene bags contained within a double carton liner. Each case is supplied with a certificate of irradiation.

Sleeves are rigorously tested and manufactured in an ISO Certified facility under stringent process controls to ensure that each product meets exacting quality standards and performs to specification. Our products are validated through independent lab testing.



### Sleeve Dimensions

Size	Universal	XL
<b>Length (A)</b>	19½"	21½"
<b>Upper Arm, Relaxed (B)</b>	4½"	5"
<b>Upper Arm, Stretched (B)</b>	9¾"	10½"
<b>Cuff, Relaxed (C)</b>	3¼"	3½"
<b>Cuff, Stretched (C)</b>	5¾"	6"

### VWR Sterile Sleeves

Size	Cat. No.	Unit	
Sleeves without Thumb Loop			
Universal	414004-510	Case of 300	Pallet of 4,800
X-Large	414004-511	Case of 300	Pallet of 3,600
Sleeves with Thumb Loop			
Universal	76169-446	Case of 300	—
X-Large	76169-448	Case of 300	—

To order, visit [vwr.com](http://vwr.com) or call your VWR Sales Representative today.

## Material Properties for VWR® Sterile Sleeves

	Test Item	Result	Test Standard	Test Description
PHYSICAL PROPERTIES	Particle Shedding (Helmke Drum)	Level I	IEST-RP-CC003.3	Garments are tumbled in a stainless steel drum for 10 minutes. Particles are then counted with a laser particle counter.
	Weight (g/m <sup>2</sup> )	56	ASTM D3776	Measurement of fabric mass per unit area (weight).
	Thickness (mm)	0.21	ASTM D1777	Measurement of fabric thickness.
	Tensile Strength (Avg. lbs./in.)			
	Warp	22	ASTM D5034	Covers the grab and modified grab test procedures for determining the breaking strength and elongation of textile fabrics. Provisions are made for wet testing.
	Filling	21		
	Tearing Strength (Avg. lbs./in.)			
	Lengthwise Yarns	6.1	ASTM D2261	Measurement of the tearing strength of textile fabrics by the tongue (single rip) procedure using a recording constant-rate-of-extension-type (CRE) tensile testing machine.
	Widthwise Yarns	8.7		
BARRIER PROPERTIES	Bacterial Filtration Efficiency (28.3L/min., 1cfm)	99.9%	ASTM F2101	Measurement of the filtration efficiency of the fabric using a challenge organism of Staphylococcus aureus.
	Water Resistance	Zero Penetration	AATCC Method 42	Measures the degree to which the material is a barrier to liquids.
	Synthetic Blood Penetration Resistance	Pass	ASTM F1670-08	Measures the resistance of chemical protective clothing materials to penetration by liquids.
COMFORT PROPERTIES	Water Vapor Transmission Rate (Avg. g/m <sup>2</sup> /24 hrs.)*	777	ASTM E96	Measurement of the rate at which the fabric transfers water vapor under appropriate conditions.
	Delta P Breathability (mmH <sub>2</sub> O/cm <sup>2</sup> )	>102	MIL-M-36954C	Differential Pressure (Delta-P) is the measured pressure drop across material. Delta-P determines the resistance of the material to air flowing through. Pressure drop also relates to the breathability and comfort.
	Air Permeability (cu. ft./min./sq. ft.)	0.06	ASTM D737	Measurement of air permeability to indicate breathability of the fabric.
CHEMICAL RESISTANCE	Sulfuric Acid (70% Concentration)	Pass	ASTM F903	Measures the barrier effectiveness of materials used for protective clothing, and specimens from finished items of protective clothing (such as seamed and other discontinuous regions), against liquids.
	Phosphoric Acid (85% Concentration)	Pass		
	Hydrochloric Acid (37% Concentration)	Fail		
	Household Bleach (100% Concentration)	Fail		

\*Procedure B, Water Method, 73.4°F 50% Rh; Air Gap: ¼".

All test results provided by independent third-party testing laboratories located in USA.

**WARNING:** These garments and associated materials are not suitable for use in some environments containing chemicals and/or hazardous agents. It is the responsibility of the user to determine the level of risk in a particular environment and the proper personal protection equipment needed. Garments manufactured from synthetic non-woven material may generate static electricity. Garments that contain an anti-stat treatment are not intended to be used as a safety feature. These garments are not recommended to be used in a flammable and or explosive environment. Contact VWR International for garment/fabric safety data. The application of these products is out of VWR International's control. Therefore, VWR International, LLC makes no warranties, expressed or implied, and assumes no liability as to the performance of these products for a particular use. Caution: Avoid heat and/or open flame.