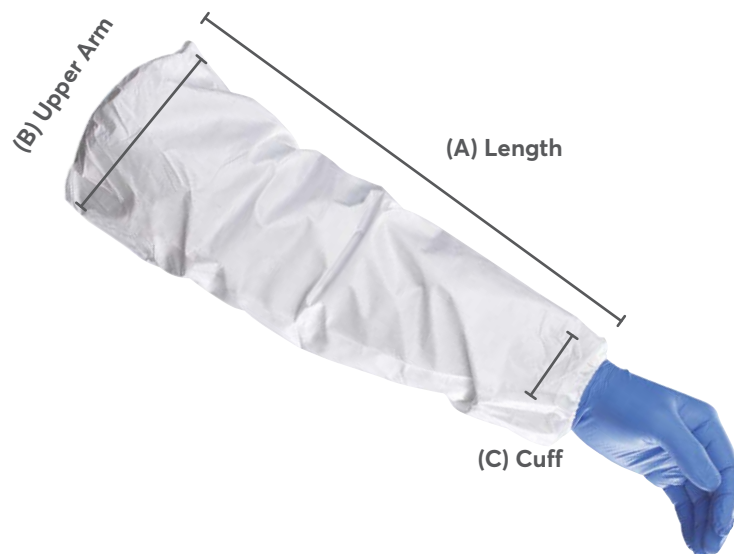


TECHNICAL DATA SHEET

VWR® Advanced Protection Sleeves

- Durable fabric with excellent breathability and water vapor transmission rate
- Significant fluid and particulate barrier: 99.9% Bacterial filtration efficiency
- Particle shedding: level II Helmke Drum classification
- White with sonically welded seams
- Thumb loop option available

VWR® Advanced Protection Sleeves are manufactured from a specially formulated breathable microporous fabric that provides significant fluid and barrier protection. These sleeves exhibit excellent water vapor transmission to optimize user comfort. They 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
Length (A)	19½"	21½"
Upper Arm, Relaxed (B)	4½"	5"
Upper Arm, Stretched (B)	9¾"	10½"
Cuff, Relaxed (C)	3¼"	3½"
Cuff, Stretched (C)	5¾"	6"

VWR® ADVANCED PROTECTION SLEEVES

Size	Unit		Cat. No.
Sleeves without Thumb Loop			
Universal	Case of 300	Pallet of 10,800	414004-421
X-Large	Case of 300	Pallet of 9,600	414004-420
Sleeves with Thumb Loop			
Universal	Case of 300	–	76169-442
X-Large	Case of 300	–	76169-444
Sleeve with Knit Cuffs			
X-Large			89208-810

Material Properties for Not STERILE

Test Item	Result	Test Standard	Test Description
PHYSICAL PROPERTIES			
Particle Shedding (Helmke Drum)	Level II	IEST-RP-CC003.3	Garments are tumbled in a stainless steel drum for 10 minutes. Particles are then count-ed with a laser particle counter.
Weight (g/m²)	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	21.7	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	25.0		
Tearing Strength (Avg. lbs./in.)			
Lengthwise Yarns	3.4	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	4.8		
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 Staphy-lococcus aureus.
Water Resistance	Pass	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 pene-tration by liquids.
COMFORT PROPERTIES			
Water Vapor Transmission Rate (Avg. g/m²/24 hrs.)*	777	ASTM E96	Measurement of the rate at which the fabric transfers water vapor under appropriate conditions.
Delta P Breathability (mmH₂O/cm²)	>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 speci-mens 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		

*Control Average: 2928 CFU.
†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 Avantor for garment/fabric safety data. The application of these products is out of Avantor's control. Therefore, Avantor 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.

TO ORDER

Visit www.avantorsciences.com or call your Avantor Sales Representative today.