

PROTECTING FIRST RESPONDERS: CHOOSING THE RIGHT GLOVE



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WATCH NOW: PROTECTING FIRST RESPONDERS: Choosing The Right Glove

1.0 hour CAPCE for EMS Professionals* | CE Approval for Police & Corrections† | 1 CE for Registered Nurses

The COVID-19 pandemic has created many challenges for first responders throughout the world. Supply chain shortages of gloves and other necessary personal protective equipment (PPE) have limited choices requiring, caregivers to wear "whatever is available." This has created a greater awareness of the differences in PPE performance and the need to better understand glove selection options for optimal protection for first responders and patients.

Occupational Safety and Health Administration (OSHA) and National Fire Protection Association (NFPA) have been unwavering in their requirements regarding exam gloves during the pandemic



Performance requirements for exam gloves



Definitions for levels of protection needed



Testing requirements due to chemical, petroleum, and fentanyl exposure

Exam Glove Material Choices

	Durability	Comfort	Grip	Reduced Allergy Risk*
Nitrile	••••	•••	•••	••••
Neoprene	••••	•••	••••	••••
Natural Rubber Latex	••••	••••	••••	••••
Vinyl	••••	• • • •	••••	••••

^{*}Reduced risk of reaction that can occur as a result of Type 1 Latex Allergies

Barrier Protection

	Exam**			
Physical properties	Latex	Nitrile	Vinyl	
Length (inches)	9.25 – 10.0			
Palm Thickness (mils)	Min. 2.0 (10-13)			
Tensile (MPa min.)	14	14	9	
Elongation (% min.)	650	500	300	
Modulus (MPa at 500%* and 300%** strain)	< 2.8	n/a	n/a	
Acceptable Quality Limit (AQL for pinhole detection)	2.5			
Packaging	100-300 per box / except for sterile gloves			

AQL (Acceptable Quality Level) Quality Focus - Exceeding Current Standards

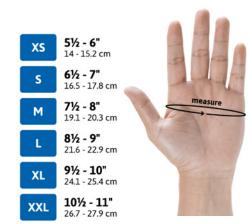
AQL indicates the number of defects that may be accepted in a production lot of disposable gloves and is measured by a water leak test. The lower the AQL, the lower the chance of finding a defect in the batch of gloves and the higher the quality.



Glove Characteristics and Testing

Glove Characteristic Why it matters How we prove it* High tensile strength or force of break **Better Strength** Fewer rips and tears indicates a stronger material Less risk of exposure to harmful substances Better protection Better fit and feel Lower modulus of elasticity means **Superior Comfort** gloves will feel softer and more elastic More Consistent Indicates high quality and less risk of Lower Acceptable Quality Limits (AQL) finding a glove with a pinhole defect that which means fewer pinhole defects **Barrier Integrity** can compromise worker safety are allowed in each lot of gloves produced Fewer rips and tears during donning of The higher the elongation %, the Better Dexterity and Stretch better the stretch and dexterity Less hand fatigue due to better dexterity Chemical Protection Protection against hazardous chemicals Chemical permeation testing using that may cause adverse reactions when ASTM D6978-05 to identify chemical exposed barrier profiles

Glove Sizing Chart



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^{*}Each material type (e.g., NR Latex, nitrile, vinyl) will have different measures as a result of the inherent material characteristics

^{*} This webinar is approved for 1.0 hours CAPCE Credit for EMS professionals by Guardian Education Group. CAPCE activity approval number: 22-GEDG-F3-4003.

[†] Post-approval documentation available for Police and Corrections at completion of webinar.