



## Quick Reaction Guide – Recommended Guidelines for Selection, Care, and Cleaning/Sanitization of Structural Fire Fighting Protective Clothing for COVID-19

The primary purpose of protective clothing is simply as a contamination shield to prevent later transfer of SARS-CoV-2 (the virus responsible for COVID-19) to mucous membranes through subsequent transfer from hand to the mouth, nose, or eyes (auto- or self-inoculation).



**Helmet Ear Covers** – Consist of at least two material layers but typically do not have barrier layers and likely will only partially attenuate penetration of aerosols.

**Hoods** – Particulate blocking hoods block 90% or more of the particles  $\geq 0.1$  micron; ordinary knit hoods do not provide particulate blocking capabilities.

**Respiratory Protection** – Wear a minimum of N95 protection. In the absence of N95s, consider alternatives suggested at:  
[www.emergencyresponsetips.com/papers](http://www.emergencyresponsetips.com/papers)

**Eye & Face Protection** – Any SCBA or other full facepiece already providing coverage to the face and eyes OR goggles rated N3 or N5 per ANSI Z87.1

**Wristlets** – Unless incorporating a particulate-blocking layer, most do not have barrier layers and likely do not attenuate penetration of aerosols.

**Gloves** – Wear examination gloves that meet ASTM standards or NFPA 1999 in place of structural or work gloves. Avoid any gloves that have absorptive materials.

**Footwear** – All footwear certified to NFPA 1971 are tested for viral penetration. Be sure to disinfect entire footwear element following potential exposure.

**NOTE** – Turnout clothing ensembles (garments, helmets, hoods, gloves, and footwear) have multiple interfaces and closures that may permit some penetration of bio-aerosols, but they will likely significantly limit the exposures.

Protective garments, gloves, and footwear materials and seams used in product certified to NFPA 1971 are tested for viral penetration resistance using a virus surrogate with a diameter of 27 nm.

- SARS-CoV-2 measures between 60 and 140 nm.

Particulate-blocking hoods block 90% or more of particles having a diameter of 0.1 microns or larger.

- Aerosolized cough droplets have a diameter of 0.35 to 10 microns.

### Cleaning & Sanitizing Turnout Gear

- Please refer to NFPA 1851, 2020 edition, for procedures and guidance on sanitizing and cleaning turnout gear. Also seek advice from the gear manufacturer or a Verified Independent Service Provider (ISP) on appropriate cleaning agents, sanitizers, or disinfectants, and processes.
- Clean and sanitize any element of structural firefighting protective clothing in accordance with procedures established in NFPA 1851:
  - Wear gloves, eyewear, mask and apron when handling garments.
  - Sanitize and launder garments in a programmable, front loading washer/ extractor that has ample capacity for the wash load.
  - Use “sanitization” program of machine in conjunction with specialized cleaning; if not available, use the following steps:
    - Apply initial step of at least 10 minutes with an EPA-registered laundry sanitizer additive (use as directed supplier instructions).
    - Follow the sanitizing by draining the washer/extractor and using a 4-minute extraction step.
    - Wash garments with an appropriate detergent and use multiple rinse cycles but apply specialized cleaning at the maximum wash temperature up to 140°F.
    - Dry garments by air drying, using a drying cabinet, or applying machine drying on a “no heat” or “air-dry” option.
- Alternatively, use an ISP for conducting sanitization and specialized cleaning.

**! WARNING**

CURRENTLY, THERE ARE NO KNOWN EFFECTIVE METHODS FOR FIELD DISINFECTION OF STRUCTURAL PPE TO CONTINUE ITS USE WITHOUT TAKING THE PPE OUT OF SERVICE. WHILE THERE ARE SOME POTENTIAL PRACTICES THAT ARE QUICKLY BEING INVESTIGATED, ANY APPROACH TO FIELD DISINFECT GEAR MUST BE EXERCISED WITH THE UTMOST CAUTION FOR POTENTIALLY COMPROMISING GEAR PERFORMANCE OR CREATING HEALTH ISSUES.