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PPE Update

Are your PPE accessories NFPA-certified?

The answer is maybe as it depends on if the accessory, like goggles, are considered part of the equipment

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Most firefighter gear provided by manufacturers is complete and ready to go. NFPA 1971 standard is generally explicit about the way that the clothing or equipment element is configured as well as the individual requirements that must be met by the respective materials and components used in its construction.

However, there are exceptions: accessories are not covered by the standard. In some cases, accessories are relatively obvious; in other cases, they are not. The primary point is that accessories do not necessarily meet any requirements and may not be tested to any requirements whatsoever unless the manufacturer has undertaken what it believes to be relevant testing.

The NFPA used to require that any accessory provided with the clothing or equipment element had to be evaluated by the certification organization to determine if the accessory could be the cause for its degradation of protective performance properties.

However, there has been an ongoing debate in the industry over the past two decades about how accessories should be address. In the 2013 edition, accessories are not addressed in NFPA 1971 except to say that they are not addressed (see sidebar).

NFPA 1971-2013 ON ACCESSORIES SAYS:

"This standard shall not specify requirements for any accessories that could be attached to the certified product, but are not necessary for the certified product to meet the requirements of this standard."

And.

"Fire and emergency response organizations are cautioned that accessories are not a part of the certified product but could be attached to the certified product by a means not engineered, manufactured, or authorized by the manufacturer.

Fire and emergency response organizations are cautioned that if the accessory or its means of attachment causes the structural integrity of the certified product to be compromised, the certified product might not comply with the standard for which it was designed, manufactured, and marketed.

Additionally, if the accessory or its attachment means are not designed and manufactured from materials suitable for the hazardous environments of emergency incidents, the failure of the accessory or its attachment means could cause injury to the emergency responder.

Because the aftermarket for certified product accessories is so broad, fire and emergency response organizations are advised to contact both the manufacturer of the accessory and the manufacturer of the certified product and verify that the accessory and its means of attachment are suitable for use in the intended emergency response environment. Fire and emergency response organizations should seek and receive written documentation from both the accessory manufacturer and the manufacturer of the certified product to validate the following information:

1. The accessory for a certified product, and its attachment method, will not degrade the designed protection or performance of the certified product below the requirements of the product standard to which it was designed, manufactured, tested, and certified.
2. The accessory, when properly attached to the certified product, shall not interfere with the operation or function of the certified product, or with the operation or function of any of the certified product's component parts.

Users are also cautioned that the means of attachment of the accessory that fail to safely and securely attach the accessory to the certified product can cause the accessory to be inadvertently dislodged from the certified product and create a risk to the wearer or other personnel in the vicinity."

Language of the rule

As written, these paragraphs put the responsibility of assessing accessories on individual fire departments are firefighters that may add items to the certified product after its purchase from the manufacturer.

In addition, the language would seem to point to the fact that accessories are items that are added to the clothing or equipment element after being received from the manufacturer. However, this is not always the case.

When the standard did include a definition of accessories, it read as "an item, or items, that could be attached to a certified product at that are not necessary for the certified product to meet the requirements of the standard." In actuality, accessories can be provided by manufacturers and many are.

So just what is an accessory?

Probably the most common accessories are suspenders for structural firefighting pants. Manufacturers include suspenders with pants; however, they are not tested for any performance requirements in NFPA 1971. The majority of suspenders are neither flame nor heat resistant, yet they are considered an important part for the pants to be worn and maintained in a proper wearing position.

Visors, patches, pockets

Another example of accessories are the leather shields and shield holders provided on helmets. In fact, helmets are also one of the more common elements of the protective ensemble accessories where this may be applied.

Trying to determine whether an item is accessory or not can lead to some difficult interpretations. If the fire department chooses to customize its turnout clothing by including patches and different pockets on its gear, then for the most part each of these items is not an accessory and will be subject to different types of certification testing.

For example, patch and pocket materials will be subjected to flame and heat resistance testing. On the other hand, for helmets, a very specific configuration is specified that consists of minimum components including the shell, and energy-absorbing system (the suspension), the retention system (the chin strap), fluorescent and reflective markings, ear covers, and a face shield or goggles.

So in the case of helmets, any other item is not covered by the list is considered an accessory and therefore is not subject to any testing.

Don't assume

In fact, a problem occurs when the manufacturer offers two forms of eye/face protection that are provided with the helmet. One of those items needs to be part of the certified product whereas the other may not. For example, if the manufacturer provides a helmet with a set of goggles and the goggles meet all the requirements of the standard, then the component requirement for having a face shield or goggles is met.

Yet, if the same manufacturer also provides a face shield with the same helmet, the face shield may not meet any NFPA 1971 requirements. This can be relatively problematic because the firefighter receiving the protective helmet from the manufacturer may have both items and would expect that everything on the helmet is certified.

The only way to figure this out is to ask the manufacturer what items have actually been tested. Otherwise, wrong assumptions can be made and hazards exist unbeknownst to the individual firefighter wearing the "certified" element.

The committee responsible for NFPA 1971 standard has been struggling with this particular problem for years. It well understood that certified elements can be modified after being shipped by the manufacturer using aftermarket accessories.

However, what is less obvious is that some certified elements may include items which have never been tested as part of the product and which could create unanticipated issues during use.

It is our hope that this type of situation is avoided in the future by better requirements that address how certified products are tested. For the time being, fire departments need to ask questions to make sure that the products they receive are fully certified.

About the author

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Jeffrey and Grace Stull are president and vice president, respectively, of International Personnel Protection, Inc. They are members of several NFPA committees on PPE as well as the ASTM International committee on protective clothing. Mr. Stull was formerly the convener for international work groups on heat/thermal protection and hazardous materials PPE as well as the lead U.S. delegate for International Standards Organization Technical Committee 94/Subcommittees on Protective Clothing and Firefighter PPE. They participate in the Interagency Board for Equipment Standardization and Interoperability and have authored the book, "[PPE Made Easy](#)." Send questions or feedback to the Stulls via [email](#).

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