



Safety Brief

JCFPD Training Division

2014-January

2014-1



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PPE-Structural Fire Gloves

Gloves are an important part of the PPE ensemble, and can protect the hands against many types of injuries. There are different kinds of gloves (see the June 2007 issue); each is designed to protect the hands against specific types of hazards. This issue will discuss structural firefighting gloves.

Hazards for Firefighters

Structural firefighting gloves are required to meet the design and performance criteria found in NFPA 1971 *Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*. This standard, last issued in 2013, requires that structural fire gloves protect firefighters against the hazards commonly encountered during structural firefighting. In addition, this standard requires that structural firefighting gloves must be manufactured in five sizes, ranging from extra small to extra large.

Structural firefighting gloves must meet specific performance criteria in the following categories:

- Thermal insulation, in both the glove body and gauntlet, protecting against pain for at least 6 seconds and 2nd degree burns for 10 seconds;
- Heat resistance, and flexibility after heat exposure;
- Flame resistance, in both the glove body and gauntlet;
- All thread used shall not melt below 500°F;
- Seams must resist specific viral and bacteria liquid-borne or blood-borne pathogens;
- Seams in the glove body must resist liquid penetration for certain test liquids for one hour;
- The glove body and the gauntlet must resist cuts and punctures under specific test criteria;
- Gloves must meet specific criteria for manual dexterity;

- Gauntlet material must meet specific strength tests;
- The seam between glove body and gauntlet must meet specific strength tests;
- Gloves must pass a leakage test;
- Gloves must be able to be donned in less than 10 seconds with dry hands, and no more than 30 seconds with wet hands;
- Glove liners and moisture barriers are not supposed to detach during testing;
- Gloves must pass tests for grip and torque ability, as well as the ability to handle and control hand tools.

Avoiding Injury

Structural firefighting gloves are designed to protect the firefighter's hands from thermal burns, steam burns, cuts, and punctures, among other hazards. Of course, these gloves cannot protect a firefighter's hands unless they are donned **before** engaging in structural firefighting activities. Gloves which remain in the coat or pants pockets cannot be expected to reduce burns or cuts!



Firefighters also need to recognize the limitations of structural firefighting gloves. Although they are tested for resistance to liquid penetration or blood-borne pathogens, these gloves will not resist all chemicals or protect against all pathogens. Additionally, firefighters must recognize when these gloves have been contaminated and must be removed from service.

Finally, firefighters must recognize that vehicle rescue gloves, as well as leather utility gloves, will not meet the tests identified in NFPA 1971. Each type of glove must be matched to the hazards expected.

Protect Yourself

Know what hazards your gloves are tested to protect against. Select the correct glove, and PUT THEM ON! Remember, **everyone goes home alive!**



Safety Brief

JCFPD Training Division

2014-February

2014-2



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Structural Fire Close Calls

Some of the events discussed in this month's issue are taken from the website FirefighterCloseCalls. Others come from JCFPD fires. Every fire we go to has the potential to cause injuries to firefighters

Hazards for Firefighters

- Firefighters arrived on scene of a structural fire. A crew entered the structure and began fighting the fire. However, the pump operator could not get water into the pump when opening the front suction valve. The crew had to evacuate the structure due to the loss of water supply. Upon arrival at the station, it was determined that an ice plug had developed in the front suction intake.
- During a recent lengthy fire, the temperature at the scene dropped from 41°F to 11°F. When a tanker arrived at the hydrant to refill, both rear fill valves were found full of ice and inoperable. The fill hose had to be routed through the pump intake and through the tank fill valve and tank-to-pump valve to fill the tanker quickly.
- Firefighters were operating in an attic removing burned insulation. One firefighter fell through the ceiling. A mayday was called, and the fallen firefighter was found in the kitchen. Investigation revealed that the ceiling joists were only 2x4, placed on 24" centers, and the insulation covering the joists had hidden the fact that the joists had burned through.
- Firefighters operating at a structure fire attempted to place a folding tank in line with the pumping engine to keep a narrow road open for tanker use. The two hard suction sections would not reach the folding tank placed *behind* the engine. To maintain water supply for crews inside the structure, the tank was placed in the roadway, limiting tanker access and requiring tankers to back down the road.
- Firefighters extinguishing an exposure car fire outside the burning structure were struck by the falling brick veneer from the garage.



- Firefighters were fighting an attic fire. A firefighter began to pull the ceiling from the middle of the room to provide access to attic space. The entire ceiling structure fell on the first pull, pinning the firefighter under the rubble. The second firefighter was able to remove the trapped firefighter. Because neither firefighter had a radio, no one outside knew about the problem until the firefighters stumbled outside.

Avoiding Injury

Each of these incidents presents different problems for firefighters.

- Always keep in mind that safe operations and disasters are separated by one or two good or bad decisions. Here are some things to consider about the preceding events:
- Frozen ice plugs in piping—keep the current temperatures in mind. Circulate water to prevent freezing. Warn interior crews when changing from tank supply to hydrant or folding tank water supply. Think about alternate ways to fill tanks, including putting hoses into top vents.
 - Ceiling joist failures—sound joists before putting weight onto them. Consider removing insulation to visually inspect joists in the burned area of insulation. Ceiling joists may not be on 16" centers
 - Folding tank placement—hard suction hoses will reach folding tanks if the tank is placed *in front of* the engine. If you are not sure how far your hard suction hose will reach, try this operation during a training session.
 - Collapse zones—remember that the collapse zone around a structure is 1.5 x height. If in the collapse zone, someone must look upwards. Also, brick veneer is only attached to the structure with soft metal straps.
 - Collapsing ceilings—pull ceilings from a doorway to avoid being under the falling material. Make sure there is at least one radio per team. Also, remember you can activate a PASS device manually to get help.

Protect Yourself

Every scene has multiple hazards. We have to think about the little things to avoid injuries and deaths. Look out for each other. Remember, **everyone goes home alive!**



Safety Brief

JCFPD Training Division

2014-March

2014-3



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Communication Breakdowns

Communication in the fire service has gone through many changes in the last twenty years. Technology has enhanced the ways emergencies are reported, how units are dispatched, and how we communicate between units. Our abilities to communicate have become so accessible, we can easily crowd communication systems and lose vital information. To reduce the risk of communication failures, it is important for firefighters to understand how to utilize communication technology efficiently.

The Breakdown

We begin to gather information when we are dispatched to an incident. This information is most commonly obtained through our dispatch center. With cell phones in nearly every citizen's pocket, a dispatch center can become overwhelmed with information very quickly. Once a dispatcher obtains incident information, they dispatch the incident and we begin to analyze the information. Typically, once a dispatcher hears a unit acknowledge the call, the detailed information about the incident is given. Detailed information may take a few seconds to provide, and repeating the information obviously crowds more air time. Additionally, a dispatcher can miss information from callers and other units if information is repeated. As units transmit response, give scene size-ups, or give assignments to other units, more air time is used. Transmitting this information is vital as the incident progresses and we have all come to expect this type of information. Unclear transmissions, assignments, and updates make it difficult for units to receive the message and often require the information to be re-transmitted. These breakdowns in communication are sometimes unavoidable

but can interfere with emergency radio traffic.

Unnecessary Radio Traffic

With communication devices so readily accessible, especially with a microphone in hand, we often experience unnecessary radio traffic. When radio air space is used for unneeded communication, we run the risk of missing vital transmissions such as calls for a mayday or similar emergency traffic.

Tips

- Listen to information given after dispatch to avoid the need to repeat.
- Make radio transmissions short and to the point.
- Wait until the air is clear before transmitting routine radio traffic.
- Utilize different frequencies for different operations.
- Speak in a normal and calm manner.

Our Role

As we utilize our communication system it is important to remember that we are not the only agency trying to communicate. The radio communication infrastructure will soon be upgraded to better fit the needs of all Johnson County agencies. These upgrades will help our abilities to communicate throughout the county. Communication technology is constantly improving, it is our responsibility to use it correctly.



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Safety Brief

JCFPD Training Division

2014-April

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The Off Duty Firefighter

We focus a lot of attention towards the safety of firefighters. Most of the safety topics and practices we teach focus on ways to stay safe on the job. We value safety for various reasons, the highest value being staying alive and well. A positive safety record also helps keep insurance cost down, lost work hours at a minimum, and helps maintain a positive image with the public. So, is it important to stay safe for these reasons off duty?

The term off duty differs some in the volunteer industry. Some would argue that we are never off duty. For some of us though, we take our selves off duty when we leave town, or have non-department events, or have some adult beverages. How we take care of ourselves when we are "off-duty" can directly affect the ability we have to serve.

Recent Firefighter Troubles

If you follow fire service news, you may have noticed a few stories lately that involved firefighters off duty activity that brought trouble to themselves and their departments. One story fell close to home when a Kansas City Firefighter was shot and killed by a police officer. When the story first hit the press there was a lot of unanswered questions. As the investigation went on, and video of the incident was recovered, the KC Firefighter made a mistake. In an intoxicated state, and for whatever reason, he ended up assaulting a police officer and consequently was shot and killed. Had he been a plumber, or college student, the story would have felt different, but he was a firefighter, and that was part of the headline.

Another story came out of Seattle as two off duty intoxicated firefighters assaulted two homeless men. Additionally, an intoxicated Texas firefighter was shot and killed as he tried to enter the wrong house after a night out. All of these events were avoidable, and cost firefighters their lives or their jobs, and portrayed a negative image of the departments, and firefighters they represent.

Staying Safe

It is as important to take care of yourself off duty as it is when you're in your bunker gear. Consider the investment that has been made to make you a valuable asset to those you serve. Consider who is relying on you to be your best. Your actions directly affect the operational readiness of the agencies you represent.

Many of the safety guidelines that are established for on the job activities can be applied to everyday life. For example, you are required to wear a seat belt in all district apparatus. This requirement exists to help keep you alive and there are overwhelming statistics to back this rule up. We can use this same concept to protect ourselves off duty. It is easy for emergency service workers to develop a "it won't happen to me" attitude, don't let this be you.

As a firefighter you carry a certain level of expectations from the average citizen. Your actions will always reflect on the department you work for. In communities of our size, it is easy for the citizens of your community to know what you do. Your decisions and actions, both good and bad, set an example. We deserve to have time off, but we always carry our department association with us.

Good Decisions

You are a role model, and an important asset to your community. Keeping safety in mind, and a priority in all aspects of your life will allow you to be an asset. A department wants to see their employees stay healthy but you have to take on the responsibility on and off duty. In addition to your personal wellbeing, keep the wellbeing of your department and peers in mind. Consider the effects of your actions, and avoid the scenarios that put you and your department at risk. Be a leader in safety, influence others to make good decisions. Our goal is to one day be old firefighters, take care of yourself.