



Bunker Gear

A typical house fire burns at 600°F and some fires can reach temperatures as high as 1200°F. Early firefighters were not equipped to handle this kind of heat and buildings often burned to the ground because the fire was only fought from outside the structure. Those early firefighters who braved the heat, smoke, and flames earned the nickname “smoke eaters” and often had impressive scars to prove their toughness. Even as volunteer fire companies began to form in the 18th century, there was no standard uniform and many firefighters wore stovepipe hats, capes, or overcoats with armbands. In 1832, James Braidwood took control of the London Fire Establishment and ordered his men to wear a standard uniform consisting of black tunics, leather helmets, and knee high leather boots. By 1850, firefighters in New York also saw the need for a more standard uniform and took to wearing red shirts, blue pants, a leather belt, and high leather boots. The clothes were usually made of wool, since the material had the ability to protect against heat and cold and was known for mild water and flame resistance. Firefighters were often responsible for providing their own uniforms, especially the gloves, usually standard working gloves, and knee high leather boots or “three quarter boots.” As the development of rubber progressed, some firefighters also wore rubber slickers over their coats and pants and exchanged their leather boots for rubber. However, the majority of the materials used would still melt or burn once they came directly into contact with the fire, leaving the wearer with little to no protection.

The advent of the space age made new materials available to the fire service and led to the production of new gear. In 1971, the NFPA issued the Standard on Protective Clothing for Structural Fire Fighting requiring bunker gear to be made of three layers: an outer flame resistant layer, a moisture resistant second layer, and a thermal insulating third layer to protect from heat. Gloves and boots were held to similar standards as well as being required to protect from sharp objects, liquid, and electrical currents. In the 1980s, advanced materials such as Kevlar and Nomex were used to create the outer layer of bunker coats and pants. These materials are highly fire-resistant and also are self-extinguishing, meaning once they are out of contact with the fire, they will not continue to burn. The modern equipment is so effective in protecting firefighters from heat and flame that manufacturers are now developing new equipment to alert the firefighter when the outside air gets too hot.



A firefighter's personal protective equipment is often referred to as bunking or turnout gear. This phrase dates to the 1800s, when volunteer firefighters slept or "bunked" at the firehouse. They would leave their gear next to their beds so that when an alarm sounded, they could quickly dress or "turn out" for the fire. The gear displayed here includes a yellow bunker coat, yellow bunker pants, brown gloves, and black and yellow rubber boots. The pants and boots in front of the mannequin are placed in a typical arrangement commonly used by firefighters sleeping in their bunks. The pants were placed over the boots so that if the firefighter awoke to an alarm, he could

step into his boots, pull up the pants, and have half of his gear on in one easy step. The bunker gear here also has reflective stripes so that the firefighter is easily seen.

The featured podcast is an interview with retired Denver Fire Department Division Chief Eldon Buller, in which he describes the transition to newer, more protective bunker gear and the failed types of gear used in between.