



## HARD HATS

Originally hard hats were not very hard. Most miners wore only a soft canvas hat with a hard-leather brim. They looked more like baseball caps than protective headgear. Some miners attempted to create a hat that would better protect them by placing several coats of shellac finish on the canvas portion of their caps, and allowing it to harden. However, the modified cap still did not provide much protection from falling rocks or pieces of flying steel.

In the late 1890s, the Edward Bullard Company began selling equipment to California miners. When he returned from the First World War with his flat “Doughboy” helmet, Mr. Bullard used it as a pattern for a better product. Bullard created the “Hard-boiled” hat and patented the design in 1919. He used steam to ingrain canvas with **resin**, and then glued several layers of canvas together. He then sewed a crown of the hardened materials to a wide canvas brim and varnished and painted it black. The “Hard-boiled” hat quickly became a favorite, especially after the United States navy adopted it for use in its shipyards.

During the Great Depression, these early hard hats were required first on the construction site for San Francisco’s Golden Gate Bridge and again at the Hoover Dam site in Arizona. Aluminum hard hats were introduced in 1938. Most construction workers preferred them because they were lightweight and longer lasting. However, because aluminum easily conducts electricity, the hats could not be used during electrical installation or when electrical tools were frequent. Fiberglass hard hats were preferred in the 1940s, and remained popular until the introduction of thermoplastics. These last materials could be heated and shaped very easily, and when they cooled, they were very strong. Molded thermoplastic hard hats are the standard today.

Between 1950 and the present, manufacturers have worked on making the standard hard hat more comfortable and more durable. Improved suspension systems enabled the hard hat not only to provide better protection, but also to allow more air to circulate making the hard hat cooler. The most recent development has been to alter the brim to allow for better protection from rain and to cut vents into the top of the hard hat to allow for greater airflow.

Hard hats have come a long way from the canvas and leather baseball style to the polyethylene, molded and vented, yellow hard hat that is the standard on construction sites throughout the world.