A Dangerous Double-Edged Sword

Steam has been used for centuries in both industry and households, but when misused, it can be deadly

By Phil Kimble

Steam bath. Steamed vegetables. Steamed clams. When most of us think of steam, we think of the household uses for the vapor that rises from water when it begins to boil. But harnessing the power of steam has been useful in more than just the kitchen. It has been a catalyst for the growth and development of civilizations around the globe.

The invention of the steam engine was the driving force behind the Industrial Revolution. Steam energy is the main form of propulsion found on large ocean-going vessels. It has also been used to lift heavy objects during the construction of ships, as well as to drive the pilings into the riverbed to build a wharf where that same ship would dock.

In factories, steam is used to process foods, and clean and sanitize workstations; it also heats buildings, supplies hot water, and serves a myriad of other purposes. When handled properly and safely, steam is a most efficient form of energy. When mishandled, the results are often disastrous and sometimes deadly.

Steam is a double-edged sword.

It is a compressible product that, when suddenly released, does so in an explosive, and often destructive, manner. It is also extremely hot. Steam at 250 psi is 406 degrees Fahrenheit (208 degrees Celsius). You can fry an egg at about half that.

Any process involving steam in the workplace has the potential for danger. Anyone working with or around steam should have the proper safety gear, adequate training and the correct products to perform the task. Quality industrial hose and coupling manufacturers are very specific about the products they recommend for steam service. Because of the inherent dangers of steam, the product lines offered by hose and coupling manufacturers are very limited. For example, out of hundreds of product lines that Dixon carries, only seven are recommended for steam service and three of them have been around since the 1920s!

Many industrial accidents involving steam are a result of using hose or couplings that are not designed for the dangers that steam presents. Everyday assemblies utilizing products that are not recommended for the rigors of steam are pressed into steam service. Every time one of these assemblies is used without incident is like winning the lottery. The question to ask is: "How long do you think your luck will hold out?" When one of those assemblies fails, and it will fail, anyone or anything within its scope will get fried like an egg. For safety's sake, only use quality hose and couplings that are designed and recommended for the intended product and application.