When it comes to connecting wires, there are three main types of insulated terminal styles that may be used: Vinyl/PVC, Nylon, and Heat Shrink. Bare parts of these terminals are most commonly made of copper and then tin-plated to prevent corrosion. The hardest choice a technician has when joining two wires together is choosing the right insulation for the application.

Vinyl/PVC Wire Terminal Connectors

Vinyl connectors have a jacketing made from Polyvinyl Chloride plastic, most commonly known as PVC. While the insulation on these terminals is able to protect against short circuits, there is little other benefit to choosing this connector when making a repair. The wires being repaired remain exposed to the elements and can quickly corrode. The strength of this connection is dependent on the strength of a single crimp. Not only that, the insulation becomes brittle and cracks as it ages, a process accelerated by sun exposure. These connectors are the least expensive choice, providing a quality reflective of the price.

Nylon Wire Terminal Connectors

Like vinyl connectors, nylon terminals do not protect the wires from corrosive elements. Usually designed to be crimped twice, nylon terminals are stronger than vinyl connectors as the double-crimp delivers additional tensile strength and strain relief against wire pull-out. The nylon itself is also a much more durable insulation than PVC. However, without a seal, the tougher insulation does nothing to prolong the life of the wire.

Heat Shrink Terminal Connectors

Unlike vinyl and nylon insulation, heat shrink protects the wires to make a waterproof barrier. How? These connectors are insulated with an adhesive-lined heat shrink tubing. When heated, the tubing shrinks around the wire, and the melted adhesive adheres to the wire insulation, creating a waterproof seal to prevent wire corrosion and make a permanent repair.

While there is more than one option to choose from when selecting wire terminals to work with, heat shrink protection is the ideal choice for the trucking industry where lighting and electrical problems are one of the most frequent causes of downtime when maintaining a fleet.