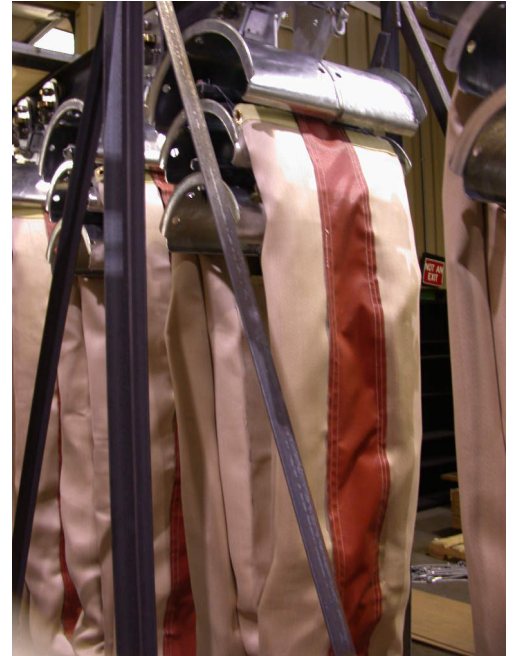


High Temperature Protection for Overhead Crane Festoon Cables

The Challenge:

When an overhead crane is employed in severe environments such as transporting ladles from a meltshop to a con-caster in a steel mill there is an enormous potential for heat, flames, ash or molten splash to severely damage electrical cables (or series of cables) thus crippling the crane. This translates into unscheduled maintenance and lost production time. In some instances these costs have been estimated as high as \$50,000 / hr depending on production schedule

Within the crane festoon cable system, the areas that are particularly at high risk are the bottom surface of the long loops that energize the trolley. When the cables are stretched out near capacity there is a significant horizontal landing area for sparks, molten metal splash, etc. The top saddle sections are also prone to damage. In many applications the cables are left completely unprotected and exposed to severe high temperature environments.



The Worbo Solution:

With a minimal capital investment, a protective jacket may be installed to wrap around the electrical cable to resist heat, flame, ash and molten metal splash. The jacket must be flexible and constructed from high temperature material. To ensure maximum trolley mobility each tier in a multi tier cable system should be equipped with an independent jacket.

For extreme environments in excess of 2000°F an effective jacketing construction (as developed by Worbo Inc. Thermal Protection Technology) consists of an interior layer of aluminized Kevlar® material surrounded by a heavy 36oz layer of 2000°F woven silica. The woven silica must face the hot side environment. The jacket is wrapped around the cables to form a closure joint and tied together using stainless steel wire ties or cinch straps. To ensure that the closure joint is protected from dirt, dust and other abrasive material infiltration, the jacket should be equipped with a protective flap to cover the closure.

The Economic Benefits:

Depending on the application the cost to procure and install a high temperature jacketing system could be as low as \$30/ft. Relative to the enormous costs associated with unscheduled maintenance and lost production time this represent an insignificant capital investment that could pay for itself several times over through the prevention of a single unscheduled maintenance event.