

Premium Welding Cable Saves Money for Shipbuilders and Ship Repair Yards

Several major US shipbuilders in the southeast recently conducted a four year assessment to evaluate the quality and durability of various sizes of Industrite® Engineered Welding Cable which is manufactured by Draka Cableteq USA and distributed by Seacoast Electric Company in Gulfport, MS.

The cable, ranging in sizes from #2 to 4/0, was subjected to some of the most hostile situations found in a shipyard and tested extremely well for flexibility, durability and longevity in an abusive marine fabrication environment.

Shipyards, through no intent, tend to exhaust large volumes of welding cable. Cables routinely fail as a result of:

- **Abrasion** – Cable insulation abrasion due to being drawn over sharp edges such as steel plate and through portals.
- **Cuts or Crushing** – Cable cuts or crushing resulting from being run over with yard equipment or having steel plate dropped edgewise on the cable.
- **Burning** – Cable is injured by a cutting torch, hot slag, sparks or an electric arc from a welder working in an area where welding cable may not be noticed.
- **Improper Cable** – Using undersize cables not rated for either the voltage or current being used.
- **Exposure** – Exposing the cable to oil, water and sunlight.

Replacing cable is a hidden cost that, for the shipbuilding industry, is often considered a cost of doing business. The cost may seldom be factored into the Total Manufactured Cost of production for a new vessel or repair of an existing vessel.

The four year testing conducted by the shipyards consisted of rigorous methodologies that included:

- A 50 foot length of 2/0 Draka Cableteq USA Welding Cable was tested for resistance to crushing by being subjected to a forklift running over the welding cable multiple times a day for a period of one year. The shipyard reports that there were no signs of failure after one year and that the cable was still in service after 4 years.
- To determine the number of times a cable can be drawn back and forth over a sharp edge before breaking through the insulation to bare copper, cable was sawed over the edge of a half inch sheared steel plate. Of the three different cable brands tested, the Draka Cableteq USA Industrite cable survived more than twice the number of saw strokes that the double jacketed version of a competitor's cable. The Draka Cableteq USA Industrite Cable withstood more than 100 strokes without signs of severe abrasion or breakthrough to the bare copper.
- Flame testing consisting of subjecting the cable to a direct Bernz-O-Matic flame for a minimum of 10 seconds. The cable was then bent double to see if the jacket had become brittle enough to crack. The Draka Cableteq USA Welding Cable passed without failure.

The participants in the study report that they have significantly reduced costs with one shipyard reporting a cost savings of over \$1 million dollars within a two year period.

(The above is excerpted from an article written by James R. Darnell and is used with permission)