

Protecting the Lives of Offshore Oil Riggers with DuPont™ Kevlar® and DuPont™ Nomex®

Because the price of failure is too high.

When your company name includes “life saving,” you’ve made a commitment. That’s why Viking Life-Saving Equipment strives to produce the world’s best equipment of its kind. With over 45 years of maritime experience, Viking is committed to safety at sea and has gone to extraordinary lengths to protect customers from offshore danger.

Because Viking places customer safety at the core of its operating values, the use of DuPont™ Kevlar® and DuPont™ Nomex® in offshore-rig evacuation chutes was a strategic decision. DuPont™ Kevlar® brand fiber is five times stronger than steel at equal weight. It is now widely known as the key strength ingredient in a wide range of personal-protection devices, from bullet-resistant jackets to buildings equipped with a DuPont™ StormRoom™ with Kevlar® - capable of protecting people and valuables from hurricanes, tornadoes and powerful Category 5 storms.

“Kevlar® is synonymous with lightweight strength and Nomex® with fire resistance,” said Ruth Farrell, Global Marketing Manager for DuPont™ Kevlar® in the oil and gas industry. “These materials are ideal for an offshore platform-based environment, where sudden danger can come from fire and explosion, and the rescue can easily be hampered by wind and waves. Viking’s commitment to customer safety aligns perfectly with DuPont’s commitment to a better, safer, healthier life for people everywhere.”

Kevlar® adds strength to a variety of Viking safety applications, “. . . from our offshore oil platform personnel escape systems to lifejackets for firefighters and body armor worn by Customs agents and harbor police,” says Henrik Uhd Christensen, Sales and Marketing Director for the Viking Life-Saving Equipment division.

The dangers on offshore platforms

Life on an offshore platform can be perilous. When disaster strikes, the preferred evacuation method is via helicopter. However, in the event of a sudden emergency, such as fire,



explosion, or severe weather—or under any conditions that make air evacuation impractical or impossible—an equally dependable, chute based escape method becomes critical.

Creating that secondary method is where Viking excels.

Sliding to safety

About 20 years ago, inspired by netting used by fishermen, a veteran Viking employee invented a net-based escape chute that would allow offshore-platform workers to safely climb down to an attached boarding platform.

The chute concept featured seawater-resistant stainless steel rings reinforced with Kevlar®. It also incorporated Nomex® to enhance its fire-resistant properties.

According to Lars Bjoland, Technical Manager with Viking Norway, DuPont™ Kevlar® was a natural component of chute-design specifications. Its fire resistance and strength were well known in Europe when the chute was conceived.



Kevlar.

“Mayday!”

Today, collapsed evacuation chutes are stowed inside a container extending over the deck. Chutes range in length from five to 50 meters, with the shortest lengths used in training.

When disaster strikes and the system is deployed, the evacuation chute quickly drops to the water surface, where an attached boarding platform automatically inflates. The chute is subdivided along its length into cells, complete with speed-retarding slides. Each slide runs at an opposing angle to the one above, creating a zigzag lattice through the entire length of the chute.

Evacuees enter and exit the chute from the top, or at any level, through openings located behind each slide. When required, they can also climb down the outside of the chute. Support ropes are made of a Kevlar® core, with a Nomex® outer covering. The Kevlar® construction of both ropes and net adds the strength necessary to support evacuees even against the powerful side-motion caused by wind and sea current. Nomex® adds a level of fire protection as well as a protective outer covering to shield the Kevlar® core from the sun’s ultraviolet rays.

Chutes are designed to accommodate individuals wearing lifejackets, survival suits, breathing apparatus, and other emergency equipment. They are able to evacuate 140 persons within ten minutes, with the additional advantage of a compact size that’s so important on offshore platforms.

At water level, additional rafts are unpacked and moored to each other to accommodate the descending workers until a rescue vessel can reach them.

A global solution

It’s easy to see why Viking offshore evacuation systems are now in use around the world. The company even markets an Arctic model for evacuating personnel onto icebreakers in frozen waters, where meter-thick ice floes add another dimension of danger to the rescue.

In these situations, with life rafts impractical, Viking has adapted the system to drop the chute onto the deck of a rescuing icebreaker vessel. A quick-release system cuts the steel wire to free the chute from the boarding platform so the rescue vessel can depart with evacuees.



A perfect synergy, a bright future

Because of its success and market leadership, Viking, headquartered in Esbjerg, Denmark, has grown from an eight-employee shop producing life rafts to an international company with 40 branch offices and a network of approximately 270 certified servicing stations, strategically located near their customers.

“It’s a perfect synergy,” said Ruth Farrell of DuPont. “Viking and DuPont are two companies whose mutual commitment to safety is helping to protect human lives while enhancing each other’s business growth.”

www.kevlar.com

www.poweredbyscience.dupont.com

www.viking-life.com

Product safety information is available upon request.

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