Fire Security has protected more than 230 cruise ships including the world's largest.
Will your cables survive a hydrocarbon fire?

Uncoated cables experience a short circuit after less than 2 minutes in a hydrocarbon fire. Cables with FS coating will function up to 90 minutes without a short circuit.

**AN INTERNATIONAL STANDARD FOR THE CRUISE INDUSTRY**

Millions of people travel the ocean every year for business or pleasure. Fire Security is one of the most important partners in making this travel as safe as possible. It is our objective to enhance the safety of the vessel, its passengers and crew and as such Fire Security’s products have become an international standard for the cruise industry.

Fire Security - what we offer and how we work.

Fire Security is a Norwegian company specializing in class approved repair and fire protection of electrical cables. We are the only producer offering a turn-key operation with specially trained personnel for application worldwide.

Fire Security offers to conduct surveys of cables in high risk areas of your vessels, after which a detailed report is handed over to you with suggestions to what we can do to improve the fire technical properties of your cables, what you will gain and a price quote. This is done totally free of charge with no commitment from your side.

Our Vice President Terje Waage is in charge of the cruise sector at Fire Security. As a co-founder of the company he has more than 30 years of experience and has seen more than 230 cruise ships being protected by our team of applicators.

When choosing a partner to conduct fire protection of cables, it is of utmost importance to use a company who knows how to perform the job according to requirements. Engage a company with a truly professional organization that uses well documented products to provide fire resistance under extreme temperatures.

Fire Security meets all these requirements.

Fire Security has more than 30 years of experience in cable fire protection worldwide.

Saved Cost, Saving Assets, Saving Lives

In a fire situation our systems will prevent:

- Ignition of the cable insulation
- Release of toxic fumes from the cable insulation
- Release of poisonous gas (HCL) from the cable insulation
- The cable tray from melting and collapsing

**How the protection works**

During a fire, the coating will expand up to 100 times its thickness, thus protecting the cable from fire damage. Coated cables will function during a fire and be usable afterwards. If the fire is extinguished within reasonable time, there is no need for cable replacement.

The yellow curve shows the temperature of an ISO fire - 830° Celsius, which is a normal cellulose fire.

The red curve represents the temperature of an oil fire - up to 1100° Celsius - the temperature to which Fire Security has tested their coatings. This is the temperature you will be facing if you had such a fire.

FS-1 is an intumescent coating that will expand 100 times its thickness during a fire - thus protecting the cables from fire damage and making sure the cables function when needed the most.

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WE SERVE THE WORLD’S LARGEST CRUISE LINE OPERATORS

Fire Security is the world leader in fire protection of cables on board cruise ships using our FS1 intumescent coating in a turn-key solution. Since 1996 we have protected in average one ship per month.

Fire Security has protected cables in vital areas on board more than 230 cruise vessels:

- Aida Cruises: AIDAaura, AIDAnova, AIDAperla, AIDAstella, AIDAsol, AIDAmar, AIDAblu
- Carnival Cruise Lines: Carnival Splendor, Carnival Spirit, Carnival Legend, Carnival Pride, Carnival Liberty, Carnival Miracle, Carnival Pride
- Carnival Cruise Lines: Carnival Sensation, Carnival Sonata, Carnival Elation, Carnival Fantasy
- Carnival Cruise Lines: Carnival Valor, Carnival Victoria, Carnival Vista, Carnival Vista
- Celebrity Cruises: Celebrity Equinox, Celebrity Eclipse, Celebrity Reflection, Celebrity Solstice
- Costa Crociere: Costa Magica, Costa Mediterranea, Costa Pacifica, Costa Romantica
- DFDS Seaways: Princess of Scandinavia, Pearl of Scandinavia
- Disney Cruises: Disney Dream, Disney Fantasy, Disney Magic, Disney Wonder
- Holland America Line: Volendam, Statendam, Oosterdam, Nieuw Amsterdam
- Holland America Line: Koningsdam, Eurodam, Amsterdam
- Ibero Cruises: Grand Voyager, Navidad, Iberus
- Norwegian Cruise Line: Norwegian Gem, Norwegian Star, Norwegian Jewel, Norwegian Pearl
- Princess Cruises: Ruby Princess, Emerald Princess, Golden Princess, Princess Cruises
- Pullmantur Cruises: Monarch, Majesty, Majesty
- Pullmantur Cruises: Empress, Sovereign, Majesty
- RCCL: Splendour of the Seas, Sovereign of the Seas, Radiance of the Seas
- Seabourn Cruise Line: Seabourn Ovation, Seabourn Encore, Seabourn Quest
- Silja Line: Finnjet
- Star Cruises: Star Pisces
- Superstar Capricorn
- Superfast Ferries: Superfast 355, Superfast 356
- TUI Cruises: Mein Schiff 1, Mein Schiff 2, Mein Schiff 3, Mein Schiff 4
- Viking Cruises: Viking Star
- Viking Cruises: Viking Sea

Fire Security also provides cable fire protection for tankers, industrial plants, oil installations, tunnels and high rise buildings.
LETTERS OF RECOMMENDATION

January 11, 2006

To Whom It May Concern:

Carnival Cruise Lines is the world’s largest cruise operator and over the past six years the company has protected cabling in high fire risk areas throughout its fleet using Fire Security’s highly effective coating systems.

The company plans to continue use Fire Security’s products on its future newbuilding projects.

Fire Security products are used in a variety of engine room spaces, specifically the separator rooms, incinerator flat, emergency generator and Azipod rooms.

The safety and security of Carnival’s guests and crew is of the utmost importance so it is vital to use a company that possesses a solid reputation in the industry and offers products that can perform at high levels in extreme temperatures. In addition, we require a product that would allow us to continue normal service, regardless of the surrounding environment and temperature.

Since Fire Security met all our expectations and demands with regards to organization and products, Carnival contracted with them to complete the remaining vessels in our fleet.

Carnival is very pleased how Fire Security assisted our company in these various projects and can offer Fire Security and their coatings our highest recommendation.

Best Regards

B.W. Swensen
Vice President, Technical Operations
Carnival Cruise Lines

Sandefjord, 16.09.2005

To Whom it may concern

Fire Security Coating

Color Line is one of the leading cruise- and ferry operators in Scandinavia. On all our vessels we have protected the cables in high risk areas, such as engine rooms, purifier rooms etc. by using the products of Fire Security.

In August 2005 we experienced a fire in the main engine room on board one of our vessels. Lighting fixtures and smoke detectors melted completely, nevertheless the consequences were insignificant.

Over a short period temperatures were extreme until the local fire protection system - Hifog - extinguished the fire. The cables were found to be in normal working order and there was no need for any cable replacements as a result of this incident.

We assign this fortunate outcome to the products of Fire Security, which allowed the ship to continue it’s normal service. We are pleased to give Fire Security and their coatings our best recommendation.

Best regards

for COLOR LINE MARINE AS

Johann Martinussen
Superintendent, Electric & Automation
FIRESECURITY

Our products have been approved by leading classification societies and authorities: U.S. COAST GUARD, Lloyd’s Register, DNV-GL, Achilles, RINA, NMA, ABS, FM, UL.

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