FIRESAFE / energy

et setting and

Street.

2227 2255

Marine Fire safety for the ship industry

ARREN

....

...

A REAL FOR THE REAL FOR

mann

This is Firesafe Energy

We offer a wide range of fire protection solutions for the marine sector. We have documented solutions for both newbuilding, maintenance and repair work on ships and vessels.

Planning

- Determine the need for solutions
- Develop reliable solutions
- Practical solutions for escape routes, corridors and maintenance

Design

- Preparation of product description
- Ensure proper performance of fire protection work for electrical installations, pipes and HVAC
- Firesafe Energy ensure fire protection for all other technical disciplines

Tenders

Calculation of offers according to Firesafe's competence and the assignments specifications

Execution and implementation

• Implementation of project in accordance with agreed guidelines and premises

Inspection and maintenance of fire safety installations

• Regulatory inspection and service of manual extinguishing equipment and marking systems

Documentation

- All solutions are documented and quality assured
- All products have been tested in accordance with relevant standards and have Norwegian approvals

Project planning
Situation analysis
Risk analysis and evaluation
Fire safety calculations
Organizational fire protection
Fire documentation
Courses and training
Fire safety drawings

Fire protection of steel Fire doors Fire sealing Fireproof cable and pipe collars Sound insulation Upgrading of fire barriers Lead light systems Documentation of fire alarm systems Automatic extinguishing system, Inert gas and aerosol Water mist / Smart scan Fire engineering control Fire alarms Fire extinguishing equipment Automatic extinguishing systems Inergen Thermography Extinguishing equipment Sprinkler system maintenance Courses and training: - Hot work certification - Extinguishing exercises - Practical first aid and cardiac arrest training

S В

COURS

щ

O

⊲

MAINTEN

CONTRO

N.

100

pproved and well documend fire safety products PG fire stopping mortar re and blast bellows re alarms and detection re doors in stock re extinguishers re hoses, ladders and signs scape masks rst aid kits um caskets tal Supplier of Fire Protection Consulting / Installation / purses / Control, Inspection ad Maintenance / Product evelopment

Fire protection for Multi Cable Transits in marine environments

In a corrosive and moist environment, it is important that critical components and products are of the highest quality if an accident or fire should occur.

GPG Marine

GPGM is a powder consisting of gypsum, perlite and glass fibre, in addition to other ingredients and additives. When mixed with water the mortar hardens into a strong and fireproof material. GPGM is used as fire proof sealing material in cable/pipe penetrations through bulkheads and decks. The mortar effectively prevents fire, smoke, and toxic gases from spreading between fire cells.





- Gypsum based fast curing fireproof mortar with good mechanical strength and good soundproofing.
- Good thermal isolation even in small thicknesses around all technical installations, which insulates against thermal effects.
- Expands 1% volume when curing and has excellent adhesion to all surfaces.
- Used mainly for fireproofing of large or small holes and openings around technical installations such as cables, pipes and ventilation gates, as well as open transits in bulkheads and decks.
- Fire resistance tested and approved according to A0, A60, H0, H60 and Jetfire (350 kW/m²).
- Packing in air tight 20 liter buckets keeps the product dry after opening and gives a long lasting durability.
- Technical fire resistance as standard GPG. GPG Marine is also water repellent.

A selection of products

Inert gas systems

For extinguishing fire in environments where water is not desirable. Chokes the flame by reducing the oxygen level in the air. The inergen extinguishing system consists of the extinguishing gas Inergen (IG541) and its distribution system. The inergen is developed and is produced by Fire Eater in Denmark, and is a concept that is approved according to the strictest available standards. According to NFPA 2001-2012, Inergen is the only approved extinguishing gas for permanent stay of persons, ie no need to evacuate personnel in connection with the release of the extinguishing gas.

Frying cooker extinguishing system

For use in kitchens and restaurants. We deliver and install complete systems for professional kitchens with liquid containers dimensioned according to the size of the kitchen. We have chosen the Ansul R-102 model for offshore/ marine due to documentation requirements.

Fire extinguishers

A broad range of fire extinguishers

CO2 carbonated, Frying extinguishers, Powder based extinguishers, Foam based extinguishers and Extinguishing spray.

Aerosol fire extinguishing systems

Upon detection of a fire, the aerosol generator can be activated manually or automatically from the trigger unit. When activated, the generator produces an exceptionally effective and ultra-fine potassium based aerosol. Fire extinguishing is achieved quickly by the aerosol's ultrafine particles interacting with the free radicals of the flames. This interaction prevents the spread and maintenance of the flames. We deliver Stat-X Aerosol extinguishers of all sizes. The container is made of stainless steel and has a long life up to 20 years.

Breathing air

Firesafe supplies breathing air equipment for use in fire and with exposure to gas chemicals. Filtering full- and half masks, compression masks, O2 containers, and gas detection equipment, etc.

Fire paint

Firesafe both supply and apply ablative fire protection coating according to DIN 4102 for use on horizontal and vertical oriented electrical cables. A wide range of authorizations and certification such as e.g. DNV·GL AE00001K2, 03-HG 367672-PDA American Bureau of Shipping, IEC 60332-3 cat. A and E-10208 DET NORSKE VERITAS, IEC 60332-3 cat. A.



Services for marine environments

Surveys

Complete review of fire protection on ships and vessels. Resulting in a status report with recommended actions. Offered as complete analysis or focusing on individual facilities and component types; such as fire extinguishers, sprinkler systems, lead light systems, breathing air systems or existing fire barriers. We are DNV approved for testing and installing breathing air systems.

Fire drills

Tailored for the individual ship or vesse for crew and/or visitors. A fire exercise or fire drill gives important knowledge and extra security in the everyday life for both management and individual employees. Exercises and courses are customized according to size and type of rig or vessel and the desired focus area according to the Regulations for fire protection on ships, SOLAS 74. Tests, approvals and documentation

Firesafe's products and solutions have the relevant documentation and quality assurance.

APPROVAL OF SERVICE SUPPLIERS	DNV-GL	TYPE APPROVAL CERTIFICAT	DNV-BL	TYPE APPROVAL CERTIFICATE	DNV-G
No. In the carried prices		The state of the		These is its committee	
made A& And Translation		The law Team Property of		That the Teach Transferration	
Transfilmente, Nacionary		and the second sec		coll (upon designation)) (Phy Renting	
a entre manuel la proposition and manimumant of the participation qualitation and systems. In important or and entremotions of unit continuous forming, approxime. In entremote with these Programme Micros. (27.4484).		Freedom Dances Al		Foreign Provide States All	
		ber in person stream		the state of the second state	
The particle leaders and the design of the parameter for one with well was a particular to films in, have the following anyones the design single single states.		Autority is a set and and it is and it is the latter.		Reprint direct - Reprint for one on table personalized system is 10 from both each and blocks.	
		Austriani-application. The lagost from the inscision with only		Restricted application. We beautified the facilitation of party	
Confidence with and BREA Ro BA		No. Applications, California at page 1-		the Application, Caribations on page 1.	
and Transform of 2008 IS 10					
	to percent	Includes a Bridge		Intel 4 (\$64) + (\$17.18.19	
	The least digitals appearing			The functioners water and all the state of t	and the second second
	tion, Marth Age	Die is hat water the fighter of the	5218 m		
Color In Color I			and a filler of the local division of the lo		of the other
CONTRACTOR AND					
				In solid state of the solid state of the solid state of the solid state.	
and the local data and the local	and the second	Salaran registration by pro-	Contraction of the local distance of the loc		-
A 1 II WAS ADDRESS AND ADDRESS		AND THE REAL PROPERTY AND A DECIMAL OF A DEC	and the second second	100.000	

FIRESAFE ENERGY AS

Erik Ulevik General Manager/Daglig leder

Mobile: +47 98 20 50 00 Switch board: +47 22 72 20 20 E-mail: erik.ulevik@firesafe.no Visiting address: Robsrudskogen 15, 1470 Lørenskog Postal address: P.O. Box 6411 Etterstad NO-0605 Oslo NORWAY

www.firesafeenergy.no