

Fire protection of containers at sea

As new ships out of the dockyard boast ever greater capacities, container ship fleet sizes are also expanding rapidly in accordance. With growing volumes comes increased responsibility, meaning the safety of these ships is more important than ever.



Erik Christensen

Despite having strict regulations in place to ensure container ships comply with fire safety objectives, the number of fire accidents on board container ships is unfortunately increasing at the same rate as their production. The Guidelines for Formal Safety Assessment for use in the International Maritime Organisation's rule-making process dictate that fire protection of new cargo ships with containerised cargo on deck should be improved.

At Survitec, we pride ourselves on incorporating safety measures from the outset and believe that these must form the basis of the design process. Firefighting systems must successfully pass rigorous testing before they can be used on board a ship and we believe that container protection solutions

for fire safety at sea can be both a pre-emptive and reactive measure, successful management of which should be a central element that is embedded into the mindset of the crew. As a safety and solutions provider with a longstanding history in the provision of lifesaving equipment bringing new products to market within the maritime, offshore and oil & gas industry, we consider ourselves a leading voice on fire safety at sea.

Given the size and scale of these ships, seafarers not only need to be well-equipped with the latest technological advancements in fire safety systems, but the industry as a whole must strive towards inviting an open dialogue in terms of safety procedures and equipment used to contain and monitor container ship fires as well as tackling cargo misdeclaration. The challenges of preventing and exhausting fires on the open sea requires intervention on both

▼ Toba in rough weather Desember 2000.



Image courtesy of Survitec

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a macro level from regulation as well as in-depth comparative research and innovative, new product development from safety solution providers looking into container protection.

Survitec's Novenco Fire Fighting (NFF) XFlow Mobile Water Monitor and Water Mist Lance are designed to protect ships carrying containers. Specifically, the application of the Mobile Water Monitor is used to protect the container deck area and the Water Mist Lance is used to protect container bays. In the event of a fire in a container, the water mist lance and the water monitor can be used together or independently.

The water mist lance tool case contains a battery operated drill, a fire hose and the lance itself. The equipment can easily be carried, mounted and operated by one person. The lance is connected to the fire main using the hose in the tool case, and water is released by pushing the valve handle. The drill is fast and easy-to-use, but for maximum effect the hole needs to be drilled at a significant height. The lance is then inserted in the hole, and the groove in the fixing sleeve fastens to the container wall. The lance can then operate unattended for as long as needed.

The water monitor is easy to carry and assemble by an individual. After assembly, the monitor can be placed on deck or any other horizontal surface without any straps or fastening devices. However it is still fitted with a strap that can be used if the ship is rolling or pitching in heavy seas. The monitor is connected to the fire mains with a standard fire hose which starts operating as soon as the hydrant valve is opened. The angle of the water jet is easily adjusted by a turning wheel, from 0 to 90 degrees and the direction is set by turning the monitor. Similarly to the water mist lance, the monitor stays stable by itself and can operate as long as needed.

In terms of mobility, the lightweight feature of the Water Mist Lance means that its equipment comes in a practical tool case for easy storage and use, it can be easily carried to significant heights of the top containers. Given the high-risk nature of a container vessel and the highly flammable liquids likely to be contained onboard, it's important for fires to be extinguished accurately and efficiently to reduce the risk of spreading and any harm being caused to the individual attending to it. Therefore, Survitec's water spray

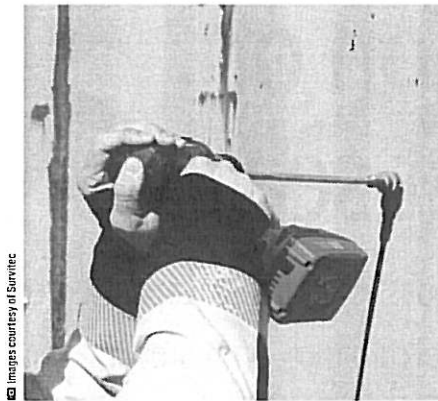
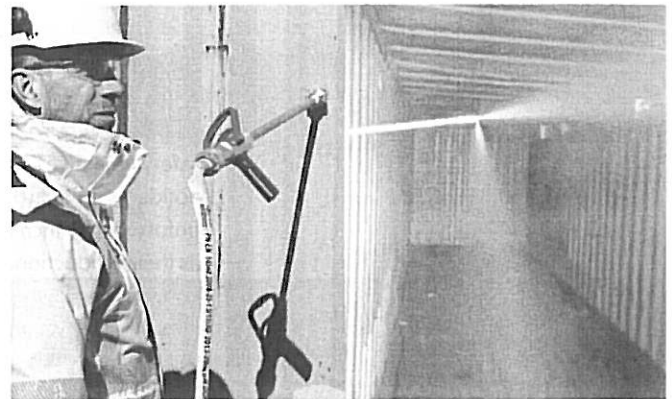


Image courtesy of Survitec



▲ ▽ ► NFF XFlow Water Mist Lance.



is discharged both vertically to protect crew from the heat, and horizontally to suppress the fire. Similarly, the Mobile Water Monitor boasts a nozzle pressure of 4.0 bar, the throwing distance is 40m and the monitor can protect up to 10 tiers of containers, and even more at high pressure.

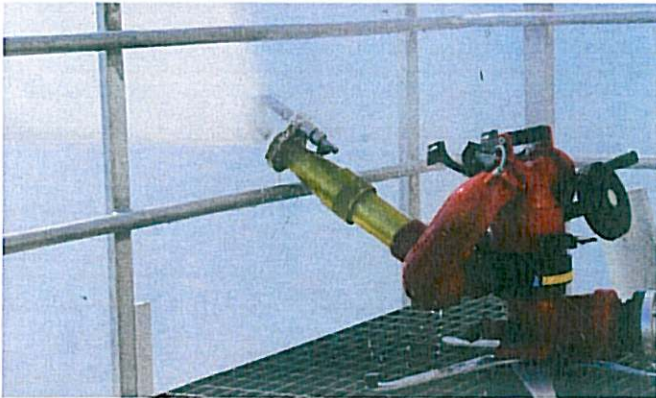
The flexibility of Survitec's Water Mist Lance means the system can reach cabins and cars onboard the container ship and is equipped with a drill to penetrate the container wall quickly and safely. Requiring only one crew member to operate reduces the risk of danger to fellow crew members and both firefighting systems have been developed with a holder that enable it to be left unattended in operation.

With only one waterway connection for fast response time from alarm to operation, the Mobile Water Monitor saves crew members time unlike alternative systems which require the crew having to hoist the device up using a telescopic lift to the doors of the burning container. With hydrant adaptors available, the dual purpose nozzle is available for spray and jet functionality. The easy elevation features of both the Water Mist and Mist Lance mean that Survitec's systems ensure precise and efficient firefighting.

The wide capabilities of Survitec's

container protection solution means that not only are human costs and investment risks a major consideration, but environmental costs are also taken into account when addressing fire safety at sea. Given the limited access to resource whilst out at sea, our container protection solutions can adapt to a low water requirement and can save on extra installation costs linked to higher water supply demand. In terms of application, there are no moving parts in the nozzle which improves the accuracy of delivery.

Not only are functionality and safety primary considerations for container protection solutions, inspection and servicing is also part and parcel of safety solutions. Survitec has more than 40 years' experience in the provision of inspection, reporting, maintenance and repair for fire and safety systems and equipment for the maritime industry. Most system failures including fires at sea, are caused by a lack of maintenance. Survitec's ethos of regular inspection and/or servicing, increases the probability of functionality of its systems in case of an incident on-board a container ship. Survitec's key fire servicing solutions range from gas based, water based, power, fixed foam, inerting, fire detection and fire alarms as well as loose equipment such as oxygen/acetylene fixed systems.



◀ ▶ ▲ NFF XFlow
Mobile Water Monitor.

In the event of a container ship fire, Survitec's highly experienced and fully trained service personnel work from class-approved service stations situated in 50+ countries and are on hand 24/7, 365 days a year to manage onboard fire

and safety service requirements. As and when required, flying squads are also available. All Survitec fire service stations are approved to ISO9001: 2008 and operate in accordance with IACS UR Z17 approvals. Survitec also has global approvals from

major classification societies including DNV GL, Lloyds, KR, RS, RINA, GL, ABS, BV, CCS and Class NK as well as a number of local class approvals. Our skilled technicians are trained to ISO and approved to international standards to carry out servicing, inspection and maintenance on a complete range of multi-brand fixed firefighting systems and firefighting and safety equipment.

The delicate and potentially fatal nature of fire safety at sea means that container protection solutions must continue to be innovative to take into account any eventuality and require frequent testing and assessment. In order to grasp the complexities of the matter, it is important for our container protection solutions to remain ahead of industry equipment compliance. We pride ourselves on our relationships with approval authorities across the globe, ensuring our products and services meet the highest standards laid out by industry regulators. With over 500 service stations worldwide, situated in some of the busiest ports in the world, help is on hand in the event of any emergency.

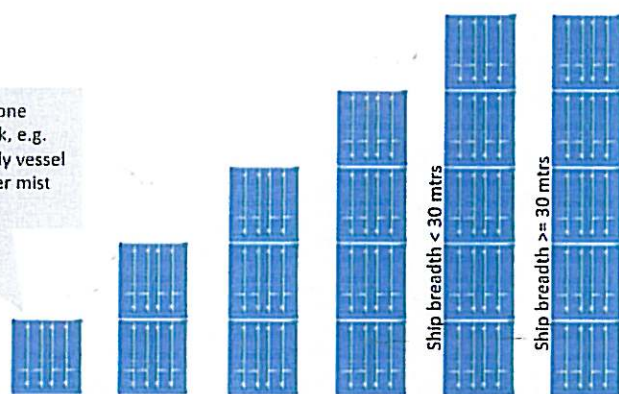
➔ For more information, go to www.survittegroup.com

Fire-fighting equipment requirement in SOLAS Chapter II-2, reg. 10.7.3

▶ FF Equipment Requirement in SOLAS.



A ship with only one container on deck, e.g. an offshore supply vessel must have a water mist lance.



# tiers of containers	1	2	3	4	5+	5+
Min. # of water mist lances	1	1	1	1	1	1
Min. # of water monitors					2	4

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