

GLOWMARK

Case study Of GlowMark Arrow Tactical Safety Marker System For Industrial Fire & Safety Evacuations AL TRAUTMAN



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OBJECTIVE: SAFETY COORDINATOR/SAFETY TRAINER

My name is Al Trautman and I am from SW Louisiana America.

I have worked as a Health & Safety Executive (HSE) for many years of my career; and I have also worked in the Gulf of Mexico for the past 30 years for many big industrial oil and gas companies who are listed in my resume.

Practical Observations & Case Studies

I have been involved in all aspects of Industrial Safety Training at a very high level during my many years of working offshore within oil/gas/production and offshore construction.

After carrying out several different case studies with GlowMark technology, I have identified and have arrived at the conclusion that every drilling platform would benefit from and in fact needs a more reliable form of fail-safe emergency lighting methods to visually guide people, pointing out and indicating many potential hazards there are within many of these dangerous areas.

By using and installing GlowMark Arrows it is easy to visually mark the directions workers will need to walk in to enable them to safely exit and evacuate in an emergency, having a visual guide to help them to find their way from the working areas and living quarters to safety muster areas.

During my case studies I have evaluated GlowMark Arrow technology from many areas within safety & fire safety compliances. I have realized that these simple but effective directional arrows can provide the necessary tools of the trade which are needed to serve the following purposes.

Offshore oil and gas drilling platforms are very dangerous industrial working areas that are prone to fires and gas explosions; and which also have living quarters and recreational areas that are occupied and used by the workers and other occupants.

The current emergency lighting method being used is battery charged LED EXIT light units. The downside to these LED lights is that they do not always work in an emergency situation or when there is an electrical power failure because they are reliant on the batteries that need to be charged; and which also rely on electricity which creates the power for the storage batteries to make them operate. In many cases it has been found that because the batteries may not have received a sufficient charge for long enough, they may not be able to operate correctly or for as long as they should do.

Because of my many years with hands on experience within my profession, my work involves me to carry out regular case studies to keep up with changing regulatory safety compliances within the industry. And since I have been evaluating the GlowMark “glow-in-the-dark” Arrow markers I have realized that they are an excellent fail-safe device to guide people in emergency situations because they do not rely on electricity or batteries to power, charge or activate them in the same way that the current LED lighting system does. Additionally LED lights often suffer from component failures which can also stop them from operating; and they also require ongoing maintenance at regular intervals. The GlowMark arrow markers are in fact maintenance free and are also self cleaning.

Temperature Testing for Fire Safety

Due to the uses that we are anticipating using the GlowMark Arrow markers for, further important physical case studies and testing for the material were necessary, when I read the report of the test results that were carried out by Tactical Imaging LLC on the main GlowMark website I was very impressed. Tactical Imaging’s report and testimonial shows that they have tested the point at which the plastic lens would melt and have proven how the “glow in the dark” material would perform under those conditions.

The report information by Tactical Imaging LLC

A GlowMark arrow marker was placed underneath a high candle power halogen spot light that is very bright and which gets extremely hot.

We found that the plastic material began to melt at about 140° degrees Fahrenheit with a complete degradation of the material (melted to the point that you could not detect a distinct shape) at about 170° degrees Fahrenheit. However; to our surprise the “glow in the dark” material underneath kept glowing for up to 14 hours, even when the plastic lens that encases it had been destroyed. Now of course the ability to detect the material from distance was degraded but it did continue to glow and was still visible.

I now believe that because the GlowMark “glow-in-the-dark” compound is also fire retardant it is an extremely important safety factor for these types of uses and applications within industry. GlowMark Arrows can also help fire-fighters to see where they are going when entering into a smoke filled structure because the arrows markers can also be seen through smoke and fog indoors and outdoors.

I can now clearly see and identify there are definite possibilities to create much higher safety levels from using GlowMark technology, and how it will be of great benefit because it can aid and help people who are evacuating a structure in a fire.

The Arrow markers also have an additional visual dual safety aspect because of the 3M Brand base rim reflective tape they have and which is applied to the edges of the GlowMark Arrow

safety marker base rims which will also reflect light back from a fireman's flash-light, which is another important tactical advantage for fire-fighters when entering a structure during a fire, helping them to see where they are going in both the dark and through smoke.

Applications

GlowMark Arrow typical uses are for fire safety escape routes which include Exit markings for corridors, pathways and stairways, doors and muster areas.

Evacuation procedure

Workers who are evacuating an oil or gas drilling platform need a secure fail safe method of lighting to direct them and to indicate the way to "SAFETY EXITS" enabling them to move safely in the direction of muster areas where they will be able to gain access to the heliport or to the boat landing.

I have also identified the arrow markers can be used on the support boat decks and gangways, on life jackets and escape capsules as well as on heliports. In fact all of these areas are sometimes difficult to see, particularly to identify people or objects in extreme and bad weather conditions which all of these areas would definitely benefit from using GlowMark as a visible identifying device.

When an ESD 1 OR 2 occurs on a platform, the first thing that occurs is a power cut, which means there is NO electrical power. But as soon as this happens and there is a blackout the GlowMark Arrows automatically self activate and illuminate, clearly, visibly, pointing and indicating to people a marked pathway to follow, so people will be able to see them in the darkness showing them the way to evacuate. The arrow markers will remain visible for many hours after the LED lights no longer work.

Getting to the evacuation area and device is imperative. This is also something to consider when one is welding underwater, doing work under the well bay area, part of the case study shows that GlowMark can also be seen under water.

This is a typical emergency evacuation case scenario

During the night in a storm a lightning bolt strikes and hits the platform above the well bay area. A fire starts because methane (CH₄) is present in the Class 1 Div 1 area. The UV detector sees the UV from the heat which triggers and sets off an alarm and ESD 1 and 2 occurs.

People, who are sleeping in their living quarters wake up and "quickly get dressed". When the people are then moving out of their sleeping quarters, they will see the glowing arrows pointing in the direction towards the evacuation routes to the escape capsule in that area.

To conclude people can follow the glowing arrows down the hallway, down the stairs, to the EXIT door of the quarters guiding them right up to the muster area and the escape capsule. If there were no GlowMark Arrows in place to guide the way there is a strong chance and possibility the personnel may lose their way in the dark in the event of the battery operated LED lights failing.

This simple fail-safe arrow marking device will help get the evacuees to the escape capsule, safely and quickly.

There are many links that provide information about the GlowMark Arrows on the main website. Feel free to look at them; you will be glad that you did.

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