

Developing of a new fire test protocol for Quick Suppression System

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Anders Bergström has got 28 years' experience working with different types of fire suppression systems towards the process industry. He has been in charge of fire investigations, developing of fire concepts and initiator to develop a new fire test protocols for high risk machines. Today he is General Manager for Business Area 'Industrial Applications' at Firefly AB.

Abstract

In industries handling dry and finely divided material, you will often find risk areas or machines that are highly exposed to dust accumulations or a mix of dust and oil. Even the smallest outbreak of a fire can quickly cause damages and result in a costly production downtime. If the fire is not stopped in time it can rapidly spread to other areas, causing a dramatic increase in costs and severe risk for personnel.

To solve this problem, a fire protection concept were developed for protection of critical machines or high risk areas, based on a protection system with extremely quick response time. The purpose was to develop a system that acts quickly enough to avoid damages and production downtime, thus saving costs and increase safety of personnel.

There were no fire test protocols that addressed this type system/fire hazard. Therefore an ISO/IEC 17025:2005 accredited fire test company were contacted and a test protocol were developed.

The fire test protocol is intended for evaluating the performance of Quick Suppression Systems intended for the protection of certain high risk indoor areas typically found in industry applications such as:

- Planers
- Sanders
- Mills
- Band saws
- Conveyors
- Shredders
- Tissue machines
- Yankee dryers
- Tissue converting machines
- Pellet presses

This paper will describe the concept of the Quick Suppression System and show the relation between the system response time and fire damage. It will explain the new fire test protocol and show results from conducted fire tests.

KEYWORD: Quick Suppression System, water mist, quick response time, machine protection.