

SPARK DETECTION AND SUPPRESSION IS WORTH TALKING ABOUT

Two principals with Flamex shoot the breeze over the evolvement and development of fire prevention technologies.

EDITOR'S NOTE: The following question and answer session was provided by Flamex, Inc. The participants are Flamex President Ole Sorensen and Vice President Allen Wagoner. They're based in Greensboro, NC at 336-299-2933; e-mail: flamex@sparkdetection.com.

Wagoner: We received a call this morning from another company that had a baghouse fire and they requested pricing for a protection system as soon as possible. They wanted to know how fast

we can ship a Flamex system to them. It has always amazed me that many companies only seem to be interested in protecting their dust collection systems immediately after having an incident.

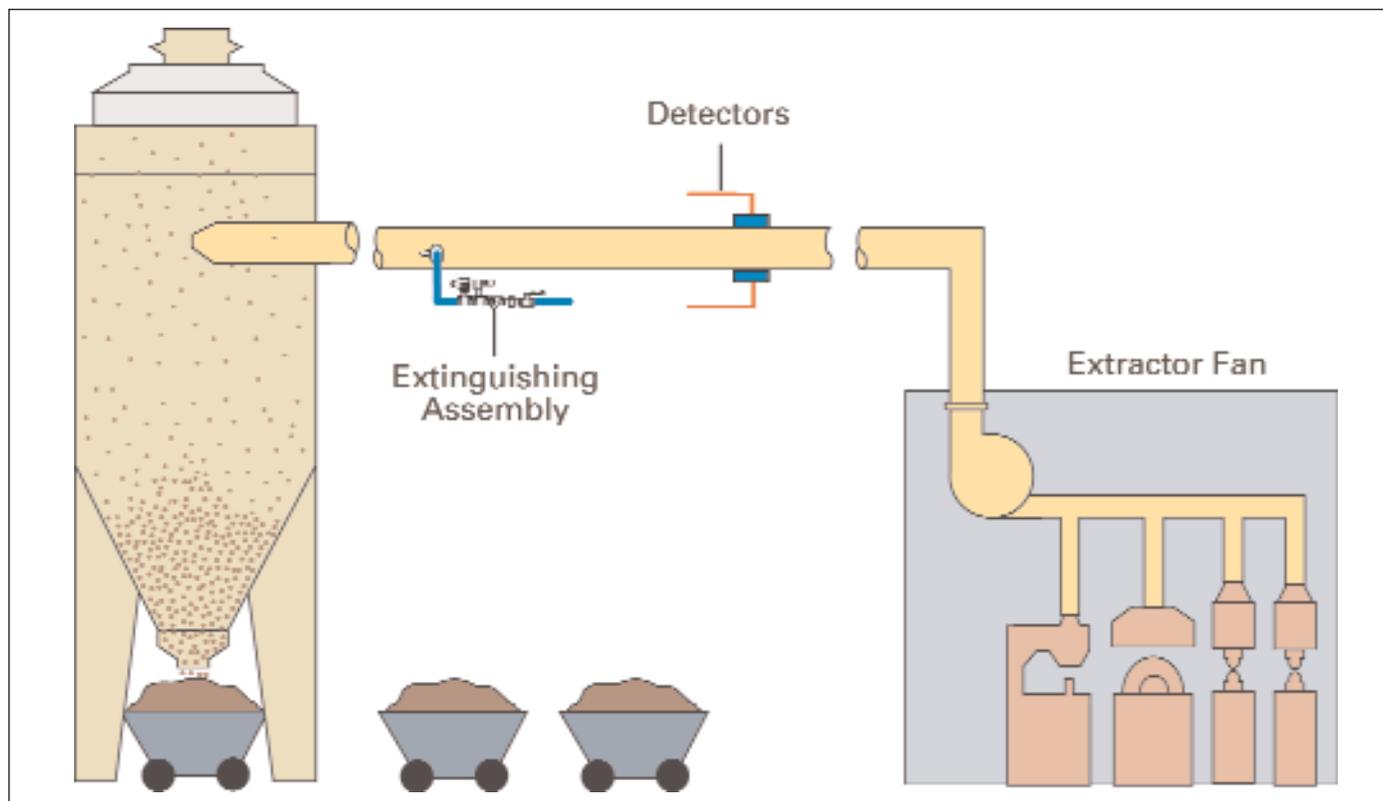
Sorensen: It's basically human nature, Allen. People quite often assume that fires and explosions happen to the other guy and never to them. It's a convenient assumption for a manager to make because when you have to make tough choices when hammering out a tight budget, usually the safety equipment is the first thing that is cut. It is easy to justify the purchase of a new piece of production equipment because it is simple to quantify the payback period based on the increased output of the machine. It is a far more difficult thing to quantify what a fire or explosion might cost in terms of damage and lost production and it is something that is not pleasant to consider.

Wagoner: Although we have many good customers who have taken the initiative in protecting their facilities and employees from the hazards of fires and explosions, it seems to me a good thing that there are existing codes and insurance companies with loss control departments that can take the lead in identifying risks and recommend how companies can protect themselves from these common hazards.

Sorensen: Most definitely. Although we have pioneered this type of fire prevention system dating back to the early seventies, and promoted the system through advertising and trade shows for three decades, you cannot assume that all manufacturers in the woodworking industry are familiar with the concept of spark detection and suppression systems. Not only can an insurance company recommend these systems where applicable, they can quite often make the decision process easier for their insured by increasing their premiums to compensate for the risks in those facilities that are not adequately protected. In these circumstances, the manufacturer can almost always reduce costs by installing protection equipment and thereby realize a payback based on the savings for insurance premiums alone.

Wagoner: I would imagine that in many cases that companies may feel that they are being bullied into installing protection equipment if they do not understand the risks under which they operate but in actuality they are being forced into making a good business decision.

Sorensen: No doubt. This is because many companies do not realize that the cost to protect a single blower line may not exceed the cost to replace the bags



Flamex detection application



Wagoner



Sorensen

one time in a large collector. This does not even necessarily account for the more costly element of production downtime. The same concept of cost effective protection is perhaps even greater with press protection in the composite board industry as we provide with our Minifog system, where downtime is extremely expensive not to mention the costs associated with damage to a continuous or multi-opening board press.

Wagoner: We have provided literally hundreds and hundreds of systems to woodworking facilities over the years. It seems now that most new plants insist on spark detection systems to protect their new filters before plant startup, but what did manufacturers do before we introduced spark detection and extinguishing systems to the U.S. prior to 1977?

Sorensen: The conventional wisdom was to install sprinkler heads in the duct work.

Wagoner: I can see installing a sprinkler head in a collector perhaps, but what good could it do to mount a heat actuated sprinkler head in a duct? It would be too slow and could not possibly provide prevention.

Sorensen: Such a design could only be beneficial at best only if there is a lot of material build up in the duct that could catch fire. Although the water might contain the fire it might also cause the duct to collapse. I know from my experience in the dust collection industry that the answer to that problem is not to flood the duct, but to keep the material from building up in the first place. If there is adequate suction, there will be no fuel to build up in the pipe. Sadly, there are still codes that require sprinklers in ductwork and uninformed consultants that recommend this design.

Wagoner: So I guess there were a lot of fires to fight back then. Is that what caused you to get into the spark detection and suppression business?

Sorensen: Basically, but the story of how these systems became available today is a very interesting one, dating back to the late 1960s. Oddly enough, one could say that it was the federal government that caused the need for spark detections in the first place. OSHA regulations were imposed on woodworking manufacturers to eliminate fine dust from the workplace and the EPA would not stand for all of the fine dust that was being emitted into the atmosphere from cyclones. This resulted in a large demand for proper air filtration equipment. We realized this opportunity and looked to Europe for technology as at that time especially the Northern European countries were ahead in all areas of environmental protection and energy conservation. We found the MOLDOW modular dust collection system to be a great match for us. In 1970, we introduced the MOLDOW at the Louisville Woodworking Machinery Exhibition and it won

the Challenger's Award that year. Dust collection was a great business back then and we sold a lot of units all across the country, but the solution to the dust emission problem created a new problem. Collection of all the fine dust in the bag filter units allowed dangerous explosive concentrations to build up. The resulting fires and explosions that were experienced in many of these new filters throughout the woodworking industry led us to investigate a solution to prevent this costly and dangerous problem.

Wagoner: Furniture and particleboard manufacturing were really big back in the seventies. I really can't imagine all of those woodworking facilities operating without using spark detection systems for protection. How bad did things get?

Sorensen: I can tell you a lot of horror stories, but the one that first comes to mind is that of a big furniture manufacturer here in the Southeast (U.S.) that built a large brand new manufacturing facility. The plant created a lot of jobs for the region, so they had the governor of the state and other dignitaries to participate in a ribbon cutting ceremony on the first day of operation. You could say they ended up having more ceremonial fireworks than they bargained for. As it turned out, the huge dust collection system exploded during the governor's visit. Of all the cases of fires and explosion that we witnessed up to then, this particular incident became the proverbial "straw that broke the camel's back" and caused us to expedite our search for a solution.

Wagoner: Is that when you found Minimax?

Sorensen: We contacted a number of fire protection companies here in the U.S. about this problem but either the interest or the technology was lacking. We discovered that Minimax GmbH in Germany had the technology and were already working to develop a system for this purpose. With our assistance in development it wasn't long before we were able to form a business relationship with them which led to the introduction of the first of the modern day spark detection systems



Detector



Extinguishing set

here in the U.S.

Wagoner: Was the Flamex system immediately accepted by industry or did it require a lot of marketing for the benefits of the system to be realized?

Sorensen: Many of the large plants were very eager to install the system immediately such as the Masonite plant in Towanda, Pennsylvania, which at the time was the largest hardboard plant in the country. I tell you, Allen, it was an exciting time because we could offer a unique solution which was desperately needed to combat a wide spread and costly problem. Being a brand new product it of course had no formal approvals here in the U.S., but with our help in developing testing procedures, Factory Mutual was able to write the first Approval Report on this type of system in 1978. The need for the system was so great, Flamex was even recognized in the Congressional Record as an important safety method needed not only to improve safety in the workplace but also to prevent production downtime and prevent loss of jobs due to fires and explosions.

Wagoner: After over 30 years in the fire protection industry, I guess you have about seen it all.

Sorensen: Yes, I suppose I have witnessed a lot of interesting things over the years, and now with the Minifog press protection system we are continuing our tradition of pioneering new niches in fire protection in the wood-working industry. All in all it has been a very satisfying experience.

Wagoner: What I have found very gratifying is when our customers will call us or visit our booth at a trade show and tell us about their experiences and how they have benefited from Flamex protection. Typically I will hear a story about a fire at a machine or in a duct that never got to the dust collection system because the



Mill explosion

Flamex stopped its propagation or how reoccurring Flamex activations alerted management to a problem that they previously did not know they had. One plant engineer told me that he thought he was getting false activations with our system and then discovered that the sander operator was sharpening his knife on the sanding belt.

Sorensen: That doesn't surprise me. Human error is one of the main causes of spark generation. Did I ever tell you the story of a furniture company that was regularly experiencing baghouse fires usually on a Friday afternoon during the summer? They installed our system and it stopped the problem; however, the exact nature of the problem was not discovered until later. It seemed that an employee who wanted to get a jump on the weekend to go fishing would toss a lit cigarette up the duct so the plant would close early to deal with the resulting fire.

Wagoner: Incredible! It's great that we were able to play a part in keeping that sabotage from continuing.

Sorensen: Allen, at the end of the day we can be proud that we work for a company that has made a difference



Flamex Minimax control panel

in protecting the lives and property of our customers and continually strives to make the workplace safer. We can state with some confidence that since the introduction of spark detection systems, there have been hundreds of thousands of activations which have saved North American industry hundreds of millions of dollars in damages and lost production not to mention the positive impact on worker safety which these systems have been able to provide.

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