APPLICATIONS

Coil Coating

The Customer

The Company manufactures metal roofing and gutter systems for the commercial and residential housing industry.

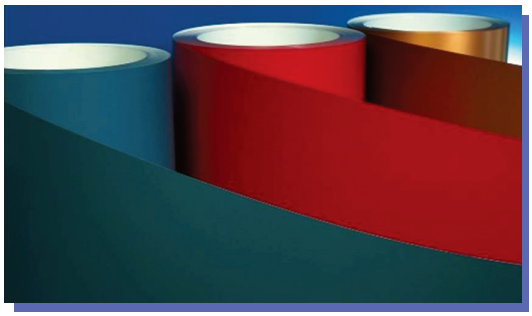
The Process

Bare coils of recycled steel and aluminum are uncoiled from a roll. The metal is chemically cleaned, treated and rinsed to prepare the surface for optimum coating adhesion and corrosion protection. The coil then enters a coating room where a paint containing solvents is applied uniformly to both sides of the strip with rollers. The coated sheet then enters an oven in which the coating is cured at high temperatures. During the curing process solvent vapors are driven off. The Company was using ventilation air only to keep the solvent vapors at safe levels.

The Problem

The Company had a fire on their coil coating production line which temporarily shut them down. Due to the extensive damage, they had to purchase a brand new line. In order to fulfill their customer orders during the downtime they had to ask a competitor to produce the product for them.

Safety and fire codes outline the design specifications for the safe operation of solvent ovens. The codes limit the maximum solvent concentration allowable to 25% of the LFL under worst case operation. Large volumes of ventilation air must be heated and circulated to keep the solvent vapors in the oven at safe operating levels.



However, if a flammable vapor analyzer is installed as a safety control the maximum allowable concentration is 50% of the LFL, which means not as much air has to be heated to dilute the vapors. This can result in dramatic fuel savings.

The Company decided to equip their new line with LFL analyzers.

The Solution

The Company chose PrevEx Flammability Analyzers to monitor the LFL levels of the ovens in their new production line. All zones were equipped with redundant SNR675 analyzers in order to achieve maximum safety. The SNR675 is the proven solution for this application. Its high temperature operation keeps all the elements in the oven atmosphere in the vapor state eliminating clogging and sample condensation. It accurately measures solvent mixtures and does not require recalibration when solvents or solvent mixtures are changed. The analyzer features fast response, failsafe operation, low maintenance and easy servicing.

With the analyzers in place not only are they operating safely but they are “saving a substantial amount of energy which otherwise would have to be built into the cost of the product”!

Control Instruments Corp
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