

The Customer

The Company is a worldwide developer, manufacturer, and distributor of solar electricity panels.

The Process

The Company uses a multiple zone conventional printing dryer for thin-film deposition onto solar cells.

A special foil substrate is passed through rollers that transfer a proprietary ink formulation and epoxy adhesive coating to the film surface. The ink contains mixtures of toluene, ethyl acetate, isopropanol, heptane, water and other solvents. After the ink has been applied to the foil, it is run through a dryer to evaporate off the solvents. The solar foil is then slit and sheeted into pieces to form individual cells. The cells are assembled into circuits and laminated into panels. This technology is more cost effective, quicker and easier to fabricate than the traditional vacuum deposition technology.

The Problem

The Company needed to purchase LFL analyzers to monitor the atmosphere in their dryer. They needed an industrial strength analyzer that could handle multiple solvents, water vapor and most importantly epoxy based adhesives. They required an analyzer that when calibrated would remain accurate for all constituents in the sample.

The Solution

The Company chose the PrevEx flame temperature technology over Catalytic and Infrared due to its ability to handle the tough sample environment. The constituents of the sample could coat or corrode a catalytic sensor and foul the optics of the IR, resulting in false or unreliable readings. In addition to its rugged industrial design, fast response and operating simplicity, the PrevEx analyzer is free from poisoning by resins, plasticizers and silicones. It gives consistent and reliable readings with multiple solvent concentrations and runs at a temperature high enough to keep all the dryer atmosphere elements in the vapor state.

Analyzer Placement

Each zone on the dryer required monitoring to measure the flammable concentration and detect build-up of any solvent vapors. The PrevEx analyzers are mounted directly to the process ductwork for the best representative sample.

SIC Code

- 3674: Semiconductor & Related Devices

NAICS

- 334413: Semiconductor & Related Device Manufacturing

