



Lamiflow[®]

heat recovery system

a key enabler in energy savings

INDUSTRY

Print and Packaging

Background

Processes in the flexible packaging industry use a considerable amount of heat. Optimising this heat energy by recovering waste heat can reduce costs and thus significantly increase a convertor's bottom line.

About the company

A leading flexible packaging convertor in western India has a state-of-the-art manufacturing unit for flexible laminates that find use in packaging of foods, cosmetics, soaps, detergents and other such consumer goods. A solvent based coater-laminator is used for laminating films.

The coating and lamination process

During the coating process, a uniform layer of adhesive is applied on the film, which then passes on to a drying chamber. Inside the dryer, hot air which is heated by a thermic fluid heater at 90°C is used to dry the coated film. The film coming out of dryer is laminated with another film which is unwound from a separate roll. The laminate is then wound on to a new roll.

SAVING ENERGY COSTS THROUGH A WASTE HEAT RECOVERY SYSTEM

Earlier setup without heat recovery

Ambient air drawn at 32°C was being heated to 90°C and sent to the dryer. Air from the dryer was then exhausted at 64°C. Expensive thermal energy was thus being wasted.

New setup with Lamiflow heat recovery

AxisValence suggested the possibility of saving energy costs through a waste heat recovery system.

The Lamiflow heat recovery system has been installed in such a way that the two air streams ambient air and hot air exiting the dryer cross each other without mixing. The heat of the exhaust air is recovered by the Lamiflow and used to pre-heat fresh inlet air from 32°C to 49°C. The total heating load is thereby brought down, which helps the converter save heating costs.

Considering 16 hours operation of the coating machine each day, for 300 working days in a year, and assuming that savings happen 60% of the time, the solution yielded a very attractive payback of less than one year. The converter is satisfied and has given a repeat order for their second coater laminator.

