



Application note

Enhancing Print Speed by 20% with SpeedBoost

Industry

Industrial printing

Products

Exergen IRT/c 3X-J-140F/60C

For this respected international leader in industrial printing solutions, productivity and performance are the keys to a success spanning more than 100 years. With 5,000+ employees and billion-dollar revenue, finding ways to sharpen its competitive edge are what keeps it ahead. In an industry where timing is everything, every second counts. Which is why CleverIR was asked for support in enhancing the speed of their popular flexographic press.



Challenges

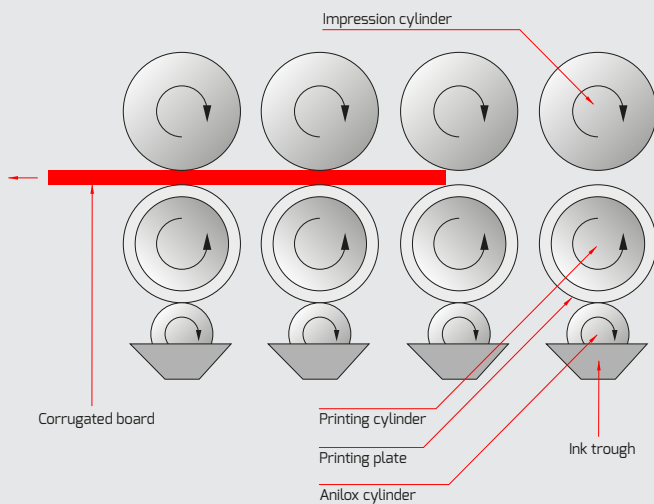
Optimize speed while assuring print quality on a high-speed flexographic press, running four print stations. The client needed to increase printing and drying speed on a system running a five-day week with up to three daily shifts. In this case, the output was solid color printed on ToughStripe tape, but the press was not reaching optimal capacity, since the UV inks were not fully curing at the required speeds.

Solutions

Real-time recording of web temperature on the press for printing and drying, using four Exergen IRt/c 3X-J-140F/60C sensors. Temperature of the fluid input is measured, as well as that of the ink post-cure. This yields data coverage of printing / drying speed vs. temperature, which is used as input for the CleverIR Speed Boost System. This involved closely monitoring temperature and speed requirements at every stage. The result: a recommendation which increased drying and curing speeds.

Benefits

The Speed Boost System takes into consideration every detail of the printing setup, including modules/stations being used, pre-heat etc. In this case, we collated the distance of sensors from the web, location and direction of sensors, airflow near / through the sensors and maintenance cadence of the sensors. From here, we could determine optimal location and positioning. This allowed us to make recommendations to enable the client to achieve their goals of 20% increase in print speed.



What they say about the Speed Boost System:

Credit has to go to CleverIR's product quality for the high performance of our updated print installation. It is greatly appreciated.

Results

By mounting a sensor after a heating / drying step (in this case, a UV curing lamp), we were able to collect real-time data on the effect of heating on the substrate. Client measured impact of increasing to from 100 to 120 feet per minute (formerly 100 fpm) after using Print station 1 purely as preheat module. Our sensors relayed no fluctuation in web temperature with increased speed, eventually validating product performance when manufactured at 120 fpm.

Conclusion

Excellent news for the client, as the speed increase raises output while reducing labor costs by 2 shifts per month. As a result of Speed Boost, our sensor data informs valuable client decisions on efficiency, human resources and energy costs. Maximizing speeds, optimizing output and increasing efficiency, all while maintaining industry-leading quality and performance. It also supports the client's lean manufacturing principles, allowing for product diversification through reduction of print run times for each product.