

Molded Fiberglass Components

Advantages of Infrared Paint Curing

Fostoria has designed and tested a medium density oven for a manufacturer of molded fiberglass components. Products include: semi-tractor hoods, earth moving equipment hoods and cabs for farm implements.

They had two problems to solve. First, they had too slow of a cure time using their current convection oven. Second, a large amount of paint contamination was occurring during the convection curing process. Both of these problems are typical of convection curing systems.



The customer was spraying parts with a solvent based paint and curing them in a gas fired convection oven. And because of the air movement during the convection process, they realized a high amount of contamination and thus - a high number of parts to strip and refinish. Also, an increase in sales and the number of different products produced mandated the need for a faster line speed and an oven versatile enough to do many jobs.

Fostoria designed a booster oven that let the manufacturer increase line speed and kept the finish from becoming contaminated. Using a "zone controlled" system of electric infrared heat banks, they were able to engineer solutions to both problems prior to the parts reaching the convection oven.

Electric infrared was able to "boost" the product to the proper cure temperature in only 90 seconds, compared to several minutes in the convection oven. This boost to curing temperature sufficiently tacked off the surface of the paint to ward off contaminants and also allowed for an increase in line speed to keep up with demand.

The Fostoria design held an additional advantage for the customer. Because the customer had a wide variety of parts, flexibility was important. The controlled zones let the customer redistribute the oven's heating footprint and intensity, thus conforming to individual products without delaying production.