PROBLEM:
A food company needed to improve its method for applying release oil on waffle irons to ensure clean release after baking. Its current system used air atomizing nozzles which frequently applied too much or too little release oil. Over-application of release oil caused waffles to catch fire in the ovens and under-application caused waffles to stick and drove scrap rates as high as 20%. The machine produced 500 waffles per minute, so stoppages caused by stuck waffles had a big impact on the bottom line.

SOLUTION:
An AccuCoat heated system has solved the problem. The system precisely heats the release oil to reduce its viscosity and enable it to be sprayed at a lower pressure. The system consists of a dual-channel AutoJet® 2008+ spray controller and two PulsJet® 63600 spray nozzle manifolds, each equipped with 12 PulsJet air atomizing nozzles. One manifold is positioned to spray the bottom irons before the waffle batter is poured; the other is positioned to spray the top irons, which press down after the batter has been poured. Using Precision Spray Control (PSC), the controller cycles the nozzles on and off quickly to adjust flow rate based on operating conditions such as machine speed.
RESULTS:

Use of the AccuCoat heated system has had a dramatic impact on the waffle producer’s operation. Oven fires, the related safety concerns and downtime have been eliminated. The waffle scrap rate is just 5%. Air consumption has decreased by 20% and release agent use is down 40%. The overall savings for the waffle producer is US$2.2 million annually. The cost of the system was offset in less than four weeks.

A CLOSER LOOK AT THE SYSTEM

AutoJet 63600 Spray Manifolds are available for use with hydraulic or air atomizing nozzles for heated or non-heated operations. Housing and all internal liquid and conduit lines are 316L stainless steel.

AccuCoat heated spray systems provide precise temperature control to reduce the viscosity of release oils to enable uniform application and eliminate problems caused by over- or under-heating solutions.