

Project Profile

Ferrara Pan Finds Sweet Rewards with *Infinity* Process Control



Eaten any bears, worms, or dinosaurs lately? Not the *live* variety, of course, but the “gummie” kind! “Gummie Bears”, “Gummie Worms”, “Gummie Dinosaurs”, and everyone’s favorites, gumdrops and jellybeans, are just some of the many starch-based confectioneries produced by 89-year-old Chicago-based Ferrara Pan Candy Company.

Ferrara selected an Andover *Infinity* integrated control system to provide distributed control of their materials-handling system at their Forest Park, Illinois plant. *Infinity* controls three important processes in gummie candy production: mogul automation, curing room environmental control, and starch conditioning.

“We have reduced our reject rates because every facet of the programmed cure cycle is monitored and alarmed by the Infinity system. Alarms are announced via pagers to allow corrective action before the product is affected.”

—Sal Rubio
Facilities Engineer,
Ferrara Pan Candy



Production begins when trays filled with starch, which helps the candy keep its shape and absorbs excess moisture, are conveyed to the materials-handling system. The trays are made up of tiny individual molds specially shaped for the specific gummie candy in production that day. The mogul fills each mold with hot liquid candy, and then computer-controlled tracking moves the pallets of trays into curing rooms where the air is conditioned to provide the required temperature and humidity profile. During the cure, the starch removes the excess moisture while the temperature setpoint is carefully maintained for consistent results. When the candy has cured and cooled, it travels back to the mogul where the trays are flipped, the starch is sifted out, and the candy moves along on the conveyor to be checked and packaged. The wet starch that falls away from the candy is sent to a vortex dryer and cooler to be conditioned so it can be re-deposited again in the molded trays and the entire process repeated.

Andover Representative, *ECC Controls of Illinois, Inc.*, in Long Grove, Illinois, installed, programmed, and services the Andover *Infinity* system at Ferrara. *ECC* technicians installed five LCX 810s to control the handling system and vortex dryer and cooler. The 810s’ universal inputs receive data from the different sensors in the process line that monitor critical parameters including temperature, humidity, speed, or the status of a push button or limit switch. These units also send output to motor actuators that control the motors, conveyors, solenoids, alarms, and pumps to fit the program that *ECC* and Ferrara devised for each different type of gummie candy.

Each of the three curing rooms is controlled by a SCX 920. These units have similar capabilities to the 810s, but are equipped with more inputs to handle the additional sensors necessary for the curing room process. A DCX 250 touch screen display is mounted near the three curing rooms. Operators use it to display curing room status and to select different curing schedules depending on the gummie product being produced. The touch screen can also display dynamic graphics of the conveyor, air handlers, and starch vortex equipment.

"By integrating candy production and curing within the same control system, Ferrara gathers real-time data on how much candy it is actually making," says Joel Joseph, President of *ECC Controls*.

A CX 9102 network controller supervises all *Infinity* field controllers in the plant. "If any controller in the system goes down," notes *ECC's* Joseph, "the *Infinity* CX 9102 will notify maintenance personnel of an alarm via alphanumeric pagers, while the other controllers on the Andover network continue to function."

Sal Rubio, Facilities Engineer at Ferrara Pan Candy, comments on the benefits the Andover system:

"Having more accurate control of the curing environment provides us with many advantages, such as consistent results and higher productions rates. Our production capacity has vastly increased because we can minimize curing time and maximize throughput using unique temperature and humidity control strategies. In addition, we have reduced our reject rates because every facet of the programmed cure cycle is monitored and alarmed by the *Infinity* system. Alarms are annunciated via pagers to allow corrective action *before* the product is affected. The system has exceeded our expectations—Andover will definitely be part of our upcoming plant expansion."



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PROJECT AT A GLANCE:

Project Type:

Candy Production/Curing Room
Control

Project Name:

Ferrara Pan Candy Company

Location:

Forest Park, Illinois

Market Segment:

Food processing

Number of Buildings:

4

Total Area:

310,00 sq. ft (29,000m²)

***Infinity* Equipment Installed:**

- 1 - CX 9102 Network Controller
- 1 - DCX 250 Touch Screen
Display
- 3 - SCX 920s
- 5 - LCX 810s

Applications:

- Curing room temperature
and humidity control
- Mogul automation
- Vortex dryer and cooler control
- Starch conditioning

Total System Points:

200

Andover Controls Representative:

ECC Controls of Illinois