

## Lexan\* Constant Clear film helps Farm Fresh supermarket customers see clearly

### Cutting energy costs and simplifying store construction with Lexan Constant Clear film

Just about every grocery shopper has experienced the frustration of trying to see the contents of a fogged-up frozen food case. Stores have traditionally used door heaters to reduce the condensation that occurs when the freezer is opened, admitting warm air from the store. Farm Fresh, a high-end supermarket chain and division of SUPERVALU, found door heaters to be expensive in terms of energy costs, time-consuming to install and not particularly effective in preventing fogging. When SABIC Innovative Plastics approached Farm Fresh with a new anti-fog polycarbonate (PC) film for freezer doors, the company decided to test the technology at several of its 44 Virginia stores.



#### Challenge

##### Find a better solution to prevent condensation on frozen food glass case doors

Farm Fresh is a 44-store chain of full-service, high-end supermarkets in the Hampton Roads, Virginia area. The company, which was acquired by SUPERVALU in 1999, is currently expanding – eight new locations opened in the past two years – and also remodeling existing stores. Unlike many supermarket companies, Farm Fresh does its own store design, construction and maintenance.

With Farm Fresh's corporate emphasis on environmental responsibility and cost efficiency, Jon Perry, Director of Energy and Maintenance, was interested in reducing the amount of energy being used to heat the doors of frozen food glass door cases. Not only do conventional door heaters – which are on 100 percent of the time – use considerable energy themselves, but they also force compressors to work harder to keep the freezer at the correct temperature. Also, other systems used to reduce energy can be tricky to calibrate, prone to failure and time-consuming to install. Finally, they are not particularly effective at preventing fogging, especially during the summer months when the doors open constantly.

“We wanted to find a better anti-fog solution for existing stores and also to speed up new construction,” said Perry. When SABIC Innovative Plastics approached Farm Fresh with a new, patent-pending anti-fog PC film – Lexan Constant Clear film – Perry decided to test the product in several stores.

#### Solution

##### Lexan Constant Clear film replaces door heaters

Working closely with SABIC Innovative Plastics, Perry initially installed the Lexan film on 10 frozen food glass door case doors at a Virginia Beach, Virginia Farm Fresh. The installation was subsequently expanded to the entire freezer sections of three Virginia Beach stores and one store in Suffolk, Va.

“We put the Lexan film on the inside of the doors and disconnected some of the heaters,” said Perry. In the first installation, Perry and his staff applied the film themselves; later, due to the demands of remodeling, they outsourced the installation to a contractor familiar with applying tinted film to windows.

SABIC Innovative Plastics offers an installation video and has certified Madico, a company that supplies safety and security window films to the commercial and governmental buildings market, in the process.

Lexan Constant Clear film, featuring a proprietary anti-fog coating, adheres to glass doors to prevent formation of condensation when shoppers open the cases. The new Lexan film with an adhesive backing is easy and quick to install, and requires very little maintenance. Its optical clarity, combined with a long-term anti-fog coating, allows products inside the case to remain fully visible to shoppers. As an added benefit, the film can help maintain the integrity of the glass and prevent spalling if the internal pane of glass is broken. Further, by printing on the coated side of the film, stores or

## Case Study

# Lexan\* Constant Clear film

manufacturers can add branding and advertising to the display cases. SABIC Innovative Plastics is trialing the material in cases and full stores at more than 20 U.S. supermarket chains and seven international chains.

“Fogged display cases are frustrating for shoppers and costly for merchants who must pay for extra cooling when consumers stand in front of an open door to check out the ice cream,” said Mike Laurin, Product Manager for Film, SABIC Innovative Plastics, Specialty Film & Sheet and co-inventor of the Lexan Constant Clear film. “Until now, stores have been forced to choose between the cost of heating frozen food glass door case doors or using standard anti-fog coatings that scratch easily and require special cleaning procedures. Our durable anti-fog Lexan film is a great solution for the customer and the store, helping to improve the shopping experience and boost sales while cutting energy costs.”

## Benefits

### Energy reduction and improved clarity for shoppers

Perry reviewed the Lexan film sporadically over 18 months. To determine the difference in energy usage between heated doors and doors with the Lexan film they disconnected heaters. “We verified the anti-sweat heater amperage dropped by about 50 percent for the doors using Lexan film – from 5.2 amps to 2.4 for a four door frozen food glass door case, when the glass door portion is disconnected,” Perry reported. “But that is just one aspect of the energy savings. We also expect a reduction of between 10 and 30 percent in energy usage for our compressors, since they no longer have to work so hard to remove the added heat from the cases.”

With reduced load on compressors, Perry expects further cost benefits. “If a store expanded, the

existing compressors should be able to support the additional square footage because they have spare compressor capacity.”

Of course, energy savings were just one part of the test; the other critical issue was anti-fogging performance. The Lexan film delivered excellent clarity, even during warm weather. Perry said, “In summer, conventional heated doors tend to fog up very quickly once they are opened. In fact, even closed doors next to the opened case fog up. And then they take one or two minutes to clear. But with the Lexan film, there isn’t any fogging so the doors remain clear.”

Although his expertise is in energy conservation and store maintenance, Perry speculates that improved clarity may encourage shoppers to purchase more because they can see what’s in the freezer cases.

Farm Fresh has also been happy with the durability of the Lexan film. “We have not seen any degradation of the film during our 18-month test,” Perry said. “This is a simple, passive system that can be installed quickly and doesn’t need special care or periodic re-application – and, requires less energy to operate. We plan to continue rolling it out to our other locations.” Farm Fresh is also considering using the Lexan film for other applications as well.

## Details at

[farmfreshsupermarkets.com](http://farmfreshsupermarkets.com)

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Mar./2007

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