



# Retrofitted KFC menu boards

PLASTICS IN THE SIGN INDUSTRY

by CYRO Industries

When fast-food retailer Kentucky Fried Chicken decided to add new chicken choices to its menu, it faced the costly prospect of replacing its entire fleet of drive-thru signs. Fortunately, a cost-effective solution was found by retrofitting KFC's existing menu boards to accommodate a new front panel, saving the fast food retailer a bucket full of material costs and time.

In addition to enabling new menu items to be added flexibly and easily, the refurbished panels are made with a high-impact acrylic molding and extrusion compound that is weatherable enough to withstand the torments of all seasons. The menu boards withstand temperature extremes ranging from bone-chilling January's in Minnesota to tire-melting July's in Texas — all without sacrificing performance or resilience.

## Retrofit versus replacement

Bayshore, NY-based International Patterns (IP), specialists in illuminated and magnetic menu systems for the food

industry, took on the task of developing new menu boards to help KFC launch its expanded chicken line. After meeting with the client to investigate its needs, IP realized it could design a retrofit for KFC's existing drive-thrus to give the retailer the menu flexibility it required, including additional space for two new menu items.

"Rather than simply replacing the menu boards, we came up with a design that would increase the number of menu strips that slide along the front panels, without having to enlarge the light box illuminating the panels," says Andy Kaplan, IP's vice president of sales, who worked closely with KFC for the retrofit project.

Kaplan's design team discovered enough open space on the old menu board to fit in extra consumer choices. Two extra menu strips could be added without sacrificing any of the panel's viewing area.

In addition, IP recommended injection molding a new rail pattern onto the

boards so that the entire menu could be turned into individual strips that could be easily and flexibly removed, without creating new panels each time the menu changed. Additional rails could be secured in place with a locking mechanism, and strips could be slid in and out of the panels, and replaced as needed. The new menu board would solve not only KFC's immediate need of adding two new menu items, it also offered the flexibility to change its menu in the future.

When IP presented the design to KFC it was met with immediate approval, and work on the project began.

## Success with acrylic compound

For the retrofit project, International Patterns opted to use an acrylic molding and extrusion compound to mold the front panels, and Kaplan reports the compound has been critical to the project's success. "The compound is a special type of high-impact acrylic. It's very strong and very resistant."

The compound's exceptional weatherability is important, especially at KFC outlets in particular regions of North America. "We were able to utilize this material for thousands of drive-thrus in all different climates, from Minnesota where it's very cold in the wintertime, down to the warmer areas in the south," Kaplan says.

A rubber modifier in the compound's formulation enhances its impact resistance, toughness and chemical resistance, while maintaining the clarity typical of PMMA material. Its physical properties and appearance are maintained even after extended periods of outdoor exposure. "You need a lot of strength and heat resistance for these menu boards because the sun bakes down on those drive-thrus in the summertime. Interior temperatures can often rise above 200 degrees."

The compound is also resistant to yellowing, unlike styrene or other products



International Patterns chose CYRO Industries' ACRYLITE PLUS® ZK-6 impact acrylic molding and extrusion compound for KFC menu boards which has proven to be defect-free and cost-effective.

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that IP had considered for the project. "It has ultraviolet light filtering properties and a natural resistance to yellowing," Kaplan says. "That, combined with its strength makes it an excellent material for this application."

### **Zero mold problems**

Kaplan reports that injection molding has been easy with acrylic compounds, and the material has run well in IP's molds. "We were able to produce thousands of menu board panels quickly without any problems in the molding process. Sometimes, getting an injection mold to work can be a difficult task, since material often fails to flow through molds properly. This is a particular challenge with polycarbonate," he says. He adds that unequal heating can also cause pieces to come out of molds in an incomplete way. "We didn't have any of those problems with the acrylic compound."

### **Defect-free for four years ... and still counting**

Although Kaplan could not speculate on the amount of money KFC saved by not producing new drive-thru signs, clearly it has been pleased with the positive results. "We have been manufacturing menu boards for KFC for four years now. It has been a major program for us, and it has been very successful," Kaplan reports.

Kaplan cites another impressive fact that attests to the program's success. After manufacturing literally thousands of menu boards, there has not been one reported problem in the entire lifetime of the program. "The KFC menu board panels have been defect-free. No one has reported any problem with any of the panels — it's a very good record." ■

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ACRYLITE PLUS compounds are available in seven grades: ZK-6, ZK-D, ZK-X, ZK-M, ZK-F, ZK-P and ZK-V. Depending on the application requirements, there is an ACRYLITE PLUS compound grade that provides the optimum balance of impact resistance and melt flow. The line of ACRYLITE PLUS compounds varies according to comonomer content, molecular weight, lubricant content, and rubber modifier content. A high amount of rubber modifier will correspond to high impact resistance and lower mechanical properties. The amount of rubber modifier also affects the melt flow rate of the material. A high rubber loading will lead to a lower melt flow rate.

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