

Software saves glassmaker's time

The Glass Group Inc. uses software to analyze and organize its protective packaging options for 9,500 different configurations.

Rick Lingle, Technical Editor

The Glass Group Inc.'s latest application for CAPE Systems' software will permit the glass manufacturer to save even more time. And that, according to GGI packaging engineer John Camp, is an incredible benefit.

Millville, NJ-based GGI's bottles are used in the cosmetics, food, specialty, and pharmaceutical markets. Prior to 1999, the company developed designs for pallet loads manually using word processing programs, noting case locations on pallets with simple 'X' marks. It was a painstaking task. The CAPE software permitted a downsizing of the department from five employees to two.

GGI currently runs three licenses of the Cape Pack V2.02 software for all packaging and pallet design at its Millville Glass Production facility. The software generates loading patterns for pallet loads of glass bottles and jars and produces reports. The software accommodates cases, trays, cartons, shrink films, tier sheets, caps, everything, Camp says. In total, the software can help generate analyses of 9,500 different items in the GGI's packaging mix.

It permits GGI to design packaging for the safe transport of glass containers to its customers, according to Camp. "Since we know our bottle production limitations, we can custom design our packaging around the machinery available," says Camp. "The software allows us to analyze everything including gross weight, bottle placement, and case length, width, and height. This is for everything from manufacturing through final decorated bottles."

Analysis example

For example, one analysis for 7-mL cosmetics vials details inside and outside B-flute corrugated tray measurements, weights in $\frac{1}{100}$ lb increments and vials per pallet along with tier sheet and top cap specifications. For this particular application, the cube efficiency was found to be 84.034%. The report generates a total pallet weight that includes tier sheets.

Camp says the software's accuracy is as good as what is input. For GGI, that means it adheres to industry standards, cartons generally accurate within $\frac{1}{6}$ ", and die-cut trays within $\frac{1}{1,000}$ ", he says.

"Because the reports are so easy to read, you do not have to be a packaging designer or engineer to understand them," he adds. "The software creates diagrams that are easy to review and understand. Since all the information is laid out for clear viewing, it eliminates costly mistakes." GGI converts the Cape reports to PDF format files for customers to review prior to shipment.

"They can see exactly how a case will be placed on a pallet and review exact case sizes for compatibility on their production lines,"



says Camp, who manages packaging designer Dawn Fraley, who runs the software daily. He also credits Brian Atkinson, automation engineer, for his help.

The software's most recent application, made starting in fall 2003, permits GGI to "virtually" load a newly designed case or pallet load into a truck in order to evaluate efficiencies. It is used as a tool while designing new shipper case sizes. GGI can determine if that case will not only be efficient for the product, but also how well the palletized cases will fit in the specified truck. The feature can determine how many items/cases/pallets can be loaded in a trailer and can generate a detailed quote for the customer. For example, they can know that a particular order will fill a truck to 60% of capacity.

"We can tell customers exactly how many bottles will be delivered, or how many trailers it will take to get their bottle order to them," Camp points out.

GGI also uses the CAPE software in its robotic palletizing operations. "The Cape software is a vital part of our automation system," says Camp. "The software is used to interpret X, Y and Z coordinates for the palletizing robots. The software designs our packaging configuration for every pallet. The Cape information is downloaded directly to the controls for our automated palletizing robots. The software has been easy to understand for our technician, which has reduced the amount of training time." GGI declines to disclose further details about the robotic applications.

In fact, Camp can think of only one drawback, "and that's that our load designs have been copied by our competitors!"

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