XCORE PUTS A NEW SHINE ON OLD MOLDS TO SAVE WEIGHT IN PREFORMS

SIPA is in advanced development with its latest solution for helping PET preform producers to save weight. With XCORE, SIPA intends to offer a new metallizing service for existing injection mold cores that will provide a cost-effective way of modifying preform dimensions, down-gauging containers, and advancing materials saving.

XCORE will be an alternative and lower-cost solution to core-change programs for preform lightweighting within the range of 0.2-0.8 g, when an investment in a complete new set of cores is hard to justify.

There are probably many cases where preform makers would like to shave some weight off their products; but since they are already close to the limit of what is possible without having an excessive effect on the mechanical properties of the final container, any investment in a core change program will take too long to bring sufficient savings.

So what is needed is a solution that is more in tune with their needs and budgets.

Enter XCORE. Nothing gets thrown away and instead, more is added to what the molder already has. SIPA calculates that on, for example, a 96-cavity tool, metallizing cores to cut wall thickness down from 2.0 mm to 1.9 mm, achieving a weight reduction from 11.0 g down to 10.5 g, would pay for itself about 3 times more quickly than changing the cores.

Experts at SIPA are working with a strict set of objectives they need to reach. The material to be coated onto the existing cores must be carefully selected in order to satisfy the following criteria:

- it must be as good as, or better than, the substrate material in terms of mechanical properties (hardness, fatigue resistance, surface finish etc.);
- it must be able to adhere sufficiently strongly to the substrate to withstand a very high number of injection cycles (typically about ten millions);
- it must resist air and humidity (i.e. it must be stainless);
- it must be approved by health and safety agencies such as the FDA;
- it must be capable of being deposited using a method that does not unfavorably change the microstructure and the mechanical properties of the substrate.

So far, SIPA has succeeded in developing a process that is fast, effective and has much lower costs than a traditional core change program.

At the current stage, core metallizing is not available yet for sales since some more fine-tuning is required on the development side, but it's a matter of a few more weeks to be ready.

Watch this space!

PETWORK - XCORE