

## SIPA LEADS LIGHTWEIGHTING RACE IN COOLER BOTTLES BY A NECK

SIPA has teamed up with a major cap maker to take more weight out of large PET water containers for home and office dispensers. This time, rather than considering the body of the container, it has looked at the neck.

These PET containers - often called HOD containers or cooler bottles - are already much lighter than their glass rivals and even bottles made in other plastics, thanks in no small part to development work carried out by SIPA and key customers on thinwalling and special designs. But SIPA felt that there was potential to make the difference even greater.

Any more reductions in the body of the bottle could lead to a reduction in the performance of the container below specifications. So instead, SIPA set itself the task of developing a new 55-mm neck finish for single-serve designs.

Reviewing existing 55mm neck finishes, SIPA's development team identified several challenges:

- the neck should take a snap-cap so that bottles could be filled on existing lines;
- it must have a reliable anti-tamper feature;
- the entire neck length must be taken into account in order to maximize weight-saving potential;

- material distribution under the support ring needed to be improved in order to maximize the potential for weight reduction.

To best face up to these challenges, it was clear that collaboration with a cap producing company would be necessary. SIPA chose Bericap.

The collaboration with Bericap has led to the development of an all-new 55 mm neck finish that is a whole 25% lighter than previous designs, and a new lightweight snap-cap closure. The neck weighs a mere 11 g, with the height of finish just 14 mm instead of 48 mm.

The closure concept developed by the two partners incorporates a "trumpet" seal. This has several advantages:

- the point of seal is deep inside the neck, where it is protected from scratches and nicks;
- the cap has a one-piece design, requiring no liner, simplifying mold design and part production;
- neck diameter variations of +/- 1 mm are tolerated.

SIPA has already designed a 15-liter bottle incorporating the new neck design, for production on its SFL 2/2 platform. With a height of 463.5 mm and a diameter of 239.55 mm, it weighs just 237.5 g - more than 10 g less than a bottle with a standard neck.