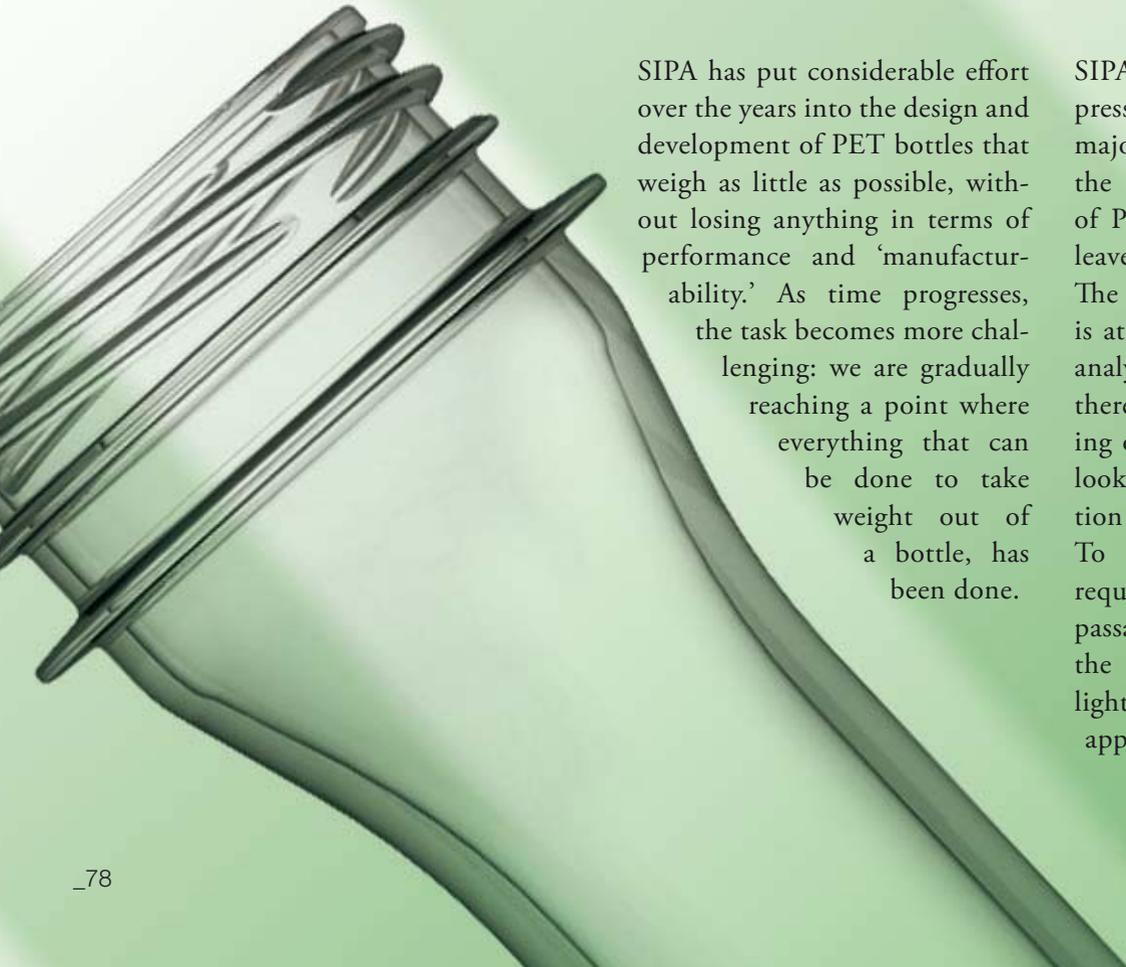


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## SIPA PUTS ITS WEIGHT INTO MAKING BOTTLE NECKS LIGHTER

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SIPA has put considerable effort over the years into the design and development of PET bottles that weigh as little as possible, without losing anything in terms of performance and ‘manufacturability.’ As time progresses, the task becomes more challenging: we are gradually reaching a point where everything that can be done to take weight out of a bottle, has been done.

SIPA’s XTREME injection-compression technology was the last major step forward in thinning the base, body and shoulders of PET preforms – so that just leaves the neck finish. The neck is where the bottle wall is at its thickest, so a superficial analysis might conclude that there is good potential for taking out weight. But an in-depth look soon reveals that the situation is rather more complicated. To design a lightweight neck requires a detailed study of the passage of the product all along the process chain. Designing a lighter neck requires a holistic approach that takes into consideration the molding of the

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preform and the bottle, and also their damage-free handling, filling and sealing.

Here are some of the things that SIPA looks at when designing a new lightweight neck:

- How will the design perform all along the line, and how can we minimize the need to change the configuration of existing molding and filling operations?
- How can we minimize the modifications necessary to existing injection molds?
- How does the neck perform when the bottle is being filled?
- Can we increase potential for down-gauging by further optimizing air vents and exhaust during the filling process, and using special treatments on the mold surface?

Once all these questions have been answered, the time has then come to carry out internal tests to validate the new neck against the standard and, if possible, tests at the customer.

### NECK FINISH LIGHTWEIGHT FOR BERICAP’S HEXALITE

Here is a brief example of how all this thinking recently played out successfully in practice: SIPA has adopted a neck improvement proposal by Bericap, creating a preform with a new slim neck finish for standard 26mm closures – like Bericap’s HEXALITE closure range. The newly developed neck finish is incredibly 23% lighter than the original. Users of preforms with the new neck can cut down their PET consumption without compromising on container performance. In addition, no modifications are needed to existing preform handling equipment.

