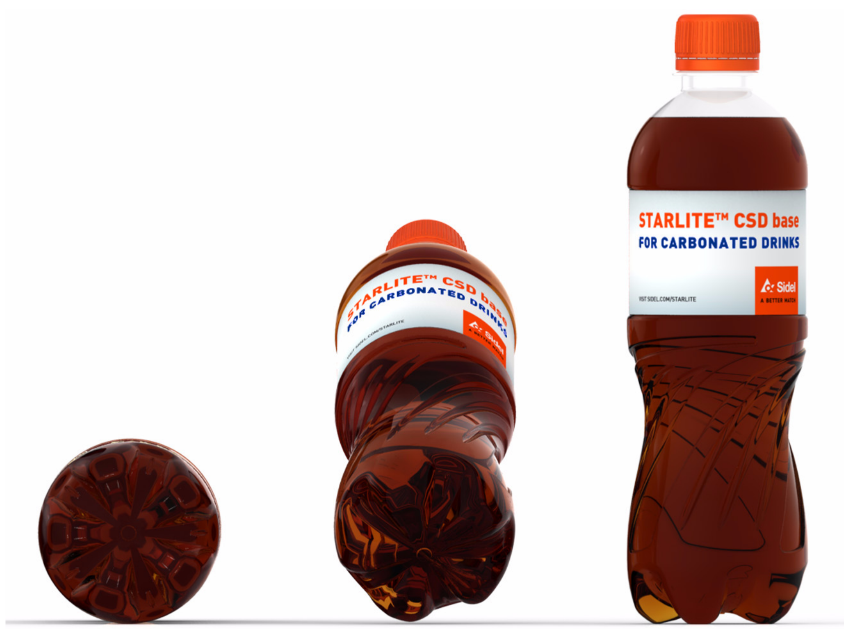
StarLite is the brandname that Sidel uses for its base and wall design used to improve the structural integrity of PET carbonated soft drink bottles.

Figure 14 pictures Sidel's *StarLite* PET bottle base and wall design for carbonated beverages.

Figure 14

Sidel's *StarLite* PET Bottle Base and Wall Design



Source: Sidel Group

The swirl design is a solution to compromised wall structure integrity from reducing gram weight in the base of the bottle.

Bottom

The bottom of a PET bottle has very important functional requirements, and traditionally very little to do with aesthetic appearance. The bottom must provide a solid base so the bottle is stable. The bottom must withstand impact from a drop.

D. Case 4: Economics – ultra-lightweight PET water bottle

Case 4 presents the manufacturing cost results of an ultra-lightweight 500 milliliter PET water bottle with no renewable content.

1. General assumptions

The virtual manufacturing facility created for this case utilizes a two-stage reheat and blow manufacturing process. This virtual facility contains all the production and support equipment as well as the personnel required for this operation. The primary process equipment in this facility includes injection molding and stretch blow molding equipment.

Support equipment includes resin dryers, resin handling equipment, resin silos, air compressors, and chillers. The facility is assumed to operate for one year. The facility is assumed to be co-located with bottle filling, therefore, no distribution packaging or transportation costs are included in this analysis.

2. Bottle assumptions

- Diameter = 63.5 mm
- Height = 200 mm
- Weight = 9.2 grams
- Renewable = 0%
- PET resin cost = $1.94/kg

I. Chinese PET bottle volume

This sub-section examines the Chinese PET bottle market in greater detail. The analysis begins with the beverage category.

1. Chinese beverage PET bottle volume

Table 47 provides Chinese PET bottle consumption in the beverage category, segmented by end-use.

Table 47
Chinese Beverage PET Bottle Volume
(billion units)

END-USE	2009	2014	CAGR	2019	CAGR
Beer					
Carbonated soft drinks					
Juice beverages					
Milk and dairy drinks					
Ready-to-drink tea		Data Removed			
Sports and energy drinks					
Water					
Wine and spirits					
Other beverage					
Total					

Source: Allied Development Corp.

Water leads consumption of PET bottles, followed by ready-to-drink tea and carbonated soft drinks (Table 47). In the future, ready-to-drink tea and water will generate the highest growth rates, despite being the largest volume end-uses in China.