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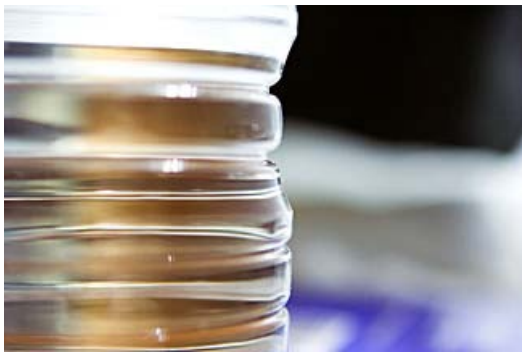
Lightweighting has limits. Are we there yet?

By John Kalkowski, Editorial Director -- Packaging Digest, June 1, 2010



Over the last several years, companies have made huge strides in producing more sustainable packaging simply by lightweighting or downgauging their product. Along with increased recycling, this has been the low-hanging fruit of the sustainability movement. Now, British journalist Guy Montague-Jones writes that packaging may be approaching the practical limits to lightweighting.

Downgauging seems such an obvious method to lessen packaging's impact on the environment and the bottom line. In the bottled water industry, for example, the gram weight of 0.5 liter single-serve bottles has been reduced as much as 30 percent. That translates into significant material savings, less energy use and lower transport costs. We have also seen the migration of hot-fill foods and beverages from heavier materials such as glass jars and bottles to PET containers. One reason that flexible packaging continues to enjoy rapid growth is the source reduction it offers over many other types of packaging.

Advances in design have bolstered container strength in minimalist designs, and the barrier properties of materials have improved shelf life. With advances in technology, packagers have been able to reduce the number of layers in laminated structures. Meanwhile, the use of barrier coatings could help further reduce the weight of laminated packaging.

However, if packaging is reduced too much, it can fail in its primary role of protecting the product through the distribution chain. As Britain's Industry Council on Packaging and the Environment (Incpen) points out: "Inadequate packaging is usually far worse for the environment than over-packaging, because 10 to15 times more energy and materials are locked up in household goods and food than in the packaging around them." Incpen says if an under-packaged item is spoiled or damaged, that can waste 100 percent of the resources used to produce both the contents and its packaging, and all of the fuel used to distribute it.

Euromonitor, an international market research group, contends there are still substantial opportunities. Their lead researcher has been quoted as saying: "Even for pack types where lightweighting has gone as far as possible for the moment, technological advancements … are likely to give future scope for lightweighting." This might be accomplished through use of new nanomaterials or further weight reductions in containers using materials such as metals or glass.

Hopefully , U.S. packagers are considering this eventuality and preparing for the next phase of improving packaging sustainability.

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