



Light-Weighting Bottles & Other Sustainable Considerations

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Bottle Weight Options

Real benefit for lightweighting is savings on Transportation costs-

	Grams	Cases/Pallet	Pallet Lb	Btls/Truck	
Standard Wt	500	105 cs	1450	30240	baseline
Fancier Bottles	600	98 cs	1625	28224	7% fewer
Elegant Light	700	84 cs	1600	24192 (24 Plts)	20% fewer
Heavy Bottles	900	77 cs	1880	18480 (20 Plts)	39% fewer
Very Heavy	1200	60 cs	1950	14400 (20 Plts)	52% fewer

Should we also be discussing the larger issue at hand...

SUSTAINABILITY?



Sustainability Question

Is light-weighting the only solution or can we do better?

- Transportation method
- Manufacturing
- Recycling



Transportation



Decreasing greenhouse gas emissions

- 10 x more efficient by water than by truck
- 17 x more efficient by water than by Airfreight
- Europeans and Chinese have tightened environmental controls passing laws in 2018 to reduce sulfur in fuel
- LCA- Life Cycle Assessment, there is a small energy impact from transport of glass packaging

Manufacturing

To produce 1 ton of glass it takes 1.18 tons of raw materials

Glass Composition

- Sand
- Soda Ash
- Limestone
- Totaling 95% of raw materials in batch without cullet
- Cullet is recycled glass, added at varying amounts



Recycled Cullet

- For every 10% added to the furnace there is 2-3% reduction in energy use and 5% reduction in CO₂ emission
- For every 6 tons of recycled glass 1 ton of CO₂ is offset
- Cullet lowers energy use because no endothermal decomposition

Decreases

- a. Raw material use
- b. Transport costs
- c. Pollutants



Cullet - Amounts

Green & Antique	90%
Amber	80%
Flint	65%
Wild Glass	Almost 100%



Solution!

Using More Recycled Glass in Glass Furnaces

Wild Glass Since 2020



estal concept design

Wild Glass by Estal

- 1. **ORGANIC AND AUTHENTIC.** The WILD campaign not only offers sustainability as a strong point, but creates a new design trend. Colors vary more than a common glass color run, imperfections accepted; bubbles, orange peel, coloring lines, imperfect accumulation of glass, providing an organic design similar to hand blown glass but with all the characteristics of automatic glass production.

Wild Glass by Estal

- 2. EFFICIENCY The efficiency is one of the main pillars for ecological sustainability. WLD GLASS production discards fewer bottles that have cosmetic (aesthetic) defects reducing the rejects.
- The factory has gone from a 25% to 15% discard.

Wild Glass by Estal

- 3. SUSTAINABILITY 100% of the WILD glass is Post Consumer Recycling (PCR). This glass comes from recycling centers.
- Less energy consumption is used in the fusion of recycled glass.
- Less extraction of virgin materials are used (virgin raw materials): 1 kg of recovered glass is equivalent to 1.2 of virgin raw materials

Tarpon Cellars





Thank You

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