

Stainless Applications in the Beverage Industry

No Drinks Without Stainless Steel!

Today's industrialized production of beverages would not be possible without stainless steel. Equipment made of stainless is used for the production and processing of water, liquid dairy, non-alcoholic beverages, wine, beer and spirits. It is resistant to corrosion, does not contaminate the product, and thus is safe. Further, it is easy to clean and maintain.



Brewery Tank
© Fotalia



Filling Line
© Kronos

With the tightening of hygienic requirements in the food and beverage industries worldwide, stainless steel has become the material of choice among of manufacturers of beverage production, processing and filling equipment due to its resistance to corrosion, non-toxicity, ease of cleaning, durability and cost-effectiveness.

In 2013 around 10 % of the world demand for stainless steel went into food and beverage industries. The beverage industry – which produces and processes water, liquid dairy (milk), alcoholic and non-alcoholic drinks – accounted for 6 % of the global demand, equivalent to 2.2 million tonnes.

With a stainless steel consumption share of around 35%, European beverage equipment manufacturers are still among the strongest globally. Germany is the largest exporter of brewery equipment; also the biggest packaging and filling line companies are headquartered here. Italy and Spain are home to many manufacturers of stainless steel tanks especially for wine and mineral water production.

Stainless steel has numerous applications in this industry, with tanks, packaging and filling lines and hygienic tubes making up for the largest share of the demand.

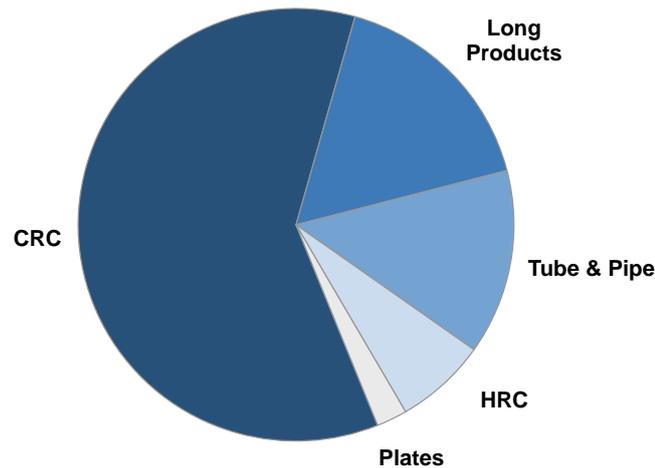
Tanks are employed in every production stage as process or storage containers and come in many designs and sizes, from silos for large volumes of bulk products such as sugar, syrups, concentrates and raw milk through process tanks (e.g. pasteurizers, mixers, fermenters, etc.) to clean-in-place (CIP) systems providing circulation of cleaning solutions throughout the plant. Stainless steel tanks are also used for transportation (e.g. road tankers, intermediate bulk containers). Tanks are made from flat products and are equipped with stainless steel agitators and mixers, cleaning nozzles, instrumentation, pumps, valves, etc.

Packaging lines, the second largest segment, include filling and sealing machines, sterilizers and rinsers, labelling machines, can makers and seamers, conveyors and other machinery. Stainless steel sheets are used for the housings, structural tubes for support legs and bars for filling nozzles and sealing heads.

Stainless steel hygienic tubes with associated fittings and valves connect various equipment and processes and ensure the flow of the product and other media. They have to meet the most stringent hygienic standards and, thus, special internal and external surface finishes are required.

All in all, flat products (cold rolled coils, hot rolled coils and plate) are primarily used to manufacture tanks, while long products, mainly bars, are machined to make components for e.g. filling lines, pumps, valves and tank equipment.

***Stainless Steel Demand in the Beverage Industry
by Product Form***



Source: SMI – Steel Market Intelligence GmbH

Grades 304 and 316 are predominant in the beverage industry. Duplex is becoming increasingly popular especially for large volume brewery and winery tanks. Due to its superior strength, Duplex allows for lower material thickness and helps reduce costs.

The outlook for stainless steel in the beverage industry is relatively stable compared to other industries and will continue growing in the next years driven by global population growth, expansion of the middle class in emerging markets, increasing standards of living and increasing urbanization. The global market is expected to grow on average by 4% p.a. by 2020. Most of the growth will come from China and India will, while Europe will remain flat.

In case you would like to learn more about the usage of stainless steel in the beverage industry, SMI – Steel Market Intelligence GmbH (www.steel-intelligence.com) has recently completed a detailed report analysing the present and future demand of stainless steel in this industry and describing the stainless steel applications.