

## Material Notes

Type 304 stainless steel is a T 300 Series Stainless Steel austenitic. It has a minimum of 18% chromium and 8% nickel, combined with a maximum of 0.08% carbon. It is defined as a Chromium-Nickel austenitic alloy.

Grade 304 is the standard "18/8" stainless that you will probably see in your pans and cookery tools.



These are some of its characteristics:

- Forming and welding properties
- Corrosion/ oxidation resistance thanks to the chromium content
- Deep drawing quality
- Excellent toughness, even down to cryogenic temperatures which are defined as very low temperatures
- Low temperature properties responding well to hardening by cold working



- Ease of cleaning, ease of fabrication, beauty of appearance

Grade 304L is the low carbon version of 304. It does not require post-weld annealing and so is extensively used in heavy gauge components (over about 6mm).

Grade 304H with its higher carbon content finds application at elevated temperatures.



## Applications

It is used for a wide variety of home and commercial applications, this is one of the most familiar and most frequently used alloys in the stainless steel family.

Typical applications include tanks and containers for a large variety of liquids and solids:



### - Food industry

Food processing equipment, **particularly in beer brewing, milk processing & wine making.**

For example it is highly suitable and applied in dairy equipment such as milking machines, containers, homogenizers, sterilizers, and storage and hauling tanks, including piping, valves, milk trucks and railroad cars.



Very common in the brewing industry where it is used in pipelines, yeast pans, fermentation vats, storage and railway cars, etc.

The citrus and fruit juice industry also uses Type 304 for all their handling, crushing, preparation, storage and hauling equipment.



### - Domestic tools industry

Because of its ability to withstand the corrosive action of various acids found in fruits, meats, milk, and vegetables, Type 304 is used for sinks, tabletops, coffee urns, stoves, refrigerators, milk and cream dispensers, and steam tables. It is also used in numerous other utensils such as cooking appliances, pots, pans, and flatware.



- Architectural panelling, railings & trim
- Chemical containers, including for transport
- Heat Exchangers
- Woven or welded screens for mining, quarrying & water filtration
- Dyeing industry
- In the marine environment, because of its slightly higher strength and wear resistance than type 316 it is also used for nuts, bolts, screws, and other fasteners

Read more: <http://www.lenntech.com/stainless-steel-304.htm#ixzz0TQOS4LJ5>