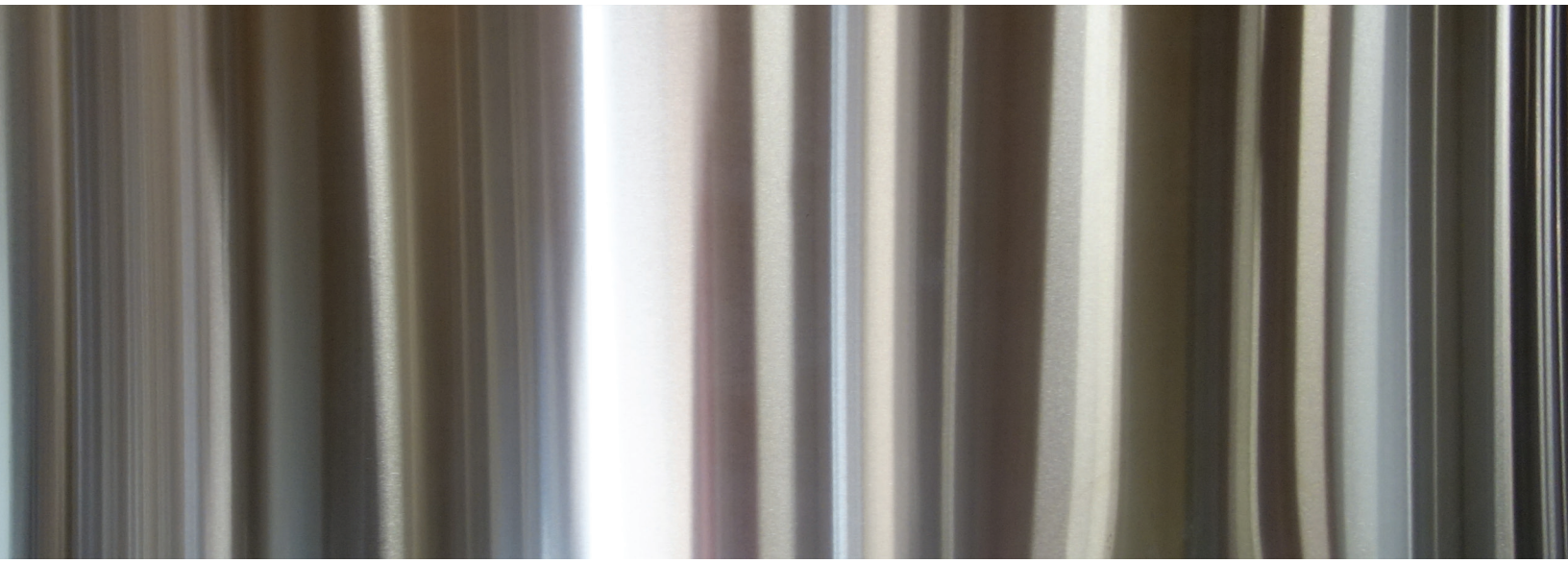


The process for sanitary stainless steel fabrication starts with the selection of the metal and handling of the material. The fundamental process of working with stainless steel with sanitary requirements includes careful handling to prevent contamination from the manufacturing environment and the use of protective surfaces throughout all processes.

In sanitary applications, stainless steel equipment requires a sanitary finish. The term "sanitary finish" in general refers to a smooth, scratch-free, non-corrosive finish. There are several mechanical and chemical finishes that can fulfill agency requirements for sanitary specifications. In choosing the type of finish, it is important to understand the definitions and criteria for how finishes are designated.

Surface Texture The surface of the material, including irregularities and deviations, including roughness and grain.

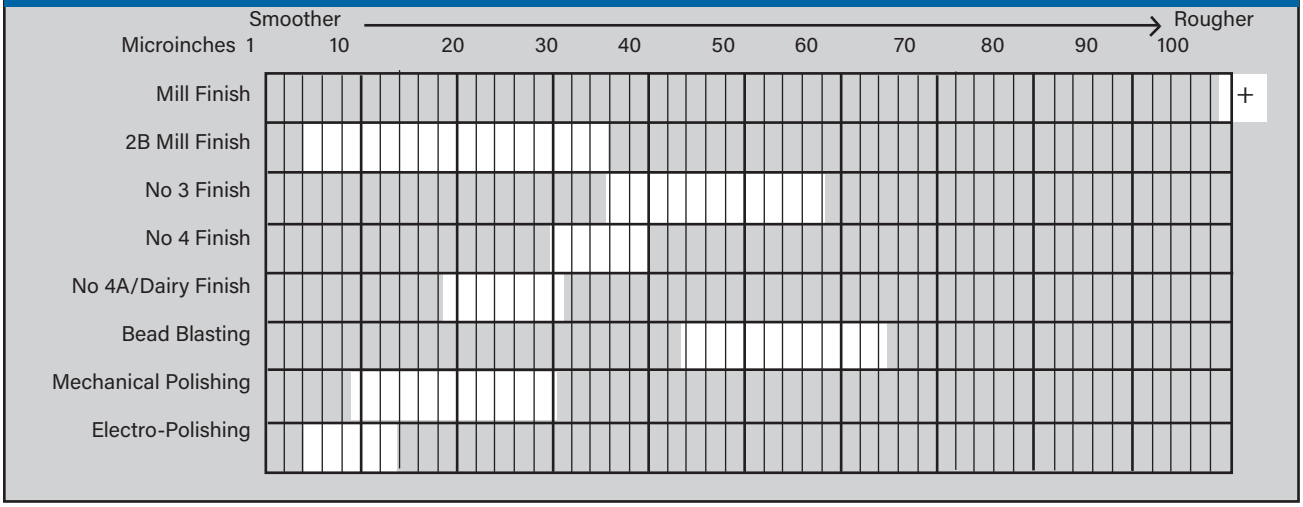
Grit is defined as the size of the abrasive used in the polishing process. Typically coarse, lower grit numbers are associated with grinding and higher grit numbers are associated with polishing. Grit size however does not fully define the surface.

RA (Roughness Average) A standard for an average of the peaks and valleys of the metal's surface, measured in microinches or micrometers.

RMS (Root Mean Square) is a machining standard used to diagnose machine operations and surface finish.

The fineness of the finish and ultimate success of the sanitation effectiveness is measured in RA, the roughness average measured by height in millionths of an inch or microinches. A profilometer determines RA values of small surface variations and calculates their average to determine roughness.

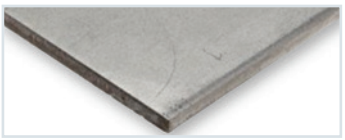
RA Surface Textures of Stainless Steel Finishes*



*This chart compares RA surface designations in a range of finishes. More precise RA values are dependent on the gauge of material. Refer to page seven (7) for more specific finish designations by gauge.

MECHANICAL FINISHES

Mill Finish



Description

(Mill finish - Plate)
The baseline for comparison, this is unfinished steel in basic supply condition.

Applications

Structural

Sanitation Environment

None - not used in food contact areas

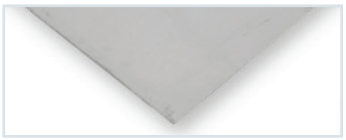
RA

>100 microinches
Depending on material

Caution

Does not meet sanitary, food contact or processing finishing requirements

2B Finish



Description

(2B Finish -Gauge)
Common corrosion resistant, heat resistant, smooth, (not brushed) steel

Applications

Material handling, processing, direct food contact

Sanitation Environment

Suitable for caustic sanitary wash down procedures

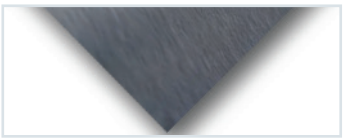
RA

36 (7 gauge) to 15 (16 gauge) in microinches

Caution

Note that 2B finishes can have the same RA as higher end finishes depending on gauge, compare economies when making material decisions unless otherwise required by compliance factions.

No. 4 Finish



Description

Characterized by short, polished brushed lines

Applications

Used in clean rooms and in food processing equipment

Sanitation Environment

Suitable for caustic sanitary wash down procedures

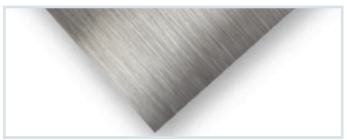
RA

29 to 40 microinches

Caution

Note that a No. 4 finish is not compliant for 3A standards; a 4A finish will satisfy RA requirements for the Dairy/Cheese manufacturing industy.

No. 4/Dairy



Description

Also characterized by short, polished brushed lines, the Dairy finish uses a finer grit polish

Applications

Used in clean rooms, processing equipment, used in Pharmaceutical industries and complies to 3A Dairy standards

Sanitation Environment

Suitable for caustic sanitary wash down procedures

RA

18 - 31 microinches
(3A standards require 32 or less)

Caution

Welds are also required to be ground to a No. 4/Dairy finish to meet 3A Dairy standards