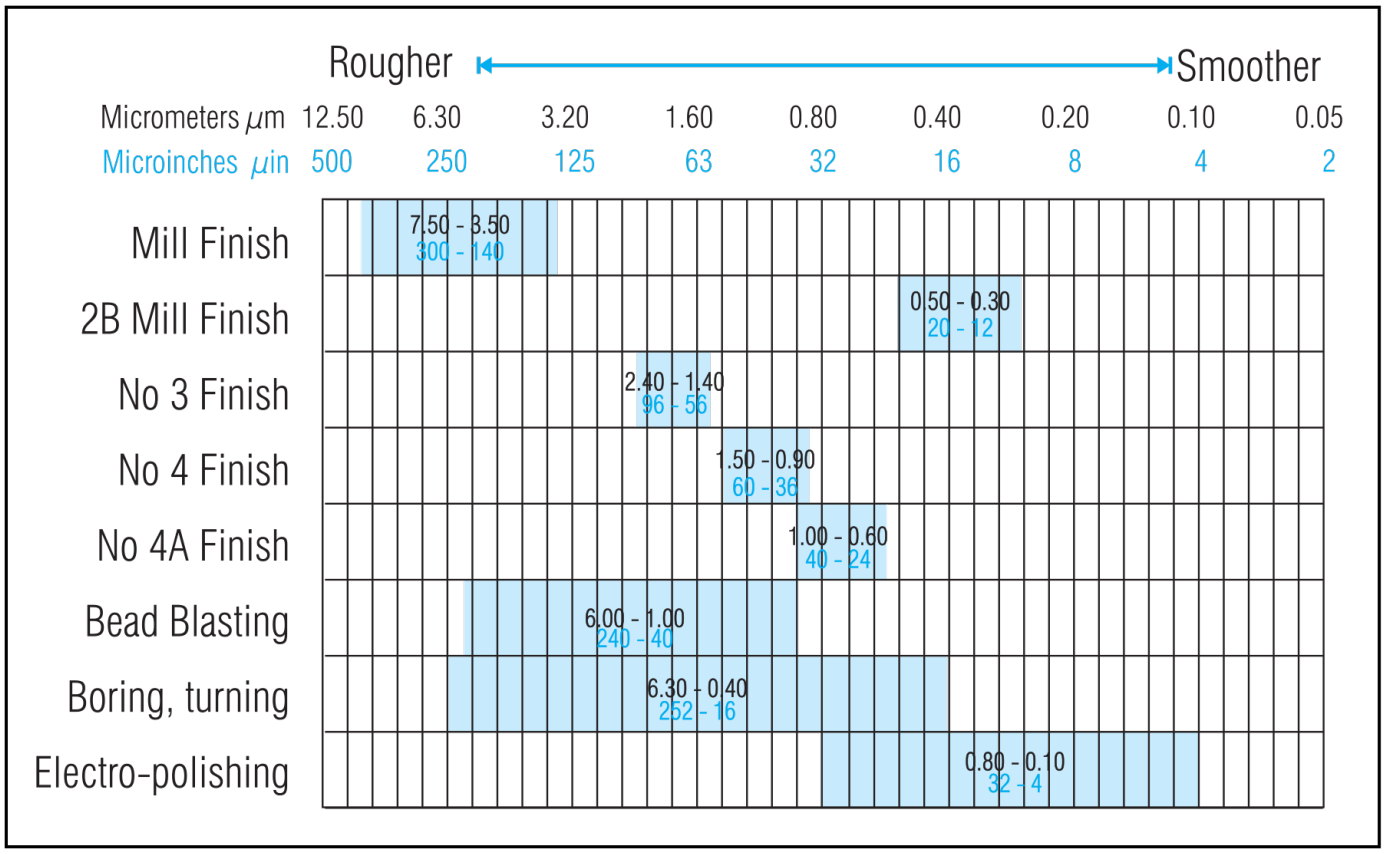
AMERICAN PROCESS SYSTEMS
EIRICH GROUP

Surface Textures of Stainless Steel



Definitions

Stainless steel is defined as a steel alloy containing at least 10% chromium, plus other elements, especially nickel. Stainless steel is widely used in equipment designed and constructed to meet sanitary guidelines. It offers a long service life with product contact areas that are easy to clean and sterilize. The surface texture of these areas also has a direct bearing on the cleanability and sanitary standards.

Surface texture is defined as the typical surface of material, including geometric irregularities in or the composite of certain deviations. It includes roughness, waviness, and lay (grain).

Ra (roughness average) is a standard of the finishing industry for an average of the peaks and valleys of the metal surface. These measurements are expressed in micro inches (µin) or micrometers (µm).

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

Unpolished Stainless Steel Textures

Mill Finish has a dull-gray, matte appearance that is produced by cold rolling to specified thickness, annealing, and descaling. Typical Ra would be 3.50 - 7.50 µm (140 - 300 µin).

2B Mill Finish is a bright defect-free finish that is produced by a final, light cold roll pass on polished rolls. There is no visible "grain" with this finish. Typical Ra would be 0.30 - 0.50 µm (12 - 20 µin).

Note: a 2B mill finish is only available on stainless steel sheet stock (less than 7ga). Stainless steel plate or bar stock is only available in a mill finish.

Polished Stainless Steel Textures

No. 3 Finish has an intermediate polished finish with an Ra of 1.40 - 2.40 µm (56 - 96 µin). This finish is generally used where a semifinished polish surface is required and may receive additional polishing,

No. 4 & 4A Finishes are general purpose sanitary finishes with an Ra of 0.90 - 1.50 µm (36 - 60 µin) for No. 4, and 0.60 - 1.00 µm (24 - 40 µin) for No. 4A.

The finishes are generally used in the food processing industry and will have a bright finish with a visible "grain" that prevents mirror-like reflections. 4A is USDA compliant.

Other Textures

Bead Blasting has a Ra of 1.00 - 6.00 µm (40 - 240 µin).

Boring, Turning has a Ra of 0.40 - 6.30 µm (16 - 252 µin).

Electro Polishing has a Ra of 0.10 - 0.80 µm (4 - 32 µin).

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