STAINLESS STEEL FINISHES

Selecting and imparting a particular surface finish is a natural part of the stainless steel fabrication process – there are few projects that don't call for something particular. Knowledge of stainless steel finishes, therefore, is integral to selecting the right type and configuration of stainless steel for your project.

Finishes can be selected for specific visual, dimensional, or mechanical properties. For instance, a No. 8 finish may be selected for its finely polished, mirror-like appearance, making it a definite plus for certain ornamental and architectural applications. However, that same polished appearance makes a No. 8 surface less likely to grab and trap dust, making it a good candidate for clean room applications.

Below is a table of all popular stainless steel finishes. Take a look to see how particular finishes are made and what positive impact they'll have on your project.

Finish Name	Description	Fabrication Method	Applications
No. 1 Finish	Rough, dull, and non-uniform.	Hot Rolling of stainless steel, followed by an annealing and descaling/cleaning.	Nearly any industrial application where visual appearance and flatness are not important. Frequently used on furnace components (heat exchangers, casings, stacks, linings, supports) and turbine components.
No. 2B Finish	Bright, uniform, with satin appearance. May appear brushed. Slightly reflective.	Series of cold rolling passes, with final pass by a polished roll.	A No. 2B finish provides a general purpose steel with a visually acceptable appearance. Used for an infinite number of commercial products - appliances, wheel covers, and flatware. Also fine for many industrial applications where a smoother surface is needed.
No. 2D Finish	Similar to No. 2B but duller, less polish.	Cold rolled coils of steel are annealed and then pickled or descaled.	A No. 2D finish is commonly selected for deep drawing applications that require stainless steel. With a 2D finish, stainless steel can "hold" lubricants better, allowing deep draw operations to happen without surface damage. No. 2D is also good for steel that will be painted.
Bright Annealed BA/2BA	Mirrored surface with some imperfections.	Heat treating within an atmosphere-controlled oven. May also be cold rolled between highly polished rolls for additional flatness (2BA).	Usually selected for its ability to easily polish to a fully mirrored surface. Less expensive than a fully mirrored, fully rolled surface, lending it to many mass produced commercial applications. Examples include automotive, appliances, rail cars, builder's hardware, and commercial refrigerators.
No. 3 Finish	Coarse brushed appearance, moderately reflective. Surface roughness typically Ra 40 or less.	Mechanical polishing by fine abrasive or through cold rolling with a patterned roller. Abrasives started with 50 to 80 grit and progress to 100 to 120 grit.	An attractive and clean finish favored by high end commercial or lab applications. Examples: brewing equipment, scientific lab tools, kitchen appliances, food processing systems.

Finish Name	Description	Fabrication Method	Applications
No. 4 Finish	Very fine brushed appearance, quite reflective. Roughness Ra 25 or below.	Made possible entirely by progressive mechanical polishing. Final pass can be between 120 and 320 grit.	More widely used than No. 3 for appliances and equipment due to its attractive appearance. Examples include mass transit projects, kitchen appliances, sinks and toilets, water fountains, escalator and elevator trim, any sanitized surface.
No. 7 Finish	Highly reflective, mirror like finish with some polishing lines visible.	10 minutes minimum mechanical polishing with 320 grit abrasive.	This surface is valued for its polished, mirrored look. Widely used for coverings, trim pieces, and ornamental/architectural pieces.
No. 8 Finish	Highest reflectivity possible on ASTM standards of steel finishing. Most mirror-like surface.	20 or more minutes of mechanical polishing with 320 grit abrasive.	Although expensive, this surface is valued for its amazing reflectivity. Applications include decorative/architectural projects, clean room wall coverings, vandal-proof mirrors, press plates, and reflectors.