

Material Finishes



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COMMON NUMBER OR SYMBOL	METHOD OF FINISH	MINIMUM GRIT FINISH	RANGE OF "Ra" VALUES/"µin"	Explanation of Material Finish or Finishing
* #1	Unpolished	None	100 to 375	Standard <u>mill plate finish</u> ; hot rolled, annealed and pickled or descaled; for plate thickness from 3/16" thru 10" (Dull Gray Finish).
#2D	Unpolished	None	50 to 100	Standard <u>mill finish</u> ; thickness of #7 thru #28 gauge plate continuous mill cold rolled, annealed and pickled or descaled to final thickness (dull finish).
* #2B	Unpolished	None	5 to 25	Standard <u>mill gauge finish</u> ; thickness such as #7 thru #28 cold rolled, annealed and pickled or descaled plus final cold reduction (bright finish)
#2BE	Electropolished	None	3 to 15	Bright cold rolled 2B finish with a final electropolish after fabrication.
#2BA	Unpolished	None	3 thru 10	Bright cold rolled finish, final annealing in controlled atmospheric furnace; applicable to #14 thru #24 gauge
#2BAE	Electropolished	None	less than 5	Bright cold rolled 2BA finish with a final electropolish after fabrication.
#3M	Polished	#100/#120	40 to 70	Mill finish mechanically ground with abrasives using #1, #2D or #2B base materials; common exterior finish for many applications.
* #4M	Polished	#140/#150	20 to 50	General purpose mechanically ground with abrasives using a #2B or #3M base finish material; commonly used for food interior finishes and some pharmaceutical exterior/interior finish.
#4E	Electropolished	#140/#150	less than 30	Final electropolish finish over a #4M base finished material; used in some food, beverage and pharmaceutical applications.
* #5M	Polished	#180	15 to 30	Mechanically further abrasive buffing with oil over a #4M base material; commonly used as a pharmaceutical interior base finish.
#5E	Electropolished	#180	less than 20	Final electropolish finish over a #5M base finished material; used in pharmaceutical and other interior applications.
* #6M	Polished	#220/#240	10 to 25	Mechanically further fine abrasive buffing with oil over a #4M or #5M base material; used in pharmaceutical and food processing.
#6E	Electropolished	#220/#240	less than 15	Final electropolish finish over a #6M base finished material; most common pharmaceutical interior finish, particularly intravenous applications
* #7M	Polished	#320	5 to 20	Mechanically very fine abrasive buffing with oil or rouges over a #6M base finished material; common for some pharmaceutical interior applications.
#7E	Electropolished	#320	less than 10	Final electropolish finish over a #7M base finished material; pharmaceutical, architectural or ornamental purposes.
#8M	Polished	#400/#500	3 to 10	Mechanically the finest abrasive buffing with rouges over a #7M base finished material; mirror like; small parts applications.
#8E	Electropolished	#400/#500	less than 5	Final electropolish finish over a #8M base finished material for highest reflectivity, small parts applications.
#9TR	Unpolished	None	80 to 250	Standard hot rolled, annealed and pickled or descaled plate material with an additional cold reduction over temper mill rolls; applicable for 72" and under widths, 3/16" thru 1/2" thickness'
#10TR	Unpolished	None	20 to 100	Standard hot rolled, annealed and pickled or descaled plate material with an additional double cold reduction over temper mill rolls; applicable for 72" and under widths, 3/16" thru 1/2" thickness'
#11LB	Unpolished	None	25 to 75	Cold rolling using grain patterned rolls over a #2B base material; for #10 thru #22 gauge thickness'; applicable to many architectural or ornamental purposes.

Please note that #1 plate and #2B for gauge base materials are the most common, both are classified as mill finishes. #2B material will have a "A" side and "B" side, with "A" side the better finish.

Electropolishing refers to a process whereby the surface is removed through the process of "Anodic dissolution in a suitable electrolyte under an imposed current potential".

All Materials to be Electropolished should be of Low Carbon "L" grade, such as T304L or T316L.

Materials should have a **Maximum** Sulfur Content of 0.012% and **Maximum** Silicone of 0.45%.

* Represents the most common material finishes.