



Surface Finish

Table SF-1 Acceptance Criteria for Stainless Steel and Higher Alloy Mechanically Polished Product Contact Surface Finishes

Anomaly or Indication	Acceptance Criteria
Pits	If diameter <0.020 in. and bottom is shiny. Pits <0.003 in. diameter are irrelevant and acceptable.
Cluster of pits	No more than 4 pits per each 1/2 in. x 1/2 in. inspection window. The cumulative total of all relevant pits shall not exceed 0.040 in.
Dents	None accepted.
Finishing marks	If Ra max. is met.
Welds	As welded shall meet requirements of MJ-6. If welds are finished, then shall be smooth and blended.
Nicks	None accepted.
Scratches	For tubing, if cumulative length is <12.0 in. per 20 ft tube length or prorated and if depth is <0.003 in. For fittings, valves, and other process components, if length is <0.25 in. cumulatively, depth <0.003 in. and Ramax. is met. For vessels, if length < 0.50 in. at 0.003 depth and if <3 per inspection window.
Surface cracks	None accepted.
Surface inclusions	If Ra max. is met.
Surface residuals	None accepted, visual inspection.
Surface roughness (Ra)	See Table SF-3.
Weld slag	For tubing, up to 3 per 20 ft length or prorated, if <75% of the width of the weld bead. For fittings, valves, vessels, and other process components, none accepted (as welded shall meet the requirements of MJ-6 and Table MJ-3).
Porosity	None open to the surface.

Table SF-3 Ra Readings For Product Contact Surfaces

Surface Designation	Mechanically Polished [Note (1)]	
	Ra Max.	
	μ-in.	μm
SFV1	20	0.51
SFV2	25	0.64
SFV3	30	0.76

Surface Designation	Mechanically Polished [Note (1)] and Electropolished	
	Ra Max.	
	μ-in.	μm
SFV4	15	0.38
SFV5	20	0.51
SFV6	25	0.64

GENERAL NOTES:

- (a) All Ra readings are taken across the lay, wherever possible.
- (b) No single Ra reading shall exceed the Ra max. value in this table.
- (c) Other Ra readings are available if agreed upon between owner/user and manufacturer, not to exceed values in this table.

NOTE:

- (1) Or any other finishing method that meets the Ra max.

Conversion Chart				
Standard	Ra		RMS	
	μ-in.	μm	μ-in.	μm
Grit 150g	27-32	.68-.80	30-35	.76-.89
180g	18-23	.46-.58	20-25	.51-.64
240g	14-18	.34-.46	15-20	.38-.51
320g	8-10	.21-.25	9-11	.23-.28

Grit : Measures the number of scratches per linear inch of abrasive pad. Higher numbers indicate a smoother finish.

RMS : Defined as Root Mean Square roughness, this method measures a sample for peaks and valleys. Lower numbers indicate a smoother finish.

Ra : Known as the Arithmetic Mean, this measurement represents the average value of all peaks and valleys. Lower numbers indicate a smooth finish.

