

## **Stainless Steel 304L Fact Sheet**

Do you need custom fasteners created with Stainless Steel 304L? Since our inception, Elgin Fastener Group has met every challenge of providing Quality, Timely, Cost-effective solutions for specialty fastener applications. Every product is built to your specifications, using your prints if necessary.

Below are the technical specifications of the Stainless Steel 304L Bar Stock we have available to meet your needs.

## AK Steel Austenitic Stainless Steel 304L

Subcategory: Metal; Stainless Steel; T 300 Series Stainless Steel; Austenitic

Close Analogs: Iron content calculated as remainder

Component	Wt. %
С	Max 0.03
Cr	18 - 20
Fe	65.045 - 74
Mn	Max 2
Ν	Max 0.1
Ni	8 - 12
Р	Max 0.045
S	Max 0.03
Si	Max 0.75

## **Material Notes:**

AK Steel 304L is an extra low-carbon variation of Type 304, that eliminates carbide precipitation due to welding. AK Steel 304L can be used in the  $\alpha$ as-welded $\in$  condition, even in severe corrosive conditions. It often eliminates the necessity of annealing weldments except for applications specifying stress relief. It has slightly lower mechanical properties than Type 304.

Information provided by AK Steel

Physical Properties	Metric	English	Comments
Density	8.03 g/cc	0.29 lb/in <sup>3</sup>	
Mechanical Properties			
Hardness, Rockwell B	80	80	
Tensile Strength, Ultimate	586 MPa	85000 psi	

Tensile Strength, Yield	241 MPa	35000 psi	0.2% YS
Elongation at Break	55 %	55 %	in 2 inches
Modulus of Elasticity	193 GPa	28000 ksi	tension
Modulus of Elasticity	78 GPa	11300 ksi	torsion
<b>Electrical Properties</b>			
Electrical Resistivity	0.000116 ohm-cm	0.000116 ohm-cm	659°C
Electrical Resistivity	7.2e-005 ohm-cm	7.2e-005 ohm-cm	
Magnetic Permeability	Max 1.02	Max 1.02	H = 200 Oersteds, Annealed
Thermal Properties			
CTE, linear 20°C	16.9 μm/m-°C	9.39 µin/in-°F	0 to 100°C
CTE, linear 20°C	18.7 μm/m-°C	10.4 µin/in-°F	to 649°C
Heat Capacity	0.5 J/g-°C	0.12 BTU/lb-°F	0°C to 100°C
Thermal Conductivity	16.2 W/m-K	112 BTU-in/hr-ft²-°F	100°C
Thermal Conductivity	21.4 W/m-K	149 BTU-in/hr-ft²-°F	500°C
Processing Properties			
Melt Temperature	1399 - 1454 °C	2550 - 2650 °F	