

301 STAINLESS STEEL

UNS S30100



AK Steel Type 301 is an austenitic chromium-nickel stainless steel that provides high strength and good ductility when cold worked. It is a modification of Type 302 in which the chromium and nickel contents are lowered to increase the cold work-hardening range. This permits higher tensile strengths to be achieved by rolling with a lower loss of ductility than with Type 302.

The grade is essentially non-magnetic when annealed. However, when the grade is cold worked, it becomes slightly more magnetic than other standard austenitic stainless steels.

High strength and excellent corrosion resistance make Type 301 Stainless Steel useful for a wide variety of applications. Typical uses include aircraft structural parts, trailer bodies, diaphragms, utensils, architectural and automotive trim, automobile wheel covers, roof drainage products, tablewear, storm door frames and conveyor belts.

COMPOSITION

	%
Carbon	0.15 max.
Manganese	2.00 max.
Phosphorus	0.045 max.
Sulfur	0.030 max.
Silicon	0.75 max.
Chromium	16.00 - 18.00
Nickel	6.00 - 8.00
Nitrogen	0.10 max.
Iron	Balance

MECHANICAL PROPERTIES

Room Temperature Properties*

	UTS ksi (MPa)	0.2% YS ksi (MPa)	Elongation % in 2" (50.8 mm)	Hardness Rockwell
Annealed (Typical)	110 (758)	40 (276)	60	B85
1/4 Hard	125 (862)*	75 (517)*	25*	C25
1/2 Hard	150 (1034)*	110 (758)*	18*	C32
3/4 Hard	175 (1207)*	135 (931)*	12*	C37
Full Hard	185 (1276)*	140 (965)*	9*	C41

* Minimum - standard practice is to produce to either minimum tensile strength, minimum yield strength or minimum hardness, but not to combinations of these properties.

AVAILABLE FORMS

AK Steel produces Type 301 Stainless Steel in thicknesses from 0.01" to 0.25" (0.25 to 6.35 mm) max. and widths up to 48" (1219 mm). For other thicknesses and widths, inquire.

SPECIFICATIONS

Type 301 Stainless Steel is covered by the following specifications:

ASTM A 666
ASTM A 240

