



## Elgiloy Specialty Metals Hampshire Mill

### Alloy 305 Stainless Steel

**UNS: S30500**  
**EN-DIN: 1.4303**

Industries supplied include: appliances, kitchen utensils, tank covers, and other deep drawn parts. 305 grade stainless has similar corrosion resistance as 304 and has good oxidation resistance in air up to 1650 F (899 C). 305 can be readily formed and deep drawn into complex shapes due to its lower strength and work hardening rate and will remain nonmagnetic after cold work unlike 301 or 304. A caution is autogenous welds in 305 are more sensitive to hot cracking than 304 or 304L.

#### Nominal Composition

	C	Mn	P	S	Si	Cr	Ni	N	Fe		
min	-	-	-	-	-	17.0	10.0	-	-		
max	.012	2.0	0.045	0.030	1.00	19.0	13.0	0.10	BAL		

#### Physical Properties

	At 70°F	At 20°C
<b>Density</b>	0.29 lb./in <sup>3</sup>	7.99 g/cm <sup>3</sup>
<b>Modulus of Elasticity (E)</b>	28.0 x 10 <sup>3</sup> ksi in tension	193 x 10 <sup>3</sup> MPa in tension
<b>Coefficient of Expansion</b>	9.6 x 10 <sup>-6</sup> microinches/in.-°F (32-212°F)	17.3 μm/m-°C (0-100°C)
<b>Electrical Resistivity</b>	28.4 μ ohm.in	72 μ ohm.cm
<b>Thermal Conductivity</b>	9.4 Btu-in./ft. <sup>2</sup> hr.-°F (100°C)	16.2 W/m-K (100°C)

#### Applicable Specifications

AMS 5514, ASTM A240

#### Typical Mechanical Properties – Typical Room Temperature Mechanical Properties

Condition	Tensile Strength (UTS)	0.2% YS	Elongation% in 2" (50.8 mm)	Hardness Rockwell
Annealed	85 ksi ( 586 MPa)	35 ksi ( 241 MPa)	55	70 HRBW

**Typical mechanical properties are based on AK source, ASTM A240**

**For further information email:**  
[hampinfo@elgiloy.com](mailto:hampinfo@elgiloy.com) or  
call: (847) 453-0500

Elgiloy Specialty Metals  
Hampshire Mill  
One Hawk Road  
Hampshire, IL 60140 USA

[www.esmhampshire.com](http://www.esmhampshire.com)

The information and data in this product data sheet are accurate to the best of our knowledge and belief, but are intended for general information only. Applications suggested for the materials are described only to help readers make their own evaluations and decisions, and are neither guarantees nor to be construed as express or implied warranties of suitability for these or other applications. Data was obtained from our melt sources with data referring to mechanical properties and chemical analyses are the result of tests performed on specimens obtained from specific locations with prescribed sampling procedures; any warranty thereof is limited to the values obtained at such locations and by such procedures. There is no warranty with respect to values of the materials at other locations. Further information should be sought from the melt sources.