

## Industeel CLC 18.10 L General Purpose 18Cr-10Ni Austenitic Stainless Steel

Category : Metal , Ferrous Metal , Austenitic , Stainless Steel , T S30000 Series Stainless Steel

### Material Notes:

Description: CLC 18-10L is a 18Cr-10Ni austenitic stainless steel. The grade contains small amount of ferrite (~ 3%) after solution annealing (1000-1100Å°C â€" 1832-2012Å°F) and water quenching. This kind of steel is one of the basic grades of the stainless steels range. Its low carbon content ensures better ductility and avoids the intergranular corrosion, even on welded pieces without ulterior water quenching. Alloys CLC 18-10L exhibits an austenitic microstructures free of deleterious carbide precipitations at grain boundaries. The main properties of CLC 18-10L are: basic corrosion resistance, resistance against intergranular corrosion, and high ductility. Tensile properties after water quenching. Information provided by manufacturer.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Industeel-CLC-1810-L-General-Purpose-18Cr-10Ni-Austenitic-Stainless-Steel.php](http://www.lookpolymers.com/polymer_Industeel-CLC-1810-L-General-Purpose-18Cr-10Ni-Austenitic-Stainless-Steel.php)

Physical Properties	Metric	English	Comments
Density	7.90 g/cc	0.285 lb/inÅ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	570 MPa	82700 psi	Typical
	520 - 650 MPa	75400 - 94300 psi	Minimum Guaranteed
Tensile Strength, Yield	>= 200 MPa	>= 29000 psi	
	@Strain 0.200 %	@Strain 0.200 %	
	>= 240 MPa	>= 34800 psi	
	@Strain 1.00 %	@Strain 1.00 %	
	265 MPa	38400 psi	Typical
	@Strain 0.200 %	@Strain 0.200 %	
	305 MPa	44200 psi	Typical
	@Strain 1.00 %	@Strain 1.00 %	
Elongation at Break	45 %	45 %	
Modulus of Elasticity	200 GPa	29000 ksi	
	@Temperature 20.0 - 100 Å°C	@Temperature 68.0 - 212 Å°F	
Poissons Ratio	0.299	0.299	Calculated
Shear Modulus	77.0 GPa	11200 ksi	
	@Temperature 20.0 - 100 Å°C	@Temperature 68.0 - 212 Å°F	

Charpy Impact Mechanical Properties	$\geq 185$ J Metric	$\geq 136$ ft-lb English	Comments
	310 J	229 ft-lb	Typical
	$\geq 125$ J @Temperature -196 °C	$\geq 92.2$ ft-lb @Temperature -321 °F	
	250 J @Temperature -196 °C	184 ft-lb @Temperature -321 °F	Typical
Charpy Impact, Unnotched	158 J @Temperature 200 °C	117 ft-lb @Temperature 392 °F	Transverse
	265 J @Temperature 200 °C	195 ft-lb @Temperature 392 °F	Longitudinal

Thermal Properties	Metric	English	Comments
CTE, linear	16.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 20.0 - 100 °C	8.89 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 68.0 - 212 °F	
	17.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 20.0 - 300 °C	9.44 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 68.0 - 572 °F	
	17.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 20.0 - 200 °C	9.44 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 68.0 - 392 °F	
Specific Heat Capacity	18.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 20.0 - 500 °C	10.0 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 68.0 - 932 °F	
	0.500 J/g·°C @Temperature 20.0 - 100 °C	0.120 BTU/lb·°F @Temperature 68.0 - 212 °F	
Thermal Conductivity	15.0 W/m-K @Temperature 20.0 - 100 °C	104 BTU-in/hr-ft <sup>2</sup> ·°F @Temperature 68.0 - 212 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.020 %	0.020 %	
Chromium, Cr	18.5 %	18.5 %	

Component Elements Properties	Metric	English	Comments
Nickel, Ni	10.2 %	10.2 %	
Nitrogen, N	0.050 %	0.050 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000730 ohm-cm	0.0000730 ohm-cm	
	@Temperature 20.0 - 100 Â°C	@Temperature 68.0 - 212 Â°F	

## Contact Songhan Plastic Technology Co.,Ltd.

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