

## Crucible Steel 303 Plus Chromium-Nickel Steel

Category : Metal , Ferrous Metal , Austenitic , Stainless Steel , T 300 Series Stainless Steel

### Material Notes:

Crucible 303 Plus is a non-hardenable austenitic chromium-nickel steel to which elements have been added to improve machinability and non-galling characteristics. Better machinability than that of standard AISI Type 303 stainless is obtained by the use of modern manufacturing methods and stringent mill controls. This grade is non-magnetic in the annealed condition but slightly magnetic when cold worked. Typical applications are screw machine products and all machined parts requiring good corrosion resistance or non-magnetic properties. Information provided by Crucible Specialty Metals.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Crucible-Steel-303-Plus-Chromium-Nickel-Steel.php](http://www.lookpolymers.com/polymer_Crucible-Steel-303-Plus-Chromium-Nickel-Steel.php)

Physical Properties	Metric	English	Comments
Specific Gravity	7.92 g/cc	7.92 g/cc	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	170	170	
Tensile Strength, Ultimate	621 MPa	90000 psi	
Tensile Strength, Yield	241 MPa @Strain 0.200 %	35000 psi @Strain 0.200 %	
Elongation at Break	50 %	50 %	in 2"
Reduction of Area	55 %	55 %	
Modulus of Elasticity	193 GPa	28000 ksi	Tension
Izod Impact Unnotched	108 J	80.0 ft-lb	

Thermal Properties	Metric	English	Comments
CTE, linear	17.3 $\mu\text{m}/\text{m}\cdot\text{C}$ @Temperature 0.000 - 100 °C	9.60 $\mu\text{in}/\text{in}\cdot\text{F}$ @Temperature 32.0 - 212 °F	
	17.8 $\mu\text{m}/\text{m}\cdot\text{C}$ @Temperature 0.000 - 316 °C	9.90 $\mu\text{in}/\text{in}\cdot\text{F}$ @Temperature 32.0 - 600 °F	
	18.7 $\mu\text{m}/\text{m}\cdot\text{C}$ @Temperature 0.000 - 649 °C	10.4 $\mu\text{in}/\text{in}\cdot\text{F}$ @Temperature 32.0 - 1200 °F	
	0.502 J/g-°C	0.120 BTU/lb-°F	

Thermal Properties	Metric	English	Comments
	@ Temperature 0.000 - 100 °C	@ Temperature 32.0 - 212 °F	
Thermal Conductivity	16.25 W/m-K	112.8 BTU-in/hr-ft <sup>2</sup> -°F	
	@Temperature 93.3 °C	@Temperature 200 °F	
	21.6 W/m-K	150 BTU-in/hr-ft <sup>2</sup> -°F	
	@Temperature 538 °C	@Temperature 1000 °F	
Melting Point	1400 - 1420 °C	2550 - 2590 °F	
Solidus	1400 °C	2550 °F	
Liquidus	1420 °C	2590 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.15 %	<= 0.15 %	
Chromium, Cr	17 - 19 %	17 - 19 %	
Iron, Fe	>= 66.9 %	>= 66.9 %	As Remainder
Manganese, Mn	<= 2.0 %	<= 2.0 %	
Molybdenum, Mo	<= 0.60 %	<= 0.60 %	
Nickel, Ni	8.0 - 10 %	8.0 - 10 %	
Phosphorous, P	<= 0.20 %	<= 0.20 %	
Silicon, Si	<= 1.0 %	<= 1.0 %	
Sulfur, S	>= 0.15 %	>= 0.15 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000721 ohm-cm	0.0000721 ohm-cm	
	@Temperature 23.0 °C	@Temperature 73.4 °F	

## Contact Songhan Plastic Technology Co.,Ltd.

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