

## Industeel VIRGO 17.4PH 17Cr-4Ni-3Cu Precipitation Hardening Martensitic Stainless Steel (480°C (900°F) - 1 hour + air cooled)

Category : Metal , Ferrous Metal , Martensitic , Stainless Steel , Precipitation Hardening Stainless , T S10000 Series Stainless Steel

### Material Notes:

Description: Alloy VIRGO 17.4 PH is a precipitation hardening martensitic stainless steel with Cu and Nb/Cb additions. The grade combines high strength, hardness (up to 300°C / 572°F) and corrosion resistance. Mechanical properties can be optimized with heat treatment. Very high yield strength up to 1100-1300 MPa can be achieved. The grade should not be used at temperatures above 300°C (572°F) or at very low temperatures. It has adequate resistance to atmospheric corrosion or in diluted acids or salts where its corrosion resistance is equivalent to CLC 18.9 (304) or SOLEIL B4 (430). If there are potential risks of stress corrosion cracking, higher aging temperatures must be selected over 550°C (1022°F), preferably 590°C(1094°F). The main applications are :mechanical componentsaerospaceoffshore industryfood industryInformation provided by manufacturer.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Industeel-VIRGO-174PH-17Cr-4Ni-3Cu-Precipitation-Hardening-Martensitic-Stainless-Steel-480C-900F-1-hour-air-cooled.php](http://www.lookpolymers.com/polymer_Industeel-VIRGO-174PH-17Cr-4Ni-3Cu-Precipitation-Hardening-Martensitic-Stainless-Steel-480C-900F-1-hour-air-cooled.php)

Physical Properties	Metric	English	Comments
Density	7.80 g/cc	0.282 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	197 GPa	28600 ksi	
Tensile Modulus	77.0 GPa	11200 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	10.8 µm/m-°C	6.00 µin/in-°F	
	@Temperature 0.000 - 100 °C	@Temperature 32.0 - 212 °F	
	11.0 µm/m-°C	6.11 µin/in-°F	
	@Temperature 0.000 - 100 °C	@Temperature 32.0 - 212 °F	
	11.6 µm/m-°C	6.44 µin/in-°F	
	@Temperature 0.000 - 400 °C	@Temperature 32.0 - 752 °F	
	12.0 µm/m-°C	6.67 µin/in-°F	
	@Temperature 0.000 - 500 °C	@Temperature 32.0 - 932 °F	
Specific Heat Capacity	0.460 J/g-°C	0.110 BTU/lb-°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	

Thermal Properties Thermal Conductivity	Metric 14.0 W/m-K	English 87.2 BTU-in/hr-ft <sup>2</sup> -°F	Comments
	@Temperature 20.0 °C	@Temperature 68.0 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.040 %	0.040 %	
Chromium, Cr	16.5 %	16.5 %	
Copper, Cu	3.3 %	3.3 %	
Iron, Fe	74.66 %	74.66 %	As remainder
Manganese, Mn	0.70 %	0.70 %	
Nickel, Ni	4.5 %	4.5 %	
Niobium, Nb (Columbium, Cb)	0.30 %	0.30 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000800 ohm-cm	0.0000800 ohm-cm	
	@Temperature 20.0 °C	@Temperature 68.0 °F	

## Contact Songhan Plastic Technology Co.,Ltd.

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