MW Components

Special Steel 17CR-4NI Fact Sheet

17Cr-4Ni Precipitation Hardening Stainless Steel

Subcategories: Stainless Steel; Precipitation Hardening Stainless; T S10000 Series Stainless Steel

Close Analogs:

Key Words: AISI 630; UNS S17400; 17-4PH, 17/4PH, 17-4 PH, Carpenter Technology Corporation, Carpenter Steel Division; Cartech, Precipitation Hardening PH Stainless Steel, 17-4

Component	Weight %
C	Max 0.15
Cr	11.5-13.5
Fe	84.3-88.5
Mn	Max 1.0
P	Max 0.040
Si	1.0
S	0.030

Physical Properties	Metric	English	Comments	Cold Head	Hot Forge	Wire Form
Density	7.75 g/cc	0.280 lb/in³				

Mechanical Properties	Metric	English	Comments	Cold Head	Hot Forge	Wire Form
Hardness, Brinell	352	352				
Hardness, Knoop	363	363	Estimated from Rockwell C			
Hardness, Rockwell C	36	36				
Hardness, Vickers	349	349	Estimated from Rockwell C			
Modulus of Elasticity	197 GPa	28600 ksi	H900 Condition			

Poissons Ratio	0.272	0.272				
Shear Modulus	77.4 GPa	11200 ksi	Calculated			
Electrical Properties	**Metric**	**English**	**Comments**	**Cold Head**	**Hot Forge**	**Wire Form**
Electrical Resistivity	0.0000980 ohm-cm	0.0000980 ohm-cm				
Thermal Properties	**Metric**	**English**	**Comments**	**Cold Head**	**Hot Forge**	**Wire Form**
CTE, linear	10.8 µm/m-°C	6.00 µin/in-°F				
	Temperature 21.0 - 93.0 °C	Temperature 69.8 - 199 °F				
	11.2 µm/m-°C	6.22 µin/in-°F				
	Temperature 21.0 - 316 °C	Temperature 69.8 - 601 °F				
	11.3 µm/m-°C	6.28 µin/in-°F				
	Temperature 21.0 - 427 °C	Temperature 69.8 - 801 °F				
Specific Heat Capacity	0.460 J/g-°C	0.110 BTU/lb-°F				
Thermal Conductivity	17.9 W/m-K	124 BTU-in/hr-ft²-°F	condition H 900			
	Temperature 149 °C	Temperature 300 °F				
	22.6 W/m-K	157 BTU-in/hr-ft²-°F				
	Temperature 482 °C	Temperature 900 °F				