

## NICKEL - TITANIUM ALLOY PHYSICAL PROPERTIES

1. Density 0.235 lb/in<sup>3</sup> (6.45 g/cm<sup>3</sup>)
2. Specific Heat 0.20 BTU/lb \* °F (0.2 cal/g \* °C))
3. Melting Point 2370 °F (1300 °C)
4. Latent Heat of Transformation 10.4 BTU/lb (5.78 cal/g)
5. Thermal Conductivity 10.4 BTU/hr \* ft \* °F (0.18 W/cm \* °C)
6. Thermal Expansion Coefficient
 

Martensite

$3.67 \times 10^{-6}/^{\circ}\text{F}$  ( $6.6 \times 10^{-6}/^{\circ}\text{C}$ )

Austenite

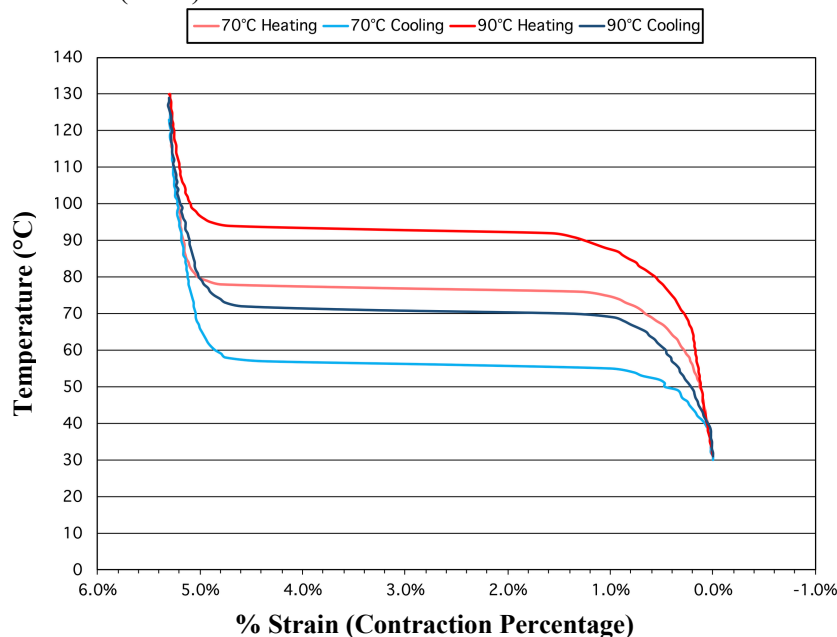
$6.11 \times 10^{-6}/^{\circ}\text{F}$  ( $11.0 \times 10^{-6}/^{\circ}\text{C}$ )
7. Poisson Ratio 0.33
8. Electrical Resistivity (approx.)
 

Martensite

32 micro-ohms \* in (80 micro-ohms \* cm)

Austenite

39 micro-ohms \* in (100 micro-ohms \* cm)
9. Typical Temperature vs. Strain Characteristics for Dynalloy's standard 70°C (158°F) and 90°C (194°F) Flexinol® actuator wire. Temperature measured from the austenite start, at 172 MPa (25ksi).



In addition to typical transformation temperature tolerances, stress will impact the final transition temperatures. Higher or lower stress results in corresponding increases or decreases in the transformation temperature.